

# Assessment Report for Tilbury Phase 2 LNG Expansion Project

WITH RESPECT TO THE APPLICATION BY FORTISBC FOR AN ENVIRONMENTAL ASSESSMENT CERTIFICATE PURSUANT TO THE *ENVIRONMENTAL ASSESSMENT ACT* (2018) (THE ACT) AND THE *IMPACT ASSESSMENT ACT* (2019) AS A SUBSTITUTED ASSESSMENT

WRITTEN BY  
THE BRITISH COLUMBIA ENVIRONMENTAL ASSESSMENT OFFICE

AUGUST 27, 2026

## PREFACE

When a major project is proposed in British Columbia, it may be subject to both a federal impact assessment and a provincial environmental assessment. The Environmental Assessment Office (EAO) is a neutral regulatory agency within the provincial government that carries out responsibilities under the [Environmental Assessment Act \(the Act\)](#). The EAO works with First Nations, the proponent, the public, local governments, scientific professionals, and federal and provincial agencies to identify and assess the potential environmental, economic, social, cultural and health effects that may occur during the lifetime of a major project.

This Assessment Report (Report) provides an overview of the Tilbury Phase 2 Project and describes the EAO's findings, conclusions, and recommendations. A final version is provided to provincial Ministers, including proposed Table of Conditions, Certified Project Description, for their consideration on whether to approve the project.

You can learn more about the environmental assessment process [here](#). Information and records relating to environment assessments are available on the EAO's website at [www.eao.gov.bc.ca](http://www.eao.gov.bc.ca). Questions or comments can be directed to:

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The Impact Assessment Agency of Canada (IAAC), a federal body accountable to the Minister of Environment, Climate Change, and Nature is responsible for conducting federal impact assessments under the [Impact Assessment Act](#). You can learn more about the Impact Assessment process [here](#). Information and records relating to federal impact assessment are available on IAAC's [Canadian Impact Assessment Registry](#). Questions or comments can be directed to:

### Impact Assessment Agency of Canada, Pacific and Yukon Regional Office

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When both an environmental assessment under the *Environment Assessment Act* and impact assessment under the *Impact Assessment Act* are required, [the Impact Assessment Cooperation Agreement between Canada and British Columbia](#) sets out the administrative processes required from both the EAO and IAAC to ensure an efficient and effective assessment process, including the use of substitution. Under substitution, there is a single review process (the provincial environmental assessment) designed to meet both provincial and federal legislative requirements, thereby enabling two decisions (provincial and federal).

## ACKNOWLEDGEMENTS

The EAO would like to acknowledge and thank the people who participated in this substituted environmental assessment. We are grateful to the First Nations in whose territory this assessment took place and who participated in the review of this assessment, community members, technical advisors, local government members, consultants, staff, and all of those who helped this process run fairly and efficiently and who provided the important evidence and advice required to provide a comprehensive assessment for the provincial and federal decision makers. Thank you for your passion, contributions, and effort.

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## ACRONYM AND ABBREVIATION LIST

|                       |                                                                                    |
|-----------------------|------------------------------------------------------------------------------------|
| °C                    | Degrees Celsius                                                                    |
| 6-PPDQ                | 6PPD-Quinone                                                                       |
| AAQO                  | Air Quality Objectives                                                             |
| Act                   | <i>Environmental Assessment Act (2018)</i>                                         |
| AIR                   | Application Information Requirements                                               |
| Application           | Application for an Environmental Assessment Certificate                            |
| B.C.                  | British Columbia                                                                   |
| BCER                  | BC Energy Regulator                                                                |
| BCUC                  | B.C. Utilities Commission                                                          |
| CAAQS                 | Canadian Ambient Air Quality Standards                                             |
| CAC                   | Community Advisory Committee                                                       |
| CEA                   | Cumulative Effects Assessment                                                      |
| CEAO                  | Chief Executive Assessment Officer                                                 |
| CEMP                  | Construction Environmental Management Plan                                         |
| Certificate           | Environmental Assessment Certificate                                               |
| Cooperation Agreement | <i>Impact Assessment Cooperation Agreement between Canada and British Columbia</i> |
| COSEWIC               | Committee on the Status of Endangered Wildlife in Canada                           |
| dBa                   | A-weighted decibel                                                                 |
| Delta                 | the City of Delta                                                                  |
| DPD                   | Detailed Project Description                                                       |
| EA                    | Environmental Assessment                                                           |
| EAO                   | Environmental Assessment Office                                                    |
| ECCC                  | Environment and Climate Change Canada                                              |
| ELUA Order            | <i>Environment and Land Use Act</i>                                                |

|                           |                                                            |
|---------------------------|------------------------------------------------------------|
| EMA                       | <i>Environmental Management Act</i>                        |
| ERAA                      | <i>Energy Resources Activities Act</i>                     |
| FSC                       | food, social and ceremonial                                |
| FortisBC or the Proponent | FortisBC Holding Inc. and FortisBC Energy Inc.             |
| GBA Plus                  | Gender-Based Analysis Plus                                 |
| GHG                       | greenhouse gas                                             |
| GGIRCA                    | <i>Greenhouse Gas Industrial Reporting and Control Act</i> |
| Holder                    | Certificate Holder                                         |
| HQ                        | hazard quotient                                            |
| IAA                       | <i>Impact Assessment Act</i>                               |
| IAAC                      | Impact Assessment Agency of Canada                         |
| IPD                       | Initial Project Description                                |
| km                        | kilometre                                                  |
| km <sup>2</sup>           | square km                                                  |
| KMM                       | Key Mitigation Measure (federal)                           |
| LAA                       | Local Assessment Area                                      |
| LFN                       | Low-Frequency Noise                                        |
| LNG                       | Liquefied Natural Gas                                      |
| LNGFR                     | Liquefied Natural Gas Facility Regulation                  |
| m <sup>3</sup>            | cubic metres                                               |
| MNBC                      | Métis Nation British Columbia                              |
| MOF                       | Material Offloading Facility                               |
| MV AAQO                   | Metro Vancouver Air Quality Objectives                     |
| NO <sub>2</sub>           | Nitrogen Dioxide                                           |
| OCP                       | Official Community Plan                                    |
| OEMP                      | Operations Environmental Management Plan                   |

|                                |                                                                 |
|--------------------------------|-----------------------------------------------------------------|
| PAH                            | Polycyclic Aromatic Hydrocarbons                                |
| PCBs                           | Polychlorinated Biphenyls                                       |
| pH                             | Measure of Acidity or Alkalinity                                |
| PM                             | Particulate matter                                              |
| PM <sub>10</sub>               | Particulate matter 10 micrometres or smaller in diameter        |
| PM <sub>2.5</sub>              | Particulate matter 2.5 micrometres or smaller in diameter       |
| QP                             | Qualified Professional                                          |
| RAA                            | Regional Assessment Area                                        |
| Report                         | Assessment Report                                               |
| Revised Application            | Revised application for an Environmental Assessment Certificate |
| Richmond                       | City of Richmond                                                |
| RNG                            | Renewable natural gas                                           |
| SARA                           | <i>Species at Risk Act</i>                                      |
| SACC                           | Strategic Assessment of Climate Change                          |
| Section 35 Rights              | Section 35 of the Constitution Act, 1982                        |
| Semiahmoo                      | Semiahmoo First Nation                                          |
| SO <sub>2</sub>                | Sulphur Dioxide                                                 |
| STSA                           | S'ólh Téméxw Stewardship Alliance                               |
| T1B                            | Tilbury Phase 1B                                                |
| TAC                            | Technical Advisory Committee                                    |
| TDR                            | Technical Data Report                                           |
| Tilbury Phase 2 or the Project | Tilbury Phase 2 LNG Expansion Project                           |
| TMJ                            | Tilbury Marine Jetty                                            |
| TWN                            | Tsleil-Waututh Nation                                           |
| U.S.                           | United States of America                                        |
| VC                             | Valued Component                                                |



VOCs

Volatile Organic Compounds

WHO

World Health Organization

## EXECUTIVE SUMMARY

### Overview of the Assessment Report

This Assessment Report (Report) summarizes the findings and recommendations of the environmental assessment (EA) for the Tilbury Phase 2 Liquefied Natural Gas (LNG) Expansion Project (Tilbury Phase 2 or the Project), an expansion of an existing LNG production and storage facility proposed by FortisBC Holdings Inc. (FortisBC or the Proponent), with its natural gas subsidiary FortisBC Energy Inc. (collectively referred to as FortisBC or the Proponent). This report aims to inform the provincial Ministers responsible for making a decision on whether to issue an Environmental Assessment Certificate (Certificate) and the federal Minister of Environment, Climate Change, and Nature (or Governor in Council) for decision-making under the *Impact Assessment Act*. This report also aims to inform participating Indigenous nation's decisions on providing a notice of consent or lack of consent to issuing the environmental assessment certificate under Section 29(2)(c) of British Columbia (B.C.)'s *Environmental Assessment Act* (the Act) and in accordance with their own legal traditions.

The Report outlines key issues, consultation and engagement with Indigenous nations, environmental, social, health, economic and culture effects, including cumulative effects, and proposed measures to mitigate potential adverse impacts.

### Project Details

The Proponent is proposing to expand the capacity of its existing Tilbury LNG facility located on Tilbury Island in Delta, in the Greater Vancouver Regional District. The expansion will include the construction of a new LNG storage tank, with a working volume of 142,400 cubic meters (m<sup>3</sup>) (3.5 petajoule) (Storage Tank) and up to 7,700 tonnes per day (t/d) of LNG liquefaction (Liquefaction Capacity), natural gas receiving facilities, as well as supporting infrastructure within the existing LNG facilities' area. Tilbury Phase 2 will be constructed entirely within the existing Tilbury LNG Facility site and will not require expansion of the facility footprint onto previously undeveloped lands.

The Proponent has stated that the purposes of Tilbury Phase 2 are to strengthen resiliency by providing instantaneous backup gas supply to FortisBC customers in the event of a supply emergency and to provide a fuel alternative for local and global markets to meet the growing demand.

### Regulatory Review

Tilbury Phase 2 is subject to an EA under the Act and an impact assessment under Canada's *Impact Assessment Act* (IAA). On January 20, 2022, the former federal Minister of Environment and Climate Change approved the substitution of the federal impact assessment to the Province of B.C. The Environmental Assessment Office (EAO) conducted the substituted assessment to meet both provincial and federal requirements, thereby enabling decisions under both B.C.'s Act and Canada's IAA. The Project also requires authorizations under the *Energy Resources Activities Act* (ERAA) from the BC Energy Regulator (BCER) for the LNG facility, from Metro Vancouver under the *Environmental Management Act* (EMA) for air emissions, and a Certificate of Public Convenience and Necessity from the B.C. Utilities Commission (BCUC) for the LNG storage tank as part of a utility system.

The EAO prepared this Assessment Report in consultation with a technical advisory committee, comprising of federal, provincial and local government representatives with mandates and skill sets relevant to the review of Tilbury Phase 2, as well as representatives of Indigenous nations potentially affected by Project activities. The Impact Assessment Agency of Canada (IAAC) also provided advice to the EAO in relation to fulfilling requirements of the IAA.

The EAO undertook public consultation activities during the EA including holding four public comment periods and establishing a Community Advisory Committee (CAC) to help share information with interested community members throughout the process. All public comments, as well as the Proponent's and the EAO's responses to these comments, were considered in completing the EA.

## Assessment of Effects

The EAO assessed all effects required by the Act and potential adverse effects within federal jurisdiction as required under the IAA. The assessment was informed by the Revised Application for an Environmental Assessment Certificate provided by the Proponent as well as by comments received from the Technical Advisory Committee (TAC), Indigenous nations, CAC, and the public.

The EAO assessed effects on the Valued Components (VCs) that were identified as potentially affected by Tilbury Phase 2, specifically: air quality, acoustics, culture, vegetation, wildlife and wildlife habitat, fish and fish habitat, groundwater, surface water, soil, employment and economy, infrastructure and services, land and resource use, archaeological and heritage resources, and human health. The EAO considered whether any adverse effects to these VCs would be significant.

For all Indigenous nations potentially affected by Tilbury Phase 2, the EAO assessed the potential effects of Tilbury Phase 2 on the asserted or established Aboriginal rights and title, as recognized and affirmed by Section 35 of the *Constitution Act, 1982*, as well as on any broader interests related to an Indigenous nation (collectively, “Indigenous Interests”).

The assessment also considered other assessment matters as required under the provincial and federal legislation including: risks and uncertainties associated with effects, interactions between effects, the risks of malfunctions and accidents, disproportionate effects on distinct human populations, effects on biophysical factors that support ecosystem functions, effects on current and future generations, contributions to sustainability, consistency with land use plans, greenhouse gas (GHG) emissions, alternative means for carrying out the project, and potential changes to the project that may be caused by the environment.

To fulfill federal requirements, the EAO assessed potential adverse federal effects as required under the IAA specifically on: fish and fish habitat, migratory birds, and federal lands. The EAO also assessed adverse federal effects with respect to the Indigenous peoples of Canada, specifically: an adverse impact resulting from any changes to the environment on cultural and physical heritage; current use of lands and resources for traditional purposes, and any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, and to health, social and economic conditions of Indigenous peoples. The EAO determined whether adverse federal effects are likely to be significant and, if so, to what extent.

## Indigenous Consultation

Potential effects from Tilbury Phase 2 would occur in the territories of the following First Nations (listed alphabetically):

- Chawathil First Nation;
- Xwchíyò:m (Cheam) First Nation;
- Katzie First Nation;
- q̓ʷa:ń̓ł̓əń̓ (Kwantlen) First Nation;
- kʷikʷəł̓əm (kwikwetlem) First Nation;
- Leqʷá:mel First Nation;
- Malahat First Nation;
- M̓athexwi (Matsqui) First Nation;
- xʷməθkʷəy̓əm (Musqueam Indian Band);
- Pauquachin First Nation;

- Pópkw'em (Popkum First Nation);
- Quw'utsun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe and Stz'uminus First Nation);
- Semiahmoo First Nation;
- S'ólh Téméxw Stewardship Alliance members (Aitchelitz First Nation, Kwaw-kwaw-Apilt First Nation, Seabird Island Band, Semá:th (Sumas) First Nation, Shxwhá:y Village, Shxw'ōwhámél First Nation, Skowkale First Nation, Skwah First Nation, Soowahlie First Nation, Sq'ewá:lxw (Skawahlook) First Nation, Sq'éwlets (Scowlitz) First Nation, Squiala First Nation, Tzeachten First Nation, Yakweakwioose First Nation, and Yale First Nation);
- Snuneymuxw First Nation;
- Skwxwú7mesh Úxwumixw (Squamish First Nation);
- SṪÁUTW (Tsawout) First Nation;
- Tsartlip First Nation;
- Tsawwassen First Nation;
- Tseycum First Nation;
- Tsleil-Waututh Nation; and,
- Ts'uubaa-asatx.

The EAO, on behalf of the provincial and federal Crown, consulted with these Indigenous nations throughout the substituted assessment process. IAAC worked in coordination with the EAO on consultation activities leading up to the substitution decision and throughout the effects assessment phase.

The EAO also consulted with Métis Nation British Columbia, on behalf of the federal Crown as part of the substituted assessment, and with Lummi Nation which is a United States Tribe that asserts Aboriginal Rights within the vicinity of the Lower Fraser River.

One of the purposes of the EAO is to support reconciliation with Indigenous peoples in B.C. The EAO sought consensus throughout the process at key milestones with participating Indigenous nations, including:

- Chawathil First Nation;
- Cheam First Nation;
- Kwantlen First Nation;
- kʷikʷə́ləm First Nation;
- xʷməθkʷəyəm (Musqueam Indian Band);
- Quw'utsun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe and Stz'uminus First Nation);
- Snuneymuxw First Nation;
- S'ólh Téméxw Stewardship Alliance (on behalf of Kwaw-Kwaw-Apilt First Nation, Sq'éwlets (Scowlitz) First Nation, Sq'ewá:lxw (Skawahlook) First Nation, Skwah First Nation, Seabird Island Band, Semá:th (Sumas) First Nation, Yale First Nation, Aitchelitz First Nation, Shxwhá:y Village, Skowkale First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation, and Yakweakwioose First Nation);

- Ts'uubaa-asatx;
- Sᑭᐱᐱᐱ First Nation;
- Tsawwassen First Nation; and,
- Tsleil-Waututh Nation.

These First Nations had the opportunity to provide a notice of consent or lack of consent at the end of the environmental assessment process. Five (5) participating Indigenous nations chose to provide notices of consent, three (3) chose to provide notices of lack of consent, which are included with the final referral documents for Ministers. This report highlights efforts to incorporate Indigenous knowledge into the assessment process and outlines the consensus-seeking processes with participating Indigenous nations.

### Key Issues

The EAO assessed a wide range of potential positive and adverse effects to understand the predicted residual, and where applicable, cumulative effects of Tilbury Phase 2. Three key issues arose during the assessment process:

1. **Greenhouse Gas (GHG) Emissions:** The Project's contribution to climate change was a key concern. While the proponent's application states that the project will help reduce global emissions by displacing higher-carbon energy sources, there remained concerns about its alignment with provincial, federal, local, and First Nation climate goals. Mitigation measures and regulatory conditions have been proposed to address GHG concerns alongside the implementation of legislation and policy frameworks to achieve future net-zero goals from both B.C. and Canada. After implementation of the proposed mitigation measures and conditions, the EAO determined that the Project would not have significant adverse effects on GHG emissions.
2. **Effects to Air Quality and Human Health:** Concerns were raised about the potential impacts of air quality as it relates to human health. This includes concerns related to ongoing emissions during Operation as well as the inclusion of a flare as part of the Project. Mitigation measures and regulatory conditions have been proposed to minimize these effects and complementing permitting requirements. Following implementation of the proposed mitigation measures and conditions, the EAO determined that the Project's residual effects on air quality and human health, as well as its contribution to cumulative adverse effects, would not be significant.
3. **Project Scope and Aquatic Effects:** Although no marine traffic is directly connected with this Project, concerns were raised by First Nations about impacts on marine mammals, fisheries and those who rely upon the marine environment and resources. Concerns regarding impacts to fish were also raised relating to the release of water from hydrostatic testing of the LNG storage tank and impacts of 6PPD-Quinone (6-PPDQ) from trucks during Construction. Mitigation measures and regulatory conditions have been proposed to minimize these effects to the extent they are related to the Project. Following implementation of the proposed mitigation measures and conditions, the EAO determined that the Project's residual effects on aquatic interests, as well as its contribution to cumulative adverse effects, would not be significant.

### Measures to Reduce Effects

To mitigate potential adverse effects, the Proponent proposed a suite of mitigation measures as part of project design and operations. Additionally, the EAO has proposed provincial conditions as legally-binding requirements in the event a Certificate is issued. The EAO has identified federal Key Mitigation Measures and Follow-up Programs and made recommendations regarding them to IAAC to inform federal decision making under the *Impact Assessment Act*. If approved, the EAO notes that Tilbury Phase 2 would require a number of additional provincial, federal and municipal approvals and permits that would also impose additional requirements.

### Conclusions

The EAO carefully considered all information submitted by the Proponent, Indigenous nations, local governments, public, the CAC, and the TAC. Based on a thorough analysis of the assessment materials, the proposed mitigation measures, acceptable implementation of the proposed provincial conditions, the KMMs and federal follow-up programs under the IAA, and the permitting and other regulatory requirements that the Project would be subject to, the EAO has determined that Tilbury Phase 2 is not likely to result in significant adverse project-specific effects or contribute significantly to adverse cumulative effects.

The EAO acknowledges ongoing concerns regarding cumulative effects to air quality as a result of residual effects of Tilbury Phase 2 interacting with the effects of other past, present, and reasonably foreseeable future projects. The EAO concludes, however, that Tilbury Phase 2's contribution to these cumulative effects would be limited, due to the nature and scale of the project's effects, and not significant.

In reaching its conclusions, the EAO considered the adverse effects within federal jurisdiction as defined in Section 2 of the IAA. The EAO concluded that residual and cumulative adverse federal effects to fish and fish habitat, migratory birds, air quality and acoustic resources that would occur on federal lands, to physical and cultural heritage and any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, are not significant. The EAO concluded that residual effects to Indigenous peoples' physical and cultural heritage are not significant, and the cumulative effects are significant to a low extent. The EAO concluded that residual and cumulative adverse federal effects to Indigenous peoples' current use of lands and resources for traditional purposes and to the health, social, and economic conditions of Indigenous peoples are significant to a low extent.

In considering the purposes of the Act, the EAO evaluated whether Tilbury Phase 2 would promote sustainability by protecting the environment, fostering a sound economy, and supporting the well-being of British Columbians and their communities.

From an environmental perspective, the assessment concluded that potential adverse effects can be effectively mitigated through the proposed Certificate conditions, additional regulatory requirements, KMMs and project-specific mitigation measures. While cumulative air quality concerns exist in the region, the Project's incremental contribution to those effects is expected to be limited in magnitude and frequency.

Tilbury Phase 2 also has the potential to foster a sound economy by supporting continued and new employment, contracting, and training opportunities, generating regional economic activity, and contributing tax revenue to local governments and the Province.

Finally, the Project has the potential to contribute to the well-being of British Columbians and their communities, including First Nations communities, through energy system resiliency, economic opportunities, and continued engagement with Indigenous nations regarding potential effects on their interests.

Based on the overall findings of the environmental assessment, the EAO is of the view that Tilbury Phase 2 is consistent with the promotion of sustainability as defined under the Act.

## 0.0 PURPOSE OF THIS ASSESSMENT REPORT

This Assessment Report (Report) provides the findings and recommendations of the environmental assessment conducted by the Environmental Assessment Office (EAO) for the Tilbury Phase 2 LNG (Liquified Natural Gas) Expansion Project (Tilbury Phase 2 or The Project) Application for an Environmental Assessment Certificate (Application) submitted by FortisBC Holdings Inc. with its natural gas subsidiary FortisBC Energy Inc., (collectively referred to as FortisBC or the Proponent) on November 29, 2024.

This Report is provided to the provincial Ministers who are responsible for making the decision on Tilbury Phase 2 under Section 29 of the *Environmental Assessment Act* (the Act). For Tilbury Phase 2, the deciding provincial Ministers are the Minister of Environment and Parks and the Minister of Energy and Climate Solutions (together referred to as ‘the Ministers’).

This Report is also submitted to the federal Minister of Environment, Climate Change, and Nature to inform their decision-making, fulfilling the requirements of both the federal [Impact Assessment Act](#) (2019) (IAA), the Act, and the conditions for substitution outlined in the [Notice of Substitution Approval](#) under the IAA.

### 0.1 Reader’s Guide to this Report

This Report describes:

- An overview of Tilbury Phase 2 ([Section 1.0](#)) and context of the region ([Section 2.0](#));
- The EAO’s environmental assessment process ([Section 3.0](#)) including other assessment matters based on [Impact Assessment Act](#) requirements including those outlined in the [Notice of Substitution Approval](#) ([Appendix 15.0](#));
- The engagement undertaken with all advisors and stakeholders, including the Technical Advisory Committee (TAC), Community Advisory Committee (CAC), the public, and local governments ([Section 4.0](#));
- The engagement with Indigenous peoples, including the EAO’s efforts to seek consensus with participating Indigenous nations, participating Indigenous nations notice of consent or lack of consent, and a summary of the effects to these Indigenous peoples including Métis Nation British Columbia on behalf of Canada ([Section 5.0](#));
- The predicted effects of Tilbury Phase 2 ([Section 6.0](#));
- The key concerns raised during the environmental assessment ([Section 7.0](#));
- The proposed Environmental Assessment Certificate (Certificate) conditions ([Section 8.0](#))
- Federal Key Mitigation Measures (KMM) and Follow-Up Programs under the IAA ([Appendix 2](#))
- The contribution of Tilbury Phase 2 to sustainability in B.C. ([Section 9.0](#)); and,
- The EAO’s conclusions ([Section 10.0](#)).

This Report does not replicate the content presented in the Proponent’s Revised Application for an Environmental Assessment Certificate (Revised Application). In the preparation of this Report, the following information has been considered:

- The Proponent’s [Revised Application](#), which includes supplemental information provided by the Proponent during the Application Review phase of the assessment; and
- Advice and comments provided by the TAC, CAC, Indigenous People, local governments, and the public on the Application, Revised Application, supplemental information, and a draft of this Report.

## 0.2 The Purposes of the Environmental Assessment Office

The [\*purposes of the Environmental Assessment Office\*](#) are to carry out its responsibilities under the Act, to promote sustainability by protecting the environment and fostering a sound economy and the well-being of British Columbians and their communities (sustainability purpose), and to support reconciliation with Indigenous peoples in B.C. (reconciliation purpose). Through its work with Indigenous peoples, the EAO is committed to advancing reconciliation by implementing the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

This Report and the environmental assessment process for Tilbury Phase 2 are intended to support the fulfillment of these purposes of the EAO specific to this project.

## 1.0 PROJECT OVERVIEW

### 1.1 Proponent Description

FortisBC Holdings Inc. (FHI), a subsidiary of Fortis Inc., and FortisBC Energy Inc. (FEI), a subsidiary of FHI, are British Columbia (B.C.) companies. FEI is based and headquartered in Surrey, B.C. and is the primary provider of natural gas for domestic use in the province of B.C. FEI has an obligation under the *Utilities Commission Act* to provide adequate, safe, and efficient natural gas service to its customers. FHI and FEI (together, FortisBC) have proposed the Tilbury Phase 2 Liquefied Natural Gas (LNG) Expansion Project (Tilbury Phase 2 or the Project) which is an expansion of FEI's existing LNG facility located on Tilbury Island in the city of Delta (Delta), B.C.

The principal points of contact for FortisBC for Tilbury Phase 2 are:

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Tilbury Project  
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#### Primary Environmental Assessment Consultants to the Proponent

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Website: [www.jacobs.com](http://www.jacobs.com)



## 1.2 Project Description and Schedule



Figure 1: Concept image of Tilbury Phase 2 Project

FortisBC proposes to construct, operate and decommission an expansion to its Tilbury LNG Facility that has been in operation since 1971. Tilbury Phase 2 is an expansion (without a change in footprint) beyond the existing phase 1A and future phase 1B. This will include the construction of a new LNG storage tank with a working volume of 142,400 cubic metres ( $\text{m}^3$ ), 3.5 petajoule (Storage Tank) and up to 7,700 tonnes per day (t/d) of LNG liquefaction (Liquefaction Capacity), natural gas receiving facilities, as well as supporting infrastructure. The double-walled LNG Storage Tank will include LNG pumps, a closed loop Boil-Off Gas (BOG) management system, including gas compressors, insulated piping, stairways, a rooftop crane and safety systems. The total Project Site LNG storage volume could be up to 216,000  $\text{m}^3$  when combining the capacity of the Storage Tank, Base Plant storage tank, and Phase 1A storage tank. The total Project Site LNG working storage will be up to 188,000  $\text{m}^3$ . The Liquefaction component of the project is expected to be built in phases contingent on market demand and will include electric-drive refrigerant compressors, air cooling systems, nitrogen generator systems and other associated LNG system infrastructure for a total additional installed capacity of up to 7,700 t/d. The liquefaction capacity of the Project will increase the production of LNG at the Project Site from below 3,000 t/d to up to approximately 10,500 t/d, including Base Plant liquefaction. The following infrastructure will be installed for the lifecycle of the proposed LNG Storage Tank and liquefaction facilities and will include, control rooms, site grading, roadways, lighting, as well as Liquid hydrocarbon or chemical storage and handling facilities.



Figure 2: Tilbury LNG (current facility)

The Tilbury site is located on Lot 1 District Lot 135 Group 2 New Westminster District Plan and occupies the northern portion of the 7651 Hopcott property. Tilbury Phase 2 will be constructed entirely within the existing Tilbury LNG Facility site and will not require expansion of the facility footprint onto previously undeveloped lands.

Neighbouring properties are mostly industrial with the closest residential area being approximately 3 kilometres (km) away from the facility. Proximal businesses include a Seaspan Ferry Terminal, Riverside Funeral Home and Crematorium and the Delta Community Animal Shelter. Public access to the Project Site is restricted. There is no land-based recreational access to the Project Site, but some recreational activities do occur in the surrounding area both on and off land. Construction Laydown and storage areas will be located either within the Project Site or alternatively on previously disturbed areas including adjacent industrial sites.

Construction of the Project is anticipated to span two to three years for the LNG storage tank and an additional 2 years for the supplementary Liquefaction Facilities. The operational lifespan of the Project is anticipated to be a minimum 40 to 60 years, starting in 2027 or 2028 (i.e., in operation until at least 2067 - 2068) with a decommissioning expected to last 2 years.

The Proponent has provided the following estimated schedule for the phases of Tilbury Phase 2's Construction, Operation and Decommissioning, described in Table 1.

Table 1: Project Activities and Anticipated Schedule

| Project Phases and Activities                                                                                                               | Anticipated Duration | Anticipated Start               | Anticipated End               |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------------------|-------------------------------|
| Permitting                                                                                                                                  | 9 years              | 2019                            | 2027                          |
| Management plan development                                                                                                                 | 2 years              | 2026                            | 2027                          |
| Construction <ul style="list-style-type: none"> <li>LNG Storage Tank</li> <li>LNG Liquefaction Facilities</li> <li>Commissioning</li> </ul> | 3-6 Years            | 2027<br>2027<br>2029<br>Q2 2030 | 2033<br>2030<br>2033<br>2031+ |
| Operation                                                                                                                                   | 40 Years             | 2030                            | 2070+                         |
| Decommissioning                                                                                                                             | 2 Years              | 2070                            | 2072                          |



Figure 3: Tilbury Phase 2 LNG Project Footprint

### 1.3 Purpose and Need for the Designated Project

Paragraph 22(1)(d) of the *Impact Assessment Act* (IAA) specifies that the assessment of a designated project must take into account the purpose and need for the designated project. FortisBC has identified this facility as a key element in its utility operations and business strategy, specifically to:

- strengthen resiliency by providing instantaneous backup gas supply to FortisBC customers, primarily in the Lower Mainland, in the event of a supply emergency; and,
- provide a clean-burning, lower-carbon fuel alternative for local and global markets to meet the growing demand.

FortisBC has identified that the Tilbury Phase 2's storage capacity is critical to its role as a regulated utility in ensuring a stable supply of natural gas to its customers primarily in the Lower Mainland. Gas supplies to the Lower Mainland are primarily dependent on the Westcoast pipeline which is primarily owned by Enbridge and suffered a pipeline rupture in 2018. The disruption of the pipeline's normal operations would, in the absence of a sufficient stored natural gas or alternative gas delivery options, present a risk to normal utility operations. FortisBC also identified that storage capacity is needed in cases of peak demand or other short term supply issues.

The B.C. Utilities Commission (BCUC) issued a Certificate of Public Convenience and Necessity in October 2025 for the Tilbury LNG Storage Expansion Project, which includes the LNG Storage Tank that is subject to this Environmental



Assessment (EA). The BCUC assessed the benefits of the LNG storage tank to the public, Indigenous Nation and stakeholder feedback in its determination. Information on the BCUC process is included in [Section 2.3.2](#) of this Report.

FortisBC also states in the Revised Application that secondary purpose of the Project is to “provide a clean-burning, lower-carbon fuel alternative for local and global markets to meet the growing demand” (Section 1.7 of the Revised Application). This section outlines FortisBC’s rationale that there are both domestic and international markets for LNG as a fuel that has a lower carbon footprint than alternatives, and that there is a current and growing demand for LNG as a marine fuel.

1.4 Alternatives to the Project

Paragraph 22(1)(f) of the IAA requires the assessment take into account any alternatives to the designated project that are technically and economically feasible and are directly related to the designated project. Subsection 1.2 above discusses the purpose and need for Tilbury Phase 2 to:

- Develop the infrastructure required to support increased LNG storage capacity and expand the facility’s liquefaction capabilities. The proponent intends to increase both production and storage at the facility to strengthen the resilience of its Lower Mainland gas system; and,
- Increase the LNG the storage capacity at the Tilbury LNG facility to enhance its ability to operate as a “peak-shaving” resource during periods of high energy demands in the Lower Mainland. The facility has previously provided backup energy supply for six consecutive days in December 2021 and again in 2023, following disruptions on the Westcoast Energy pipeline that serves the region.

The Proponent evaluated a range of alternatives to determine the most effective and feasible approach for enhancing gas system resilience in the Lower Mainland. The Proponent’s assessment concluded that expanding the existing Tilbury LNG facility, already connected to the regional gas distribution system and located close to end users, is the most appropriate option, because the redevelopment of the brownfield site would minimize new land disturbance, leverage existing infrastructure, and reduce the risk of supply disruptions between storage and demand centres.

Alternatives were examined to test their ability to meet the Project’s resilience objectives, including load management, pipeline diversification, and various storage configurations. While some options could reduce certain risks or improve operational flexibility, they were generally limited by continued exposure to upstream constraints or an inability to supply gas during extended no-flow events. Several storage alternatives were also constrained by feasibility considerations or higher relative cost and infrastructure requirements, including geological limitations, continued reliance on upstream systems, or the need for new greenfield development.

The alternatives to the Project were considered based on feedback collected through ongoing engagement, early engineering and technical feasibility, financial considerations, and potential environmental impact.

For an assessment of alternatives considered, refer to [Section 1.7 of the Revised Application](#), and Table 2 below. Overall, no other technically or economically feasible alternative was identified that could achieve the required improvements in system resilience.

Table 2: Alternatives to the Proposed Project Considered.

| Resiliency Element | Alternative(s) | Discussion                                                                                                                                                                                                                                                                                                         |
|--------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Load management    | AMI            | AMI remote shutoff capability would add resiliency by reducing the potential for an uncontrolled shutdown but is best viewed as a complementing supply-side solution. Without additional supply in case of a “no-flow” event, large-scale load shedding would be required, leaving many customers without service. |

| Resiliency Element                 | Alternative(s)                                                                                                                       | Discussion                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Diversified pipeline supply</b> | T-South pipeline expansion                                                                                                           | Expansion in this corridor would still leave the Lower Mainland gas supply at risk of a single point of failure, such that new storage would still be required to provide resiliency.                                                                                                                                                                        |
|                                    | Expansion to Northwest Pipeline's gorge capacity                                                                                     | Expansion would add little resiliency. Even if the gorge expansion was constructed, new storage would still be required to meet the resilience requirements.                                                                                                                                                                                                 |
|                                    | SCP expansion to Kingsvale, B.C. (that is, interconnecting with the T-South system 172 km north of FortisBC's Lower Mainland system) | A new regional pipeline would add resiliency by reducing single point of failure risk north of Kingsvale on the T-South system. However, even with this alternative constructed, new storage would still be required to address single point of failure risk for the 172 km of pipeline south of Kingsvale to Huntingdon.                                    |
|                                    | SCP expansion to Huntingdon, B.C.                                                                                                    | A new regional pipeline would add resiliency by diversifying supply into the Lower Mainland. Some gas would still be available if there was a failure on one pipeline system (T-South or expanded SCP). However, even if constructed, additional storage would still be required to supplement remaining pipeline flows and avoid significant load shedding. |
| <b>Storage</b>                     | Additional off-system storage contract                                                                                               | Contracting additional off-system storage would still leave the Lower Mainland subject to single point of failure risk because supply would remain dependent on the T-South system to access the storage resource.                                                                                                                                           |
|                                    | On-system underground storage                                                                                                        | This alternative is not feasible within the Lower Mainland due to the regional geology.                                                                                                                                                                                                                                                                      |
|                                    | On-system storage at a new site                                                                                                      | This alternative would provide resiliency but is more costly than expansion at an existing site, and it would require of pipeline construction, liquefaction, storage, and regasification.                                                                                                                                                                   |

The alternatives screening and selection process also considered the environmental implications of the technologies and development choices. The Proponent evaluated the following alternatives in design and methodology alternatives in carrying out the Project, assessing project components including:

- LNG driver technology;
- Cooling system;
- Flare technology; and,
- Construction material delivery.

Refer to Appendix 13 - Alternative Means of Carrying out The Project for further information on the assessment of alternatives related to primary project components and activities.

## 1.5 Project Anticipated Expenditures

The anticipated expenditures associated with the construction of Tilbury Phase 2 are currently estimated at between \$3 to \$3.5 billion. This estimate includes construction expenses, the cost of all structures, engineering, machinery and equipment as well as the associated professional services involved with Tilbury Phase 2. The annual operating costs are anticipated to be approximately \$250 million. This figure is exclusive of cost of feed gas. When the facility is at the end of its operational life costs of Decommissioning are estimated at \$210 million with the assumption that the project site be

used for industrial purposes. Alternate uses such as conversion to natural riparian and/or upland forested habitat would likely increase this cost. The facility is expected to be in operation for a minimum of 40 years.

## 2.0 REGIONAL AND REGULATORY CONTEXT

The purpose of this section is to provide the reader with high-level information about the region where Tilbury Phase 2 is proposed.

### 2.1 First Nations

Tilbury Phase 2 is proposed within or near the territory of the following First Nations:

- Chawathil First Nation;
- Cheam First Nation;
- Katzie First Nation;
- Kwantlen First Nation;
- kʷikʷə́łəm First Nation;
- Leq'á:mel First Nation;
- Malahat First Nation;
- Matsqui First Nation;
- xʷməθkʷəyám (Musqueam Indian Band);
- Pauquachin First Nation;
- Popkum First Nation;
- Quw'ustun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe and Stz'uminus First Nation);
- Semiahmoo First Nation;
- S'ólh Téméxw Stewardship Alliance members (Aitchelitz First Nation, Kwaw-kwaw-Apilt First Nation, Seabird Island Band, Semá:th (Sumas) First Nation, Shxwhá:y Village, Shxw'ōwhámél First Nation, Skowkale First Nation, Skwah First Nation, Soowahlie First Nation, Sq'ewá:lxw (Skawahlook) First Nation, Sq'éwlets (Scowlitz) First Nation, Squiala First Nation, Tzeachten First Nation, Yakweakwioose First Nation, and Yale First Nation);
- Snuneymuxw First Nation;
- Sk̓wx̓wú7mesh Úxwumixw (Squamish First Nation);
- SṪÁUTW First Nation;
- Tsartlip First Nation;
- Tsawwassen First Nation;
- Tseycum First Nation;
- Tsleil-Waututh Nation (TWN); and,
- Ts'uubaa-asatx.

Throughout this document, the use of the term ‘territory’ refers to the asserted territories of First Nations unless the territories are established treaty lands or otherwise established by law or recognized by B.C. and Canada. The environmental assessment process is not a Rights-determining process. Through the environmental assessment process, the Environmental Assessment Office (EAO) seeks to understand what Tilbury Phase 2 effects would be on each First Nation and its asserted or established Aboriginal rights or Treaty rights, as recognized and affirmed by Section 35 of the *Constitution Act, 1982* (Section 35 rights). Engagement with these First Nations is described in [Section 16](#) of this Assessment Report (Report).

The assessment area includes a region where the B.C. Supreme Court, in *Cowichan Tribes v. Canada (Attorney General)*, 2025 BCSC, declared that Quw’ustun Nation hold Aboriginal title to a portion of the south arm of the Fraser River on Lulu Island; however, the Project Footprint itself is not within the title area. Quw’ustun Nation refer to the Aboriginal title area as *Tl’uq̓tinus*. Other First Nations assert overlapping territorial interests in this region and use other variations of this name such as *Łəq̓tinās*, *Tl’ektines*, or *Tl’eq̓tines*. The court decision is currently under appeal, including by the provincial and federal governments, local governments, local property owners and businesses, Union of BC Municipalities, and First Nations with appellate proceedings ongoing. Recognizing the ongoing divergences in views in relation to this area, for the purposes of this assessment report, a neutral geographic descriptor - “Historic Indigenous Village Site” - is used as the primary reference, while acknowledging the BCSC decision and the perspectives of other First Nations with interests in the area.

## 2.2 Communities

The Project would be located in the Tilbury Industrial Park in Delta, B.C. While its footprint and most direct impacts are within Delta, some effects—particularly those related to air quality and economic activity—may also be felt in neighbouring communities such as the City of Richmond (Richmond), as well as more broadly across Metro Vancouver.



### *Metro Vancouver*

Metro Vancouver Regional District is a regional district that is comprised of 21 municipalities, 1 Treaty First Nation, and 1 electoral area. It is home to around 2.7 million people. Metro Vancouver collaboratively plans for and delivers regional-scale services to its members including water supply, sewer systems, wastewater treatment, and solid waste management. Metro Vancouver also provides services, and has certain authorities, relating to air pollution control and air quality management under the *Environmental Management Act (EMA)*. Metro Vancouver borders Washington State, United States of America (USA) to the south, the Fraser Valley to the east, Squamish-Lillooet to the north, and Vancouver Island to the west. The

region's diverse landscape includes mountains such as the Coast and Cascade Mountains, valleys including the Fraser Valley, and coastal areas supporting a rich variety of ecosystems. The major economic sectors in Metro Vancouver include trade, tourism, film and TV, technology, and construction.

### *City of Delta*



Delta has a population of 108,455 and a population density of 603.7 people per square kilometer (km<sup>2</sup>) (2021). Delta is a vibrant area comprised of three thriving communities: Ladner, Tsawwassen, and North Delta. The City's economy is diverse, with roots in agriculture, construction, and retail, and a growing business sector. The industrial lands at Tilbury and Annacis Island are among the largest in Metro Vancouver. Tilbury Island is a key industrial hub, particularly for transportation and warehousing, with a strong focus on

manufacturing and distribution. It is also a significant area for energy storage. The island's strategic location facilitates barge access via the Fraser River and offers good road and rail connections, making it ideal for businesses in the transportation and warehousing sectors.

*City of Richmond*

Richmond currently has an estimated population of 241,375. The city is a culturally diverse, growing, and dynamic urban center characterized by a unique mix of residential and commercial properties, agricultural lands, industrial parks, waterways, and natural areas. Located at the confluence of the Fraser River and the Pacific Ocean, Richmond features numerous parks, trails, recreation facilities, and programs that contribute to a healthy and active community. Richmond's diverse economy encompasses various sectors, including services, retailing, tourism, technology industries, light manufacturing, airport services and aviation, agriculture, fishing, and government.

*City of Vancouver*

The City of Vancouver is the largest city in B.C., with a population of 631,486. Vancouver occupies the western half of the Burrard Peninsula. The city is bounded to the north by English Bay and the Burrard Inlet, to the south by the Fraser River, to the east by the City of Burnaby (Burnaby), and to the west by the Strait of Georgia. Vancouver. Its main industries include technology, film and TV, tourism, natural resources, trade and logistics. The Port of Vancouver facilitates the city's trade with Asia, and its numerous beaches, parks, and cultural sites make it a popular destination for tourists and residents.

## 2.3 Geography and Ecology

The Tilbury Phase 2 project is located within the existing LNG facility on Tilbury Island, Delta, B.C. The approximate coordinates of the location are latitude 49°08'28"N and longitude 123°01'57"W, with an elevation of approximately 1 metre above sea level (masl). The Project is bounded to the northwest by the Fraser River and to the southeast by the Tilbury Slough.



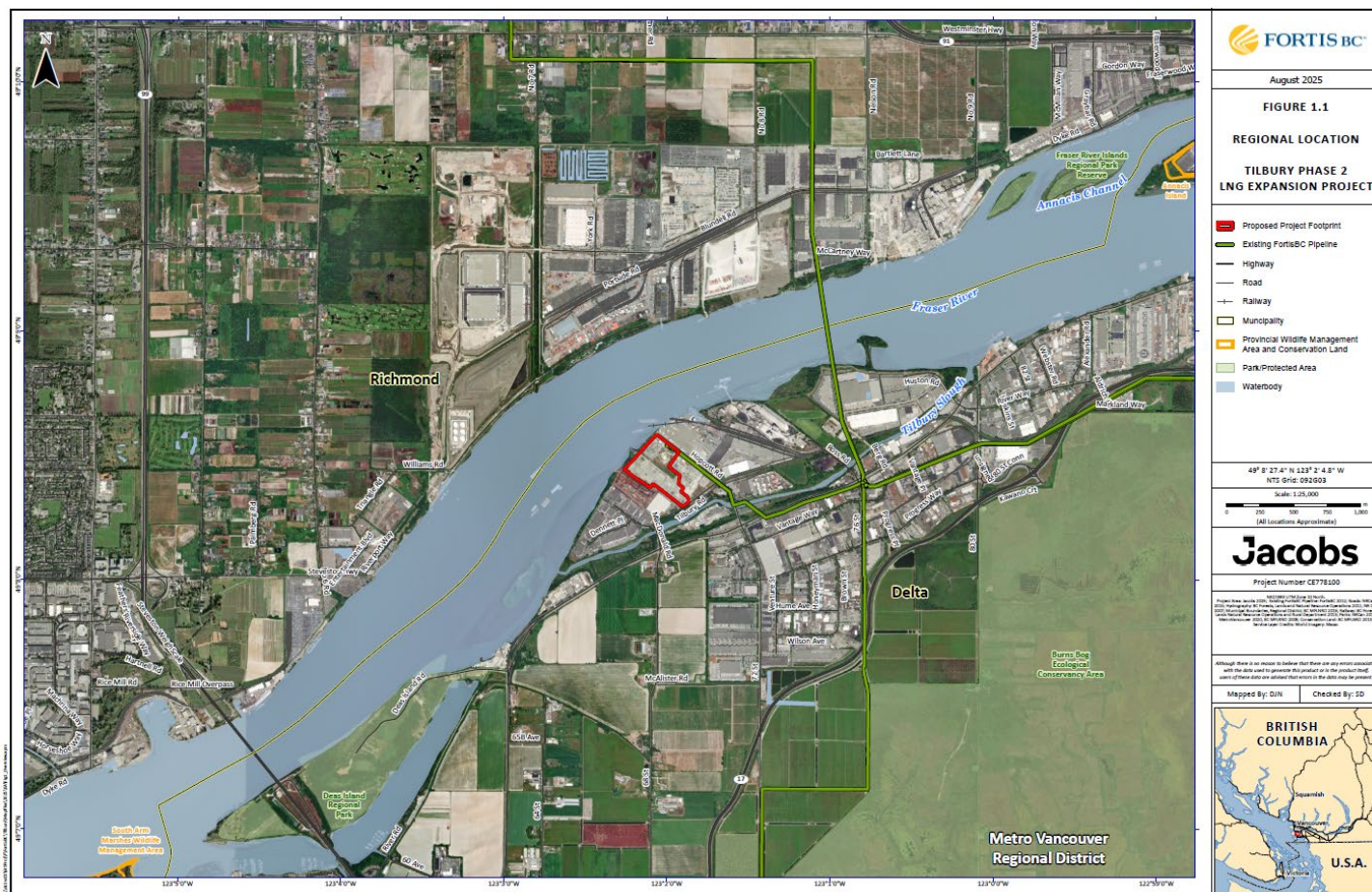


Figure 4: Project site of the Tilbury Phase 2 LNG Expansion Project



Figure 5: Tilbury Slough

The Fraser River, on Figure 4, and Tilbury Slough, on Figure 5 provide habitats for migratory birds, waterfowl, and raptors. The Fraser River, which flows into the Salish Sea between the mainland and Vancouver Island, provides habitat for 78 different species of fish, including salmon, eulachon, and white sturgeon. First Nations rely on the Fraser River and its surrounding lands as a vital means of transportation and for harvesting, trading, and other economic and cultural purposes. The river's main navigational channel is utilized by various vessels, including deep-sea cargo ships, tugs with barges and log booms, and commercial fishing vessels.





Figure 6: Riparian vegetation and adjacent mudflat shoreline along Tilbury Island

The terrain of the Project site is relatively flat, with river sediment-based soil consisting primarily of silt and sand. The Project site is currently characterized by concrete surfaces, graveled and paved areas, existing infrastructure, and equipment laydown areas, resulting in limited to negligible habitat value for wildlife.

Ecologically, the area is in proximity to parks and sensitive areas, including Burns Bog Ecological Conservation Area, Deas Island, Fraser River Islands and Boundary Bay regional parks, Delta Nature Reserve, George C. Reifel Migratory Bird Sanctuary, Alaksen National Wildlife Area, and a wetland habitat indicated by the presence of *Typha latifolia*. The native vegetation includes *Pseudotsuga menziesii* (Douglas fir), *Thuja plicata* (western redcedar), and *Tsuga heterophylla* (western hemlock). The area holds significance in terms of traditional territories and historical use, as well as culturally significant vegetation.

## 2.4 Regulatory Environment

### 2.4.1 B.C. Environmental Assessment and Federal Impact Assessment

Tilbury Phase 2 is an expansion of an existing LNG facility and subject to a provincial EA pursuant to the following section of the [Reviewable Projects Regulation](#) (B.C. Reg. 243/2019; O.C. 607/2019).

- **Part 4** (Petroleum and Natural Gas Projects), applies because construction of the Tilbury Phase 2 expansion on the existing Tilbury LNG facility would constitute a modification of that facility. This modification represents an increase in the capability of the Project to store one or more energy resources, other than electricity, by an amount that can yield  $\geq 3$  Petajoule(s) of energy through combustion or, for LNG, an increase of  $\geq 136,000$  cubic meters ( $\text{m}^3$ ).

Tilbury Phase 2 is considered a designated project under the IAA as it meets the threshold of certain sections of the [Physical Activities Regulation](#) (SOR/2019-285). The applicable section is:

- **Section 37(g)** (Oil, Gas, and Other Fossil Fuels), applies because Tilbury Phase 2 involves modifying an existing facility used for liquefaction, storage or regasification of LNG. Under this provision, a project meets the criteria when it is a new or modified LNG facility with a processing capacity of 3,000 tonnes per day (t/day) or more or a storage capacity of  $136,000 \text{ m}^3$  or more. An impact assessment is required because the expansion would increase the facility's LNG processing or storage capacity by 50% or more, resulting in a total LNG processing capacity of 7,700 tonnes per day (t/day) or a total LNG storage capacity of  $142,400 \text{ m}^3$  or more, as the case may be.

The former federal Minister of Environment and Climate Change substituted the federal impact assessment to B.C., with the understanding that the assessment must meet the requirements of the IAA and would be conducted by the EAO in accordance with the Impact Assessment Cooperation Agreement between Canada and British Columbia (Cooperation Agreement). Substitution results in a single assessment process designed to support the separate decisions by provincial and federal decision makers and also supports Indigenous peoples' decision making. This means that the EAO has prepared this assessment report on behalf of B.C. and Canada, and each government makes their own decisions whether to grant approval of the Project based on the considerations defined in each of their respective Acts as noted in the [Notice of Substitution Approval](#).

During the Environmental Assessment, in October 2023, the Supreme Court of Canada opined that the IAA was partially unconstitutional. The Government of Canada worked to issue guidance on the interim administration of the IAA to provide continuity for Projects in the impact assessment process and worked to introduce targeted and meaningful proposed legislative amendments to the IAA. On June 20, 2024, the amended IAA came into force. The amendments addressed the Supreme Court of Canada's concerns by focusing on the decision-making provisions and the definition of effects within federal jurisdiction and responded to the need to exercise cooperative federalism. On August 14, 2024, the Impact Assessment Agency of Canada (IAAC) transitioned Tilbury Phase 2 to the amended IAA by reposting the Minister of Environment and Climate Change's decision on substitution, deeming any steps completed before the amended IAA came into force to have been taken under the amended IAA. The [Notice of Transition to the Amended Impact Assessment Act](#) and the [Notice of Substitution Approval](#) under the IAA were posted to the Canadian Impact Assessment Registry.

Both Canada and B.C. retain their duty to consult and, where appropriate, accommodate Indigenous peoples.

#### 2.4.2 B.C. Utilities Commission Review

A Certificate of Public Convenience and Necessity (CPCN) from the [B.C. Utilities Commission \(BCUC\)](#) is required for any new facility or modifications to existing facilities providing public services (including utilities). The BCUC regulates B.C.'s energy utilities, the Insurance Corporation of B.C. (ICBC)'s basic automobile insurance rates, common carrier pipeline operations and rates, and the reliability of the electrical transmission grid. The BCUC ensures customers have access to safe, reliable energy services at just and reasonable rates, while allowing the utility the opportunity to earn a fair return on its investment.

The Revised Application identifies that a CPCN is required for the LNG storage tank as it is needed to provide resiliency to the FortisBC's natural gas supply system. The BCUC issued Order [C-6-25](#) granting a CPCN for the Tilbury LNG Storage Expansion Project (TLSE) on October 27, 2025. The Order provides restrictions on the use of the proposed LNG storage tank to system resiliency purposes and is not intended to permit FortisBC to "use LNG from the TLSE storage tank for LNG transportation service customers, export or other related purposes unless otherwise approved by the BCUC." Records of the [BCUC process](#) are available [here](#).

#### 2.4.3 Regulatory Coordination

In addition to provincial environmental assessment and federal impact assessment approvals, Tilbury Phase 2 would need various authorizations required issued by federal and provincial governments directly, or on a delegated basis.

The primary provincial permits or authorizations applicable to Tilbury Phase 2 are considered under the:

- [Energy Resource Activities Act](#) (ERAA) which regulates energy resource activities in B.C., including natural gas processing plants, such as Tilbury Phase 2, through permits, authorizations, orders and regulations. Regulations under ERAA outline technical standards and requirements that must be met throughout the lifecycle of LNG facilities and are supported by manuals published by the BC Energy Regulator (BCER). Applicable regulations include the [Liquefied Natural Gas Facility Regulation](#) (LNGFR) which contains requirements to restrict flaring and venting as well as the [Emergency Management Regulation](#) which sets requirements (including technical requirements as

well as how permit holders must consult with First Nations and stakeholders) for an emergency response program and emergency response plan, as well as requires regular emergency management exercises.

- [Environmental Management Act](#) (EMA) which is B.C.'s primary legislation for regulating pollution and waste to protect the environment and human health. Under EMA, Metro Vancouver has been delegated authority for managing air discharges within Metro Vancouver. Metro Vancouver exercises this authority through the Greater Vancouver Air Quality Management Bylaw NO. 1082, 2008 (as amended). This authority includes a permitting regime, air quality monitoring, and setting air quality guidelines.

The EAO prepared a [Joint Permitting/Regulatory Coordination Plan](#) and [Regulatory Coordination Issues Tracking Table](#) that contain information about these and other federal and provincial authorizations required for the Tilbury Phase 2.

#### 2.4.4 Land Use Plans

The following land use plans are relevant to Tilbury Phase 2's geographic setting:

##### Provincial Government Land Use Plans

- Lower Fraser Sustainable Resource Management Plan (2013): This plan applies to the Fraser Valley South Landscape Unit and is intended primarily for Crown land. The Project Footprint and majority of the assessment area are located on private land on Tilbury Island, with limited overlap with provincial Crown lands. As a result, the plan does not directly apply to the Project but provides general guidance for resource use;

##### Local Government and Port Authority Land Use Plans

- Metro Vancouver's Regional Growth Strategy (RGS: 2025): The Regional Growth Strategy is a high-level plan guiding land use and growth within the region. Tilbury Island is designated as Industrial Land, which supports industrial activities and services required for regional growth;
- Delta's Official Community Plan (OCP) (Bylaw No. 8400: 2024): The OCP provides long-term land use direction for Delta, including Industrial Lands. The Project site is located within an area designated for industrial use, and nearby Agricultural Land Reserve areas are situated south of the Project Footprint;
- Delta Zoning Bylaw No. 7600 (2017): This bylaw establishes permitted land uses within Delta. The Project Footprint is zoned "High Impact Industrial Use," which permits uses including natural gas and petroleum-related facilities;
- Vancouver Fraser Port Authority's (VFPA) Land Use Plan (2020): This plan outlines land and water use direction within the Vancouver Fraser Port Authority jurisdiction. The Project site is located within Planning Area 7 on the Fraser River, where industrial and port terminal uses are anticipated;

##### First Nations Land Use Plans

- x̱m̱əθḵəy̱əm's Comprehensive Sustainable Community Development Plan (2018): This plan provides a community-driven framework for x̱m̱əθḵəy̱əm's social, cultural, and economic priorities. While the Project is not located within x̱m̱əθḵəy̱əm reserve lands, the plan informs x̱m̱əθḵəy̱əm's interests related to land and resource use in the region;
- Qu'wutsun Nation's (Cowichan Tribes, Lyackson First Nation, Stz'uminus First Nation, Penelakut Tribe and Halalt First Nation) Declaration for Reconciliation: This declaration articulates shared principles for reconciliation and land stewardship among the signatory Nations. The declaration provides high-level guidance regarding Indigenous perspectives on land and resource use;

- Hul'qumi'num Treaty Group - Shxunutun's Tu Suleluxwts: In the Footsteps of Our Ancestors: Issued by the Hul'qumi'num Treaty Group, whose membership at the time of publication included Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Lyackson First Nation, Halalt First Nation, and Ts'uubaa-asatx, this document sets out resource management goals, objectives, and strategies reflecting Hul'qumi'num relationships to land and water, including Tl'uqtnus. The document provides high-level guidance on Indigenous land and resource stewardship relevant to the region;
- Ts'uubaa-asatx First Nation – South Arm of the Fraser River and Approaches Policy and Vision, Goals and Objectives (2018): These are policy documents that articulate priorities related to re-establishing traditional use and occupancy in the Lower Mainland and set out objectives for environmental protection and healthy ecosystems. The documents provide high-level guidance on Indigenous land and resource interests relevant to the Project area;
- Declaration for Reconciliation and Shxunutun's Tu Suleluxwts: In the footsteps of our Ancestors: These documents acknowledge the Quw'utsun Nation's objective to re-establish a permanent presence on Tl'uqtnus lands and articulate shared principles related to reconciliation and Indigenous land stewardship. The documents provide high-level guidance on Quw'utsun Nation's land-use priorities relevant to the broader region;
- S'ólh Téméxw Stewardship Alliance's S'ólh Téméxw Use Plan and Policy (2018): This plan guides land and resource use within S'ólh Téméxw, including direction for economic development and the protection of culturally significant areas, and designates the Fraser River as a Sensitive Waterway. The plan provides regional guidance relevant to Indigenous land and water stewardship;
- Tsawwassen First Nation Land Use and Governance Documents: Tsawwassen First Nation has established several interrelated land use, strategic, and governance documents, including the *Land Use Plan* (2009), *Neighbourhood Plan* (2011), *Strategic Plan* (2018–2023), *Final Agreement* (2010), and *Harvest Agreement* (2010). Together, these documents provide direction for land use, community development, transportation, environmental protection, land stewardship, and the exercise of Treaty rights within Tsawwassen First Nation lands and adjacent areas of the Fraser River. The Local Assessment Area (LAA) surrounds Tsawwassen lands, and these documents provide context for Tsawwassen interests related to land use, governance, and resource management;
- The Tseil-Waututh Nation Land Use Plan (2018): This plan outlines TWN's long-term land use goals, including environmental protection, climate change considerations, economic development, and community planning within TWN territory. The plan provides context for Indigenous stewardship responsibilities related to land, water, and air; and,

#### Other Land Use Plans

- Fraser River Estuary Management Program – A Living, Working River: The Estuary Management Plan for the Fraser River (2003): This plan was developed to provide a framework for integrating the management of human and natural activities within the Fraser River estuary. Although the Fraser River Estuary Management Program was dismantled in 2013, the plan's categories and information continue to provide planning context for land and shoreline use along the river.

#### 2.4.5 Other Projects in the Region

Within the Project site, the existing Tilbury LNG facility and its previously-approved expansion including associated storage and liquefaction capacity are already in place. Adjacent to the Project area are the Tilbury Marine Jetty (TMJ) project and Seaspans Ferry Terminal. TMJ is a planned LNG transportation and bunkering facility, while the Seaspans Ferry Terminal supports an average of ten ferry round trips per day.



Also located on Tilbury Island is the proposed Delta Grinding Facility Project that would include the manufacturing of supplementary cementitious material adjacent to an existing cement production facility. This project includes a new marine terminal, stockpile areas, mill system, truck loadout facility and related infrastructure.

Section 6.7 of the [Application Information Requirements](#) (AIR) outlines the requirements for Cumulative Effects Assessments (CEAs) for the Revised Application. This included requirements for identifying reasonably foreseeable future projects and developments, including a list of other Projects which at a minimum must be considered. In the Revised Application twenty-four (24) current and reasonably foreseeable future projects and developments within the region were considered in the context of the CEAs. As shown in Figure 7, these projects were categorized into: oil and gas developments, utilities and energy transmission, mineral resources, settlement and rural and urban development, and transportation and infrastructure.

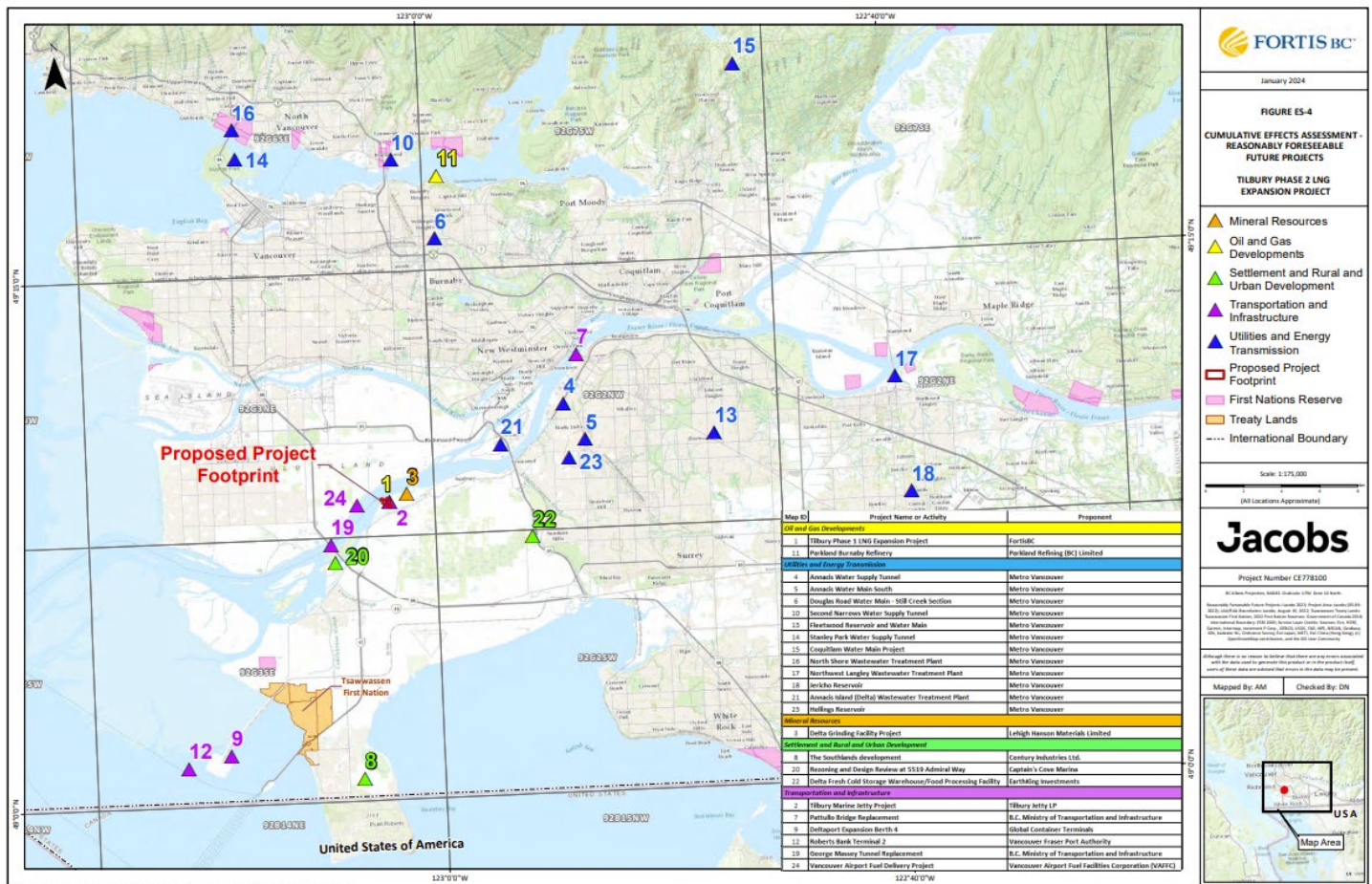


Figure 7: The Project Footprint and Other Future Projects in the Region

### 3.0 THE ENVIRONMENTAL ASSESSMENT PROCESS

The Act and its regulations establish the legal framework for the EA process for proposed major projects in B.C. The Act requires that projects, including both new and modifications to existing projects, that exceed thresholds defined in the

[Reviewable Projects Regulation](#) and must undergo an EA and obtain an Environmental Certificate (Certificate) before proceeding.

The EA process as defined by the Act includes eight phases, as shown in Figure 8. Table 3 lists the major milestones for each of the phases of the EA process. See [Appendix 1](#) for an overview of the phases of the EA process.

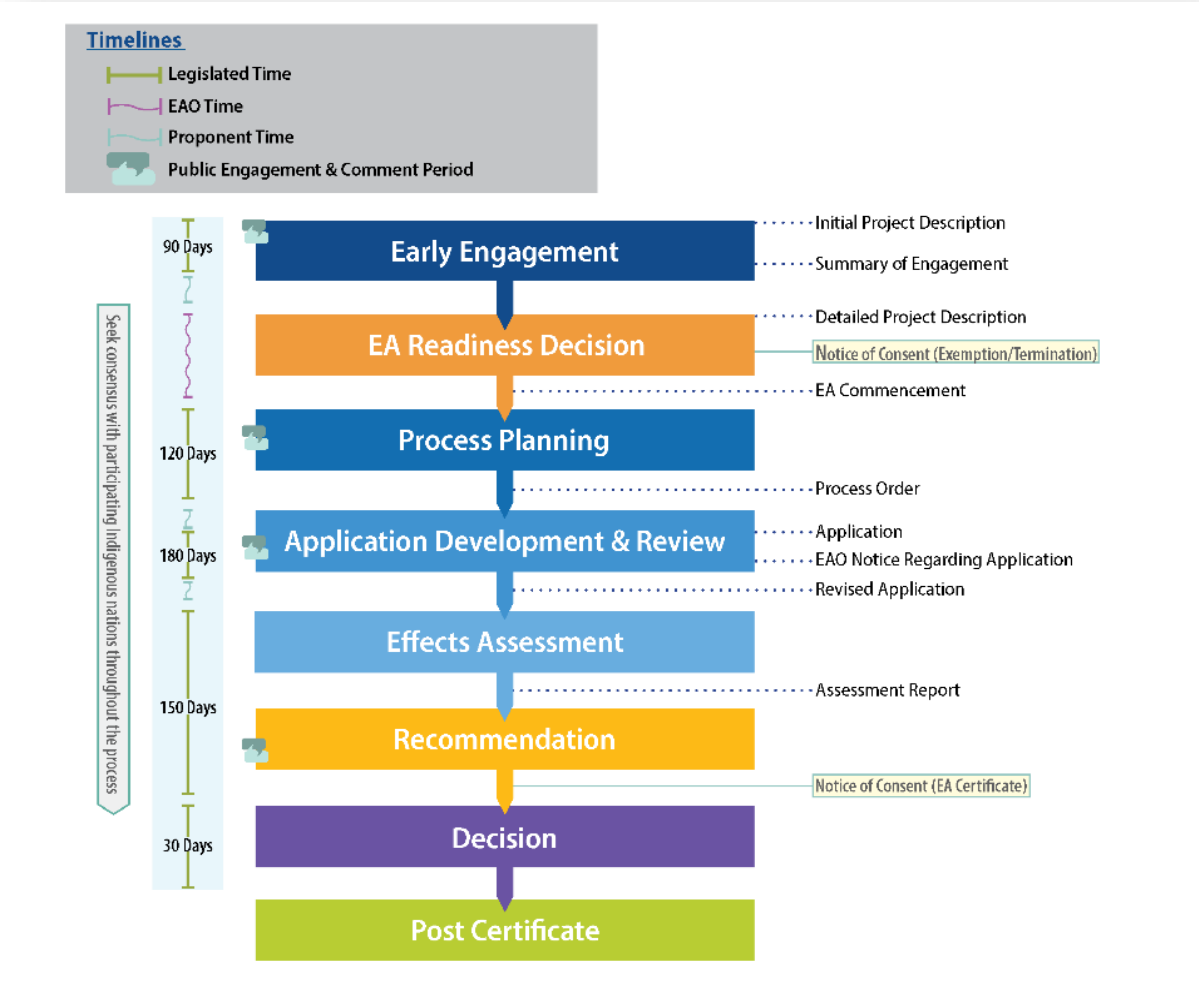


Figure 8: Overview of the B.C. Environment Assessment Process

Table 3: Major Milestones of the Environmental Assessment

| Dates             | Milestones                                                                                            |
|-------------------|-------------------------------------------------------------------------------------------------------|
| Early Engagement  |                                                                                                       |
| February 11, 2020 | Proponent submits Initial Project Description and Engagement Plan to the EAO ( <a href="#">link</a> ) |
| February 11, 2020 | Proponent submits Initial Project Description to IAAC                                                 |
| March 5, 2020     | The EAO requests substitution should a federal impact assessment be required ( <a href="#">link</a> ) |

| Dates                                     | Milestones                                                                                                                                                                   |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| October 31, 2024                          | First Nations identify if they wish to be participating Indigenous nations                                                                                                   |
| August 14, 2020                           | The EAO and IAAC issue a Joint Summary of Issues and Engagement document, which also identifies a list of participating Indigenous nations ( <a href="#">link</a> )          |
| September 7, 2021                         | The Proponent submits a Detailed Project Description to the EAO and IAAC ( <a href="#">link</a> )                                                                            |
| January 4, 2022                           | The Proponent submits an updated Detailed Project Description to the EAO and IAAC ( <a href="#">link</a> )                                                                   |
| <b>Readiness Decision</b>                 |                                                                                                                                                                              |
| January 4, 2022                           | The EAO posts the Detailed Project Description ( <a href="#">link</a> )                                                                                                      |
| January 12, 2022                          | The EAO issues a Notice of Decision and posts reasons for decision ( <a href="#">link</a> )                                                                                  |
| <b>Process Planning</b>                   |                                                                                                                                                                              |
| January 10, 2022                          | Proponent submits the Detailed Project Description to IAAC ( <a href="#">link</a> )                                                                                          |
| January 10, 2022                          | IAAC posts the Notice of Impact Assessment Decision with Reasons, stating that a federal Impact Assessment is required for Tilbury Phase 2 ( <a href="#">link</a> )          |
| January 20, 2022                          | IAAC posts the Notice of Substitution Approval under the IAA, granting substitution of the conduct of the Impact Assessment to the Province of B.C. ( <a href="#">link</a> ) |
| June 13, 2022                             | The EAO issues the Process Order to the Proponent ( <a href="#">link</a> )                                                                                                   |
| <b>Application Development and Review</b> |                                                                                                                                                                              |
| November 29, 2024                         | Proponent submits Application ( <a href="#">link</a> )                                                                                                                       |
| May 5, 2024                               | The EAO amended the Process Order ( <a href="#">link</a> )                                                                                                                   |
| May 28, 2024                              | The EAO issues a Notice to Proponent respecting the Application ( <a href="#">link</a> )                                                                                     |
| February 11, 2026                         | The Proponent submits the Revised Application to the EAO ( <a href="#">link</a> )                                                                                            |
| March 27, 2026                            | The EAO accepts the Revised Application ( <a href="#">link</a> )                                                                                                             |
| <b>Effects Assessment</b>                 |                                                                                                                                                                              |
| August 27, 2026                           | The EAO refers decision materials to provincial Ministers for a decision on whether to issue a Certificate                                                                   |
| August 27, 2026                           | The EAO submits a final Assessment Report to the federal Minister to inform the federal decision                                                                             |

## 4.0 ENGAGEMENT

### 4.1 Technical Advisory Committee

The EAO established a Technical Advisory Committee (TAC), made up of federal, provincial, and local government staff or representatives with the mandates and expertise relevant to the review of Tilbury Phase 2, as well as representatives of



the participating Indigenous nations. The purpose of the TAC was to advise the EAO and participating Indigenous nations on technical matters related to the assessment and review the Application, Revised Application, and any supplemental materials.

As per the Cooperation Agreement and the Notice of Substitution Approval under the IAA, the EAO agreed to provide federal authorities with the opportunity to participate in the EA. The list of groups represented on the TAC is available in [Appendix 4](#) - List of Parties on the Technical Advisory Committee.

The EAO sought and considered advice from the TAC to understand and assess any potential effects associated with Tilbury Phase 2. TAC members were responsible for providing timely advice to the EAO and to participating Indigenous nations throughout the assessment.

The EAO reviewed the adequacy of FortisBC (the Proponent)'s responses to all comments received from TAC members and participating Indigenous nations and held various meetings with TAC members and participating Indigenous nations to discuss outstanding issues and concerns. In the development of this Report, recommended provincial conditions, and the EAO's identified, and in some cases recommended, Key Mitigation Measures (KMM) and Follow-Up Programs under the IAA ([Appendix 2](#)), the EAO considered all comments and issues raised during the EA. The EAO also developed the [Regulatory Coordination Issues Tracking Table](#) that describes the key topics and issues that were raised during the assessment and how these were addressed in the assessment, or would be addressed by a subsequent permitting process, other regulatory process, or government initiative. The document will be provided to the statutory decision makers to show how issues have been addressed and where they are being carried forward to another regulatory process.

The full set of comments and resolution of issues is provided in the [Application Review Issues Tracking Table](#). The key concerns are described in each of the Valued Component (VC) assessments detailed in [Appendix 6](#).

## 4.2 Community Advisory Committee

The EAO has the option to establish a Community Advisory Committee (CAC) for EAs, where there is sufficient public interest, to provide insight and advice to the EAO on potential effects of a project on nearby communities. Also, Paragraph 22(1)(m) of the IAA specifies that the assessment of a designated project must take into account community knowledge.

The EAO determined that there was sufficient community interest to establish a CAC based, including people that expressed interest directly to the EAO or IAAC. The [CAC's Terms of Reference](#) were posted on EPIC during Process Planning. CAC members were invited to:

- Review and familiarize themselves with the information provided to them by the EAO on the project and the EA process; and,
- Provide input on the draft Process Order, Application, Revised Application, draft Report and the draft Certificate, including proposed conditions and project description as part of the public comment period.

These opportunities and the role of the CAC are also described in the Tilbury Phase 2 Assessment Plan. Information and advice received from the CAC was considered in the EA.

## 4.3 Public

Public consultation is an important aspect of the EA process. Public participation in the EA process helps ensure that community values and public goals are considered in project planning and decision-making. Public comments also help the EAO ensure that all potential adverse effects of a project are captured and appropriately assessed. The IAA also specifies that the assessment of a designated project must take into account comments received from the public.

The EAO conducts its own public consultation but also requires additional public consultation from proponents. The EAO required FortisBC to prepare a [Public Engagement Plan](#). The plan laid out FortisBC's consultation objectives and activities. Through the course of the EA, FortisBC submitted multiple Public Consultation Reports to the EAO. The first [Public Engagement Report](#) was submitted following the Application Review public comment period, and the second [Public Engagement Report](#) was submitted following the Effects Assessment public comment period.

The EAO held four public comment periods for Tilbury Phase 2 that included virtual and/or in-person open houses as shown in Table 4. The virtual open houses each included a presentation by the EAO on the current and upcoming phases of the EA process, a presentation by FortisBC on Tilbury Phase 2, as relevant to the current phase, and an opportunity to ask questions online to the EAO and FortisBC. The in-person open houses included poster boards with relevant technical experts for the public to have discussions with as well as a panel discussion with the EAO and FortisBC. During public consultation, the EAO made efforts to engage diverse subgroups of the community in supporting the collection of information needed to complete the Gender Based Analysis (GBA) Plus.

Table 4: Public Comment Periods and Open Houses

| Phase              | Comment Period Dates           | Number of Commenters | Date of Open Houses                      | Number of Attendees |
|--------------------|--------------------------------|----------------------|------------------------------------------|---------------------|
| Early Engagement   | June 1, 2020 - July 16, 2020   | 527                  | June 18, 2020 – Virtual<br>16:00-17:30   | 150                 |
|                    |                                |                      | June 23, 2020 – Virtual<br>17:30-19:00   | 100                 |
| Process Planning   | Feb. 24, 2022 - April 10, 2022 | 89                   | March 3, 2022 – Virtual<br>13:00-14:30   | 43                  |
|                    |                                |                      | March 9, 2022 – Virtual<br>17:00-18:30   | 39                  |
| Application Review | Jan. 14, 2025 – March 3, 2025  | 272                  | Jan. 21, 2024 – Virtual<br>17:00-19:20   | 37                  |
|                    |                                |                      | Jan. 23, 2024 – In Person<br>16:00-20:00 | 26                  |
| Effects Assessment | Jun. 25, 2026 – July 27, 2026  | 628                  | July 8, 2026 – Virtual<br>18:00-19:30    | 99                  |

Issues raised during Public Comments Periods informed the EAO's assessment, including [Section 7, Key Concerns Identified in the EAO's Assessment of Effects](#) which describes the key concerns raised overall during the Environment assessment.

The following issues were raised during public engagement:

- Project's incompatibility with addressing climate change and Greenhouse Gas Emissions

The main public concern was the Project's contribution to the climate change, and the potential impacts of climate change on communities in and outside of British Columbia. The EAO heard repeated claims that expanding infrastructure for fracked methane gas is not compatible with climate reduction targets due to high greenhouse gas (GHG) emissions. Some respondents reject the description of LNG as "low carbon fuel", insisting that investing in LNG slows the necessary transition to renewable energy. There were also requests for assessment of full life cycle emissions of the Project by considering upstream and downstream impacts.

The EAO considered how to assess GHG emissions as part of the Application Information Requirements, and subsequently in its analysis in this report and when developing draft Condition 11: Greenhouse Gas Emissions and Net-Zero Plan. Flaring, venting and fugitive emission are subject to requirements under the LNG Facility Regulation, while methane emission can also be regulated by Metro Vancouver.

- **Environmental and ecological effects**

The facility's location near the Fraser River estuary and Salish Sea was cited by members of the public as a significant threat to critical marine ecosystems and wildlife. Concerns were heard about increased noise from ship traffic associated with LNG exports that would jeopardize the endangered Southern Resident Killer Whale (SRKW) population and endangered salmon, with noise interference potentially impacting the Orcas' echo location necessary for hunting. Concerns for the Fraser River and estuary also include potential pollution from surface run-off, accidental leaks, and thermal discharge caused by increased industrial activity and tankers. Additional concerns were heard regarding drilling of new fracking wells on Treaty 8 territories, a process they argued is tied to groundwater pollution from contaminated water, land degradation, and induced seismic activities.

The EAO notes that there is no shipping or dredging as part of this project. The EAO considered bio-physical effects of Tilbury Phase 2 as part of its assessment and has recommended draft conditions related to water and air quality, wildfire, and other potential impacts. Emergency management requirements will be further considered by the BC Energy Regulator should a permit application be submitted.

- **Human Health and Air Quality**

The EAO heard concerns regarding increased local air pollution through flaring, facility operations, and shipping. Members of the public voiced concerns that flaring in particular can be harmful to human health, exacerbating respiratory illnesses like asthma and increasing cancer risk.

The EAO has proposed draft Condition 14: Air Quality Management Plan to complement permitting by Metro Vancouver, which is the primary air quality regulator for projects within Metro Vancouver, and by the BC Energy Regulator as flaring and venting are activities that it must consider as part of its adjudication of LNG Facility Permits and are subject to requirements under the LNG Facility Regulation.

- **Public safety and accident risks**

The EAO heard concerns over the potential for industrial accidents given the Project's proximity to densely populated communities like Richmond, Delta, and Steveston Village. There was widespread concern heard that an LNG accidental release, especially if it were to ignite, could lead to a catastrophic accident or explosion capable of injuring or killing humans and causing extensive damage. Some members of the public questioned the project's ability to withstand major hazards, given the site is in an active earthquake zone where seismic events or dike failure during a flood could compromise the LNG plant.

The EAO assessed accidents and malfunctions in [Appendix 7 Section 18](#) and potential changes to the project caused by the environment in [Appendix 14 Section 25](#) this Report, and considered them when drafting conditions. Both are further considered by BCER as part of permitting, which includes requirements associated with emergency management.

- **Socio-economic and financial concerns**

The EAO heard claims from the public that the Project prioritizes corporate profit over public welfare and sound economic planning. Others expressed concerns over increased costs for consumers, citing examples from Australia and the United States (U.S.) where exporting LNG raised domestic gas prices. Others pointed to the long-term risks of the Project becoming a costly stranded asset given the municipal shift toward electrification and away from gas heating.

The EAO assessed effects to employment and the economy in [Appendix 6 Section 17.9](#) of this Report.

- **Indigenous Rights**

The public raised concerns about the failure of the project to respect Indigenous rights. They criticized the Project for fracking on Treaty Lands, violating Indigenous rights, ignoring the concerns of affected Nations, and potentially disrupting traditional fishing rights associated with the Fraser River.

Consultation and collaboration with First Nations and Indigenous organizations is foundational to environmental assessments, and the EAO is satisfied that it has met the constitutional duty to consult. The effects to First Nations and indigenous groups are assessed in [Appendix 5, Section 16](#) of this Report.

- **Process and transparency concerns**

The EAO heard concerns from the public about noted flaws in the EA process, criticizing the process as cumbersome, complex and too technical for public review. They also expressed distrust that the public input will be taken seriously.

- **Support for the Project**

The EAO received comments from the public that expressed support for the Project, citing anticipated economic and energy security benefits. Supporters noted that the Project would contribute to provincial and national economic growth through job creation during Construction and Operation, increased tax revenues, and broader business activity in surrounding communities. Some respondents emphasized the importance of reliable natural gas supply for the Lower Mainland and described the expansion as necessary infrastructure to ensure energy security and protect public health and safety in the event of supply disruptions. Others argued that LNG development would strengthen Canada's fiscal position and support long-term economic stability.

The full text of all public submissions received during Application Review and Effects Assessment public comment periods are available on the [EAO's Project Information Centre Engagement site](#), and public comments during Early Engagement and Process Planning along with submission form organizations are available on the [EAO's Project Information Centre project page](#).

On [September 16, 2020](#) IAAC posted a notification that Participant Funding was available to assist the participation of the public in the federal impact assessment of the proposed Tilbury Phase 2, the EAO also posted a notification on behalf of IAAC on [December 9, 2024](#). IAAC provided public participation funding to one group for the Planning Phase and to three groups for the Application Review and Effects Assessment Phases of the EA.

IAAC considers the public comments on the draft potential federal conditions submitted during EAO's Effects Assessment public comment period in federal decision-making for Tilbury Phase 2.

#### 4.4 Local Governments

Because several local governments either host key project infrastructure (Metro Vancouver and the City of Delta) or are located near the project (Richmond, and City of Vancouver), the EAO invited these jurisdictions to participate in the TAC

and kept them informed of project reviews and major milestones. The EAO also made itself available to meet with them on specific issues as needed.

Paragraph 22(1)(o) of the IAA specifies that the assessment of a designated project must take into account comments from jurisdictions received during consultation. The EAO provided each local government with updates on milestones in the EA of Tilbury Phase 2 and provided opportunities to review and provide feedback on key project documents. Key interests raised during the EA are outlined below.

Metro Vancouver:

- Potential effects of the Project to air quality, including how effects to air quality will be managed; and,
- Potential impacts to regional GHG emissions.

City of Delta:

- Potential impacts to infrastructure, including effects to transportation infrastructure (including parking), watermain capacity, trail access; and,
- Effects to nearby organizations, such as the Delta Community Animal Shelter (e.g. from acoustic effects).

City of Richmond:

- Richmond raised concerns related to the Project's proximity to Richmond, noting Council's opposition to the Project in 2020 and the importance of adequately assessing potential effects on Richmond residents and municipal interests. Richmond's comments focused on the following matters:
  - The adequacy of public engagement, noting that no in-person open house was held in Richmond during the environmental assessment;
  - Cumulative effects of the Project in combination with other major regional projects, particularly on the Fraser River estuary, sensitive ecosystems, flood resilience, and regional transportation systems;
  - Potential effects related to air quality, GHG emissions, and LNG transport and storage;
  - Potential effects on traffic, local infrastructure, and community conditions during construction and operations;
  - Potential effects on the Fraser River and adjacent ecological values, including water quality, habitat, and wildlife; and,
  - The adequacy of climate resilience measures.

These effects, proposed mitigation measures, and conclusions are described in more detail [Appendix 6.01, Section 17.01](#) (Air Quality), [Appendix 8](#) (Human Health and Community Well-Being), [Appendix 6.09, Section 17.09](#) (Employment and Economy), and [Appendix 12](#) (Greenhouse Gas Emissions).

## 5.0 INDIGENOUS NATION ENGAGEMENT AND SUMMARY OF EFFECTS

The Governments of B.C. and Canada have a constitutional duty to consult and, where appropriate, accommodate First Nations where they have Section 35 rights that may be adversely impacted by provincial and federal government decisions. [Section 25\(1\)](#) of the Act also requires that the effects of a project on Indigenous Nations and their Section 35 rights (collectively, "Indigenous Interests") must be assessed in every assessment. In addition, the EAO conducted consultation with Indigenous peoples identified by IAAC for consultation consistent with the [Notice of Substitution Approval](#) under the IAA, and provided IAAC the opportunity to participate in consultation. As per the Cooperation Agreement, Canada and B.C. each retain the responsibility to ensure that the duty to consult and, where appropriate,

accommodate has been satisfied, including determining the Indigenous peoples to be consulted and determining the scope, content and adequacy of consultation, and that their respective treaty obligations have been satisfied and complied with in respect of the EA.

## 5.1 Proponent-Led Engagement Activities with First Nations

As part of the [Assessment Plan](#) re-issued as Attachment A to the Amended Process Order, the EAO directed FortisBC (the Proponent) to undertake certain procedural aspects of consultation during the EA with First Nations. The Assessment Plan also required FortisBC to develop and share drafts of the Indigenous Engagement and Collaboration Plan and Reports with First Nations at prescribed milestones during the EA. These documents were reviewed by First Nations and revised by FortisBC based on input received from and concerns expressed by First Nations prior to being submitted to the EAO. These documents enabled the EAO to:

- Understand FortisBC's engagement and consultation plan and subsequent efforts and the perspectives of the First Nations related to those efforts;
- Understand any issues and concerns identified by First Nations to FortisBC and how FortisBC has made efforts to respond to or address these issues;
- Evaluate FortisBC's consultation and engagement plan for subsequent consultation activities required with First Nations during Application Review; and,
- Direct FortisBC to take additional measures to satisfy the EAO and/or First Nation concerns/questions, when applicable.

FortisBC engaged with First Nations to complete Indigenous Knowledge studies and other reports specific to Tilbury Phase 2. FortisBC received studies from the following First Nations:

- xʷməθkʷəy̓əm (Musqueam Indian Band): xʷməθkʷəy̓əm provided the xʷməθkʷəy̓əm Knowledge and Use Study (Tam et al. 2018);
- Quw'utsun Nation: provided FortisBC with Traditional Knowledge reports, specific reports with Indigenous Knowledge, cultural use studies;
- Chawathil First Nation: provided information in the form of primary Indigenous Knowledge to FortisBC regarding its views on how Indigenous laws, governance, philosophies, or customs historically or currently apply in relation to the Project;
- S'ólh Téméxw Stewardship Alliance (STSA): did not provide FortisBC with specific, standalone Indigenous Knowledge studies or reports; however, the STSA did provide Indigenous Knowledge, and perspectives that were incorporated primarily through a collaborative and co-drafting process for relevant sections of the Revised Application;
- Tsleil-Waututh Nation (TWN): provided a traditional use study which included an ethnohistoric report; and,
- Tsawwassen First Nation: FortisBC incorporated information from various Tsawwassen First Nation Management Plans, Reports, Studies, Acts and assessments.

FortisBC engaged directly with First Nations throughout the EA process for the purposes of information sharing and issues resolution. FortisBC engaged with Indigenous Nations according to their preferences. Examples of FortisBC's engagement activities with First Nations included:

- Providing regularly scheduled project updates, conference calls and meetings with First Nation administrative staff, consultants, elders, and other parties as requested by the First Nation leadership or technical staff;
- Conducting community meetings, open houses and workshops where requested;



- Providing printed and digital materials to be shared with community members, where requested;
- Facilitating opportunities to participate in collecting existing information, as well as review and input into the information; and,
- Maintaining a website with Project information and contact information for how to request in-person meetings.

FortisBC recognized that each First Nation is best positioned to identify and engage with their memberships, and Tilbury Phase 2 attempted to reflect those nation-specific efforts within the Revised Application.

The Revised Application assessed a combination of the following effects that varied on a nation-by-nation basis:

- Harvesting and Subsistence Activities;
- Cultural Use Sites and Areas;
- Social and Economic Conditions;
- Indigenous Health and Well-being;
- Cultural Continuation;
- Indigenous Governance Systems;
- Healthy Culture – Strong Stewardship;
- Healthy Relationships;
- Healthy Future for Future Generations; and,
- Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights.

## 5.2 EAO-Led Engagement Activities

For all Indigenous Nations potentially affected by Tilbury Phase 2, the assessment of potential effects of Tilbury Phase 2 on Section 35 rights as well as on any broader interests related to a First Nation (collectively, “Indigenous Interests”). Further details on the assessment of effects to Indigenous interests for each First Nation can be found in [Appendix 5](#) of this Report.

EAO-led engagement activities supported the reconciliation purposes of the Act and to fulfill the Crown’s duty to consult. Participating Indigenous nations and the EAO collaborated throughout the EA process to seek to achieve consensus on key issues and documents, supporting decision-making by participating Indigenous nations as well as provincial and federal authorities.

Approaches to consensus seeking with the EAO differed across participating Indigenous nations. For some, this included scheduling check-ins aligned with key EA milestones and developing a consensus tracking tool to document and communicate issue resolution activities and outcomes.

The EAO worked collaboratively with First Nations on their First Nation assessments, as identified in the Assessment Plan and issues raised during the Application Development and Review Phase.

- The EAO drafted Sections in the EAO’s Report for: Cheam First Nation, Katzie First Nation, Semiahmoo First Nation, Sk̓wx̓wú7mesh Úxwumixw (Squamish Nation), Leq’á:mel First Nation, Matsqui First Nation, Pópkw’em First Nation, W̓SÁNEĆ Nations (Malahat, Pauquachin, Tsartlip, Tseycum), and Lummi Nation with opportunities for the nations to review and provide input on the draft referral materials;
- The EAO co-drafted First Nation assessments with opportunities for iterative review and input with the following First Nations: the Chawathil First Nation, k̓w̓ik̓w̓əł̓əm First Nation, the STSA (on behalf of Kwaw-Kwaw-

Apilt First Nation, Sq'ewlets (Scowlitz) First Nation, Sq'ewá:lw (Skawahlook) First Nation, Shxw'ōwhámél First Nation, Skwah First Nation, Seabird Island Band, Semá:th (Sumas) First Nation, Yale First Nation, Aitchelitz First Nation, Shxwhá:y Village, Skowkale First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation, and Yakweakwioose First Nation), Snuneymuxw First Nation, Ts'uubaa-asatx, and Kwantlen; and

- The following five First Nations drafted their own assessments under Section 19(4) of the Act: Tsleil-Waututh Nation, S̓TÁUTW First Nation, Tsawwassen First Nation, x̓w̓məθk̓w̓əyám, and Quw'utsun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation).

The EAO and IAAC provided the following nations with grants/funding for their involvement in the EA:

- Cheam First Nation
- Chawathil First Nation
- Katzie First Nation
- k̓w̓ik̓w̓əḷám First Nation
- Kwantlen First Nation
- Leq'á: mel First Nation
- Lummi Nation
- Malahat First Nation
- Métis Nation British Columbia (MNBC)
- Pauquachin First Nation
- Pópkw'em First Nation
- Quw'utsun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation)
- S̓TÁUTW First Nation
- S'ólh Téméxw Stewardship Alliance (on behalf of Kwaw-Kwaw-Apilt First Nation, Sq'ewlets (Scowlitz) First Nation, Sq'ewá:lw (Skawahlook) First Nation, Shxw'ōwhámél First Nation, Skwah First Nation, Seabird Island Band, Semá:th (Sumas) First Nation, Yale First Nation, Aitchelitz First Nation, Shxwhá:y Village, Skowkale First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation, and Yakweakwioose First Nation)
- Snuneymuxw First Nation
- Tsawwassen First Nation
- Tsleil-Waututh Nation
- Ts'uubaa-asatx
- x̓w̓məθk̓w̓əyám (Musqueam Indian Band)

### 5.3 Participating Indigenous Nations

Any First Nation for which there is a reasonable possibility of adverse effects on the First Nation or its Section 35 rights as a result of a project may provide notice under Section 14(1) of the Act to participate in the EA process as a participating Indigenous nation. Per 14(1.1.) of the Act, a United States tribe may not provide notice under 14(1). The scope of engagement with each participating Indigenous nation is identified in the Process Order and Amended [Process Order](#), and includes specific information necessary to assess effects of Tilbury Phase 2 on the participating Indigenous nation's Indigenous interests, the level of involvement of each participating Indigenous nation on the TAC and its sub-committees, the timing and nature of specific engagement activities, and whether a participating Indigenous nation intended to

conduct certain aspects of the effects assessment to their Indigenous interests. A goal of this engagement was to build a shared understanding of the participating Indigenous nation's history, culture, traditions and connection to the land and resources. This included how the participating Indigenous nation has determined its priorities, vision, governance, and land use planning aspirations into the future.

The following First Nations were the participating Indigenous nations for the Tilbury Phase 2 EA:

- Chawathil First Nation;
- Cheam First Nation;
- Kwantlen First Nation;
- kʷikʷə́łəm First Nation;
- xʷməθkʷəyám (Musqueam Indian Band);
- Quw'utsun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe and Stz'uminus First Nation);
- Snuneymuxw First Nation;
- S'ólh Téméxw Stewardship Alliance (on behalf of Kwaw-Kwaw-Apilt First Nation, Sq'éwlets (Scowlitz) First Nation, Sq'ewá:lwx (Skawahlook) First Nation, Shxw'ōwhámél First Nation, Skwah First Nation, Seabird Island Band, Semá:th (Sumas) First Nation, Yale First Nation, Aitchelitz First Nation, Shxwhá:y Village, Skowkale First Nation, Soowahlie First Nation, Squiala First Nation, Tzeachten First Nation, and Yakwekwioose First Nation);
- Ts'uubaa-asatx;
- S̓ĀUTW First Nation;
- Tsawwassen First Nation;
- Tsleil-Waututh Nation;

EAO-led engagement with participating Indigenous nations included the following:

- Participation in the TAC;
- Government-to-government meetings;
- Opportunities to identify Indigenous interests that may be adversely affected by Tilbury Phase 2 and to discuss potential measures to avoid, mitigate, address or otherwise accommodate potential adverse effects on Indigenous interests, as appropriate;
- Opportunities to participate in issue/topic-specific TAC sessions with the EAO;
- Opportunities to review and comment on draft key documents, including: the Initial Project Description (IPD), Detailed Project Description (DPD), Readiness Decision Report, Process Order, Tilbury Phase 2 Application, supplemental materials and topic-specific memos, Revised Application, Assessment Report, the draft Certificate schedules A and B: Project Description, and Table of Conditions;
- Opportunity for participating Indigenous nations to draft the assessment on their Interests within the EAO's Assessment Report as per Section 19(4) of the Act;
- Consensus-seeking opportunities at each phase of the EA;
- Opportunity for participating Indigenous nations to submit a document outlining their views on the Assessment Report, Project Description and Table of Conditions to be included in referral materials to Ministers; and,
- Opportunity for participating Indigenous nations to submit a notice of consent or lack of consent in relation to the issuance of a Certificate to be included in referral materials to provincial Ministers.

The following is a summary of each participating Indigenous nation.

### 5.3.1 Chawathil First Nation



Chawathil First Nation is a distinct member of the broader Stó:lō Nation, which is a part of the Coast Salish Peoples. They have been living within their traditional territory, S'ólh Téméxw, since time immemorial, maintaining strong cultural, spiritual, ceremonial, and physical connections, including Section 35 Rights and Title to their core areas. The core territory is located in and around present-day Hope, B.C., and encompasses the Fraser River. As Stó:lō Peoples, they also use the entirety of the S'ólh Téméxw territory that extends through the Fraser Valley to the Pacific Ocean.

FortisBC has engaged Chawathil First Nation since 2020 to support their participation, assess potential impacts on their Indigenous interests, and inform the Revised Application, and provided two rounds of capacity funding to enable their full involvement in the Tilbury Phase 2 assessment.

The EAO engaged with Chawathil First Nation throughout Early Engagement and Process Planning through regular meetings to understand their interests, information needs, and concerns related to stewardship, fisheries, cultural practices, and cumulative effects. During the Readiness Decision phase, the Nation did not provide new comments but continued to rely on issues previously raised during Early Engagement.

The key concerns raised by Chawathil First Nation were about the lack of consultation surrounding further development of LNG infrastructure facilities that are close to their core territory, concerns surrounding the Nation's Aboriginal Rights related to fish and fish habitat, and the desire for the Nation to benefit economically from the development of Tilbury Phase 2. FortisBC responded to these concerns with a commitment to continue their engagement efforts with Chawathil First Nation, removal of all in-water works related to the Project's Construction phase to minimize impacts to the fish and fish habitat, and they provided a presentation on workforce development and employment/training opportunities that would be available to Chawathil First Nation citizens. The EAO engaged with Chawathil First Nation on proposed provincial conditions for the ministers' decision, and IAA engaged with the nation on proposed federal conditions for the minister's decision based on the KMMs.

Refer to [Appendix 5](#) for a detailed assessment for Chawathil First Nation.

### 5.3.2 Cheam First Nation

Cheam First Nation (Xwchíyò:m) is a Stó:lō First Nation and part of the Coast Salish Peoples, with a core territory located in the Upper Fraser Valley near present-day Rosedale, B.C.

Cheam First Nation has lived within S'ólh Téméxw since time immemorial and maintains strong cultural, spiritual, ceremonial, and subsistence connections to the Fraser River and its salmon, which are central to the Nation's Aboriginal rights, identity, and way of life. As Stó:lō peoples, Cheam First Nation asserts Aboriginal rights throughout S'ólh Téméxw, including downstream areas of the Fraser River extending to the Salish Sea.



Cheam First Nation engaged as a participating Indigenous nation in the EA for Tilbury Phase 2. Engagement occurred through Early Engagement, Process Planning, and Application Development and Review phases, and included the provision of project information, opportunities to review and comment on assessment materials, and participation in discussions regarding potential effects to Cheam's Indigenous interests.

Key concerns raised by Cheam First Nation included potential effects to Fraser River salmon and fish habitat, cumulative effects from existing and proposed industrial development along the Fraser River, and implications for the exercise of Aboriginal fishing rights. To address these concerns, FortisBC engaged with Cheam First Nation on avoidance and mitigation measures, including removal of in-water works, implementation of environmental management plans, and

commitments to continued engagement. The EAO engaged with Cheam First Nation on proposed provincial conditions for the ministers' decision, and IAA engaged with the nation on proposed federal conditions for the minister's decision based on the KMMs.

Refer to [Appendix 5](#) for a detailed assessment for Cheam First Nation.

### 5.3.3 Kwantlen First Nation

q̓'a:ḥáḥ (Kwantlen) First Nation is a Halq'eméylem-speaking Stó:lō Nation whose traditional territory encompasses the lower Fraser Valley, including areas extending from Mission to New Westminster and south to Tsawwassen. Kwantlen has occupied and stewarded this territory since time immemorial and maintains strong cultural, spiritual, and subsistence connections to the Fraser River. The Fraser River remains central to Kwantlen identity, governance, and Aboriginal rights, particularly their right to fish for food, social, and ceremonial purposes. Tilbury Phase 2 is located within Kwantlen's asserted traditional territory, approximately 34 km west of Kwantlen's main residential reserve at McMillan Island 6.



Kwantlen First Nation participated as a participating Indigenous nation in the EA for Tilbury Phase 2 beginning in 2020. Kwantlen engaged through Early Engagement, Process Planning, and Application Development and Review phases, including participation on the TAC, joint work planning with the EAO, and co-drafted their section of this report.

Key concerns raised by Kwantlen included potential effects to the Fraser River and salmon, cumulative effects from industrial development, adequacy of assessment scope and temporal boundaries, and long-term implications for cultural continuity and stewardship responsibilities. To address these concerns, FortisBC engaged with Kwantlen on avoidance and mitigation measures, including removal of in-river works, and implementation of environmental management plans. The EAO engaged with Kwantlen First Nation on proposed provincial conditions for the ministers' decision, and IAA engaged with the nation on proposed federal conditions for the ministers' decision based on the KMMs.

Refer to [Appendix 5](#) for a detailed assessment for Kwantlen First Nation.

### 5.3.4 k̓'ik̓wə́ḥəm (kwikwetlem) First Nation



The k̓'ik̓wə́ḥəm First Nation has stewarded their traditional territory for thousands of years, with deep connections to the Coquitlam River Watershed, the lower Fraser River, and surrounding lands. Their identity is closely tied to the land, water, and living beings, reflected in their traditions, language, governance, and environmental stewardship. Most members remain connected to their territory, with many residing on Coquitlam Indian Reserve No. 1 (slakəyánc). k̓'ik̓wə́ḥəm participated in the EA as a participating Indigenous nation.

k̓'ik̓wə́ḥəm First Nation has participated at a high level in the EA for Tilbury Phase 2, providing broad concerns related to environmental protection, cumulative effects, and impacts to fish and habitat. Due to capacity constraints, the Nation did not provide project specific information, and the assessment proceeded using preliminary Indigenous interests identified early in the process. FortisBC engaged with k̓'ik̓wə́ḥəm on avoidance and mitigation measures, including removal of in-river works, implementation of environmental management plans, and commitments to continued engagement, and the Nations comprehensive community plan, while the EAO developed proposed provincial conditions to mitigate potential effects.

Key concerns include potential effects on the Fraser River and upstream areas, respect for other Nations' rights, and cumulative impacts from historical development on their traditional territory. The EAO engaged with k̓'ik̓wə́ḥəm First Nation on proposed provincial conditions for the minister's decision, and IAA engaged with the nation on proposed federal conditions for the ministers' decision based on the KMMs.

Refer to [Appendix 5](#) for a detailed assessment for kʷikʷə́łəm First Nation.

### 5.3.5 xʷməθkʷəyám (Musqueam Indian Band)



The Musqueam Indian Band (xʷməθkʷəyám) is a traditionally hənq̓əminəm'-speaking First Nation whose territory includes part of the Lower Mainland area in B.C., including sections of the Fraser River and the Strait of Georgia. They have a proven Aboriginal Right to fish, as established in the SCC Sparrow and Powley decisions. The xʷməθkʷəyám identity and livelihood are intrinsically linked to their territory, and their core teaching reflects stewardship responsibilities. xʷməθkʷəyám translates to "Place of məθkʷəy," a plant once abundant in the Fraser River delta. Their oral tradition establishes ancestral connections to these lands and waters since time immemorial, and their territory is known through a matrix of over 125 place names.

The xʷməθkʷəyám has been actively engaged in the assessment of Tilbury Phase 2 since 2019. Their engagement has been multifaceted, involving various activities and feedback mechanisms. They participated in an Indigenous Knowledge workshop and met with the FortisBC for a boat tour of the Fraser River and the Project site, allowing xʷməθkʷəyám to teach FortisBC about potential impacts. The EAO engaged with xʷməθkʷəyám on proposed provincial conditions for the minister's decision, and IAA engaged with the nation on proposed federal conditions for the ministers' decision based on the KMMs.

xʷməθkʷəyám completed an assessment under Section 19(4) of the Act which is a detailed assessment of the project on their interests which is part of [Appendix 5](#).

### 5.3.6 Quw'utsun Nation

Quw'utsun Nation is composed of the Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation. The Cowichan (Quw'utsun Mustimuhw) were an Indigenous people comprised of 11 local groups prior to and at the time of European contact in the early 1790s, and at the time the British Crown asserted sovereignty in British Columbia at 1846 and thereafter.<sup>1</sup> The members of the Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson First Nation are descendants of the historic Cowichan people and the 11 local groups, and the five bands are the modern-day successor groups to the Cowichan as an Indigenous people. The Quw'utsun Nation, as a continuation of the historic Cowichan Nation, also represents a separate governance structure for interests held in common by the Quw'utsun Nation member communities. It is in the process of rebuilding its governance structures, which includes participation as the Quw'utsun Nation on matters of mutual interest to the five member communities, particularly in respect of matters involving the South Arm of the Fraser River, where it remains engaged in Aboriginal Title litigation, currently at the appellate courts of British Columbia.

Quw'utsun Nation participated as a participating Indigenous nation throughout the environmental assessment process and completed an Indigenous-Led Assessment pursuant to section 19(4) of the *Environmental Assessment Act*. The Indigenous-Led Assessment evaluated Project effects on Quw'utsun Nation, its rights, title, interests, governance responsibilities, future use, and relationship to lands and waters associated with Tl'uq̓tinus, Shnuwiih, Xupí'xunum (Tilbury Island), and the South Arm of the Fraser River.

A detailed list and summary of the FortisBC's engagements with Quw'utsun Nation can be found in [Section 11.04](#) of the Revised Application. Throughout the assessment, Quw'utsun Nation consistently raised concerns regarding:

- impacts to Aboriginal title and fishing rights;
- restoration of Tl'uq̓tinus, Shnuwiih, Xupí'xunum (Tilbury Island), and the South Arm of the Fraser River;
- re-establishment of residence, access, harvesting, and culturally integral practices;

<sup>1</sup> Cowichan Tribes v. Canada (Attorney General) 2025 BCSC 1490 at paras. 463, 498.



- cumulative effects arising from historic and ongoing industrial development;
- future use and stewardship responsibilities;
- mitigation certainty; and
- accommodation; and whether the assessment record provided a sufficient foundation for decision-making.

These concerns were not raised as a collection of discrete issues, but as interconnected concerns regarding Quw'utsun Nation's rights, title, responsibilities, future use, and relationship to place.

Through its Indigenous-Led Assessment, Quw'utsun Nation concluded that the Project would adversely affect Quw'utsun rights, title, interests, responsibilities, and future use, including by creating or exacerbating barriers to restoration and rights-based objectives associated with Tl'uqtinus, Shnuwiih, Xupi'xunum (Tilbury Island), and the South Arm of the Fraser River; re-establishment of residence and access; harvesting and culturally integral practices; exercise of Aboriginal title and fishing rights; and other rights-based objectives. Quw'utsun Nation further concluded that the proposed mitigation and accommodation measures did not provide sufficient certainty that these impacts would be adequately avoided, reduced, managed, or accommodated.

The EAO and IAAC reached a different conclusion. They concluded that proposed provincial conditions, federal Key Mitigation Measures, follow-up programs, management plans, regulatory requirements, and accommodation measures are sufficient to avoid, reduce, manage, or otherwise accommodate Project effects.

The EAO engaged with Quw'utsun Nation on proposed provincial conditions for Ministers' decision, and IAAC engaged with Quw'utsun Nation on proposed federal conditions based on the recommended federal Key Mitigation Measures.

Refer to [Appendix 5, Section 16.7](#) for Quw'utsun Nation's Indigenous-Led Assessment and additional information regarding Quw'utsun Nation's assessment of Project effects.

### 5.3.7 Snuneymuxw First Nation

Snuneymuxw First Nation are Coast Salish people with deep ancestral and cultural ties to their traditional territory, which spans southern Vancouver Island, the Gulf Islands, and into the Fraser River and Salish Sea. As descendants of the Sarlequun Tribe, they are signatories to the *Sarlequun Snuneymuxw Treaty of 1854*, a pre-Confederation agreement that affirmed their rights to land, resources, and cultural practices. Despite the treaty's legal status, it was never fully implemented, leading to significant land dispossession. Today, Snuneymuxw continue to uphold their cultural traditions and maintain strong connections to their lands and waters.

Snuneymuxw First Nation provided notice of their intent to be a participating Indigenous nation in the EA for the Tilbury Phase 2 during the Early Engagement phase. As members of the TAC, they participated in the technical review of the Revised Application, provided comments and collaboratively co-authored their section of the EAO's Assessment Report. While a Section 19(4) assessment was initially planned under an agreement with FortisBC, it did not proceed due to capacity challenges. Snuneymuxw instead focused on actively engaging in the process and collaborated with FortisBC to develop the Snuneymuxw section of the Revised Application.

Snuneymuxw First Nation raised several key concerns regarding Tilbury Phase 2, rooted in the ongoing impacts to their Aboriginal rights and the unfulfilled commitments of the *Snuneymuxw Sarlequun Treaty of 1854*. They highlighted risks to fisheries, harvesting areas, and culturally important sites within their traditional territory, including concerns over cumulative environmental effects from related projects. The Nation also expressed that diminished access to land and ecological changes have disrupted cultural practices and intergenerational knowledge transfer. Additionally, Snuneymuxw emphasized the need for meaningful inclusion in decision-making, noting limited capacity to fully participate due to chronic underfunding. While recognizing potential economic benefits, they cautioned that broader industrial pressures could negatively affect small Indigenous businesses and community well-being.

To address the concerns raised by Snuneymuxw First Nation, FortisBC added the avoidance and mitigation measures, including removal of in-water works from the scope of the Project. The EAO engaged with Snuneymuxw First Nation on proposed provincial conditions for the ministers' decision, and IAA engaged with the nation on proposed federal conditions for the ministers' decision based on the KMMs.

Refer to [Appendix 5](#) for a detailed assessment for Snuneymuxw First Nation.

### 5.3.8 S'ólh Téméxw Stewardship Alliance

The S'ólh Téméxw Stewardship Alliance (STSA) is a collective of Stó:lō First Nations representing title-holding communities across S'ólh Téméxw (Halq'eméylem word for 'our world'/'our land'), the Stó:lō traditional territory centred on the lower Fraser River. The STSA participated as a participating Indigenous nation in the Tilbury Phase 2 EA.



A detailed list and summary of the Proponent's engagement with the STSA is provided in [Section 11.08](#) of the Revised Application. The STSA engaged throughout Early Engagement, Process Planning, and Application Development and Review, including regular meetings with the EAO to assess the effects on their Indigenous interests.

Key concerns raised by the STSA included potential effects on salmon relied upon for food, social and ceremonial (FSC) purposes; cumulative air quality effects on health and traditional food practices; impacts to cultural and spiritual activities; and the need to assess Tilbury Phase 2 within the context of cumulative industrial pressures on the Fraser River.

To address these concerns, FortisBC engaged the STSA on mitigation measures and project design changes, and the EAO engaged the STSA on proposed provincial conditions to inform ministers' decision-making. Mitigation and accommodation measures include avoidance of in-river works, implementation of construction and operational environmental management plans, air quality and acoustic management plans, monitoring and follow-up requirements, and a community feedback process during Construction and Operation phases.

The STSA has consistently emphasized concerns regarding cumulative effects within S'ólh Téméxw. At the conclusion of the EA, the EAO and the STSA determined that potential adverse effects of Tilbury Phase 2 on the STSA's interests had been adequately avoided, minimized, or otherwise accommodated, and that the provincial Crown's duty to consult had been fulfilled.

Refer to [Appendix 5](#) for a detailed assessment for the STSA.

### 5.3.9 Ts'uubaa-asatx



Ts'uubaa-asatx are a Hul'q'umi'num-speaking Central Coast Salish group whose membership has ancestry from Ditidaht and Hul'q'umi'num' ancestors. They also speak diitiid?aatx. Part of the broader Coast Salish Peoples, they have strong kinship ties with other First Nations on the Pacific coast. Their community is currently based on a single reserve on the northeastern shore of Cowichan Lake. Led by a hereditary Chief Councillor and an elected council, the Ts'uubaa-asatx are part of the Hul'q'umi'num Treaty Group and identify a traditional territory that includes parts of southeastern Vancouver Island, the southern Gulf Islands, a portion of the Lower Mainland, and the Salish Sea.

A detailed list and summary of FortisBC's engagements with Ts'uubaa-asatx can be found in Section 11.11 of the Revised Application. The EAO collaborated with Ts'uubaa-asatx to assess and conclude on the following Indigenous interests: harvesting and subsistence activities, cultural use sites and areas, social and economic conditions, and Indigenous health and well-being. The key concern raised by Ts'uubaa-asatx through the course of the EA included the potential effects of truck traffic on fish and fish habitat due to the emerging tire contaminant 6-PPD quinone (6-PPDQ).

To address potential effects to Ts'uubaa-asatx's interests and concerns, FortisBC engaged with Ts'uubaa-asatx on proposed mitigation measures, the EAO engaged Ts'uubaa-asatx on proposed provincial conditions for ministers' decision, and IAAC engaged Ts'uubaa-asatx on proposed federal conditions for ministers' decisions based on the KMMs.

Refer to [Appendix 5](#) for a detailed assessment for Ts'uubaa-asatx.

### 5.3.10 STÁUTW First Nation



STÁUTW First Nation is a Coast Salish Nation and one of five villages that constitute the W̱SÁNEĆ peoples. STÁUTW territory extends from southern Vancouver Island to mainland B.C. — in particular, regions around the south arm of the Fraser River and Boundary Bay — and includes all the islands in between. They have lived in this territory for thousands of years, owning and occupying village sites and utilizing resource areas for hunting, fishing, berry gathering, and ritual and ceremonial activities.

STÁUTW First Nation was being engaged as a Notification Nation during the early phases of the EA until mid way through the Application Development and Review phase where they requested to become a participating Indigenous nation. On May 5, 2025, STÁUTW First Nation officially became a participating Indigenous nation for the remainder of the EA for Tilbury phase 2.

A detailed list and summary of the Proponent engagements with STÁUTW First Nation can be found in [Section 11.18](#) of the Revised Application. STÁUTW First Nation completed an assessment under Section 19(4) of the Act, which is a detailed assessment of the project on their interests and can be found in [Appendix 5](#) of this Report. STÁUTW identified the following concerns as part of its 19(4) assessment: cumulative effects, breach of their Douglas Treaty rights, impacts to intended future exercise of rights, which require fisheries revitalization).

To address potential effects to STÁUTW First Nation's interests and concerns, FortisBC engaged with STÁUTW First Nation on proposed mitigation measures, the EAO engaged STÁUTW First Nation on proposed provincial conditions for ministers' decision, and IAAC engaged STÁUTW First Nation on proposed federal conditions for ministers' decisions based on the KMMs.

### 5.3.11 Tsawwassen First Nation



TSAWWASSEN FIRST NATION  
s̓əwəθən məsteyəxʷ

Tsawwassen First Nation (TFN) confirms its continued occupation of its traditional territory since time immemorial, an area stretching from watersheds feeding into Pitt Lake and the Fraser River, across the Salish Sea to include Galiano, Salt Spring, Pender, and Saturna Islands, and the Point Roberts Peninsula. Traditionally and presently, the TFN's resources are fundamentally based on fish, with salmon, sturgeon, crab, and eulachon serving as primary

food sources that remain a key part of their cultural identity and lifestyle. On April 3, 2009, the Tsawwassen People ratified the first urban First Nations Treaty in B.C., which restored their right to self-government, provided municipal, provincial, and federal types of jurisdiction over a 724-hectare land base, and initiated a period of physical, economic, and cultural revival.

The Proponent initiated engagement with the TFN in 2019. This engagement resulted in the execution of Capacity Funding and an Indigenous-led Assessment Agreement to ensure the TFN's values and perspectives were reflected throughout the process. Through collaborative discussions, the Proponent and TFN adopted a unique approach centered on the TFN's core concept that "Culture is the context" for evaluating potential effects. This collaboration also led to revising the presentation of background information and developing a specific Tsawwassen Schedule and workplan for the Indigenous Engagement and Collaboration Plan (IECP).

Guided by TFN's input, Indigenous interests were reframed around four Treaty Objectives: Healthy Rights-Healthy Rivers, Healthy Culture-Strong Stewardship, Healthy Relationships, and Healthy Future for Future Generations. This reframing

also included discussions aimed at moving past transactional engagement towards collaborative issue resolution and reflecting on cultural learnings.

A detailed list and summary of the Proponent engagements with Tsawwassen First Nation can be found in [Section 11.09](#) of the Revised Application. The EAO collaborated with Tsawwassen First Nation to assess and conclude on the following Indigenous interests: harvesting and subsistence activities, cultural use sites and areas, social and economic conditions, and Indigenous health and well-being.

The key concern raised by Tsawwassen First Nation through the course of the EA included cumulative effects of industrial development on the Fraser River, which they argued degrade the environment and impair the exercise of their Treaty rights and traditional practices. They were concerned that the proponent's assessment focused too narrowly on biophysical effects, overlooking how Treaty rights are inseparable from cultural connections, sense of place, and vital knowledge transfer to future generations.

To address potential effects to Tsawwassen First Nation's interests and concerns, FortisBC engaged with Tsawwassen First Nation on proposed mitigation measures, the EAO engaged Tsawwassen First Nation on proposed provincial conditions for ministers' decision, and IAAC engaged Tsawwassen First Nation on proposed federal conditions for minister's decisions based on the KMMs.

Tsawwassen First Nation completed an assessment under Section 19(4) of the Act, which is a detailed assessment of the project on their interests and can be found in [Appendix 5](#) of this Report.

### 5.3.12 Tsleil-Waututh Nation



Tsleil-Waututh Nation (TWN) is a distinct Coast Salish people residing in the Pacific Northwest. The eastern Burrard Inlet served as the principal settlement area for the TWN; however, their traditional seasonal rounds also encompassed the Lower Fraser River throughout the spring and late summer seasons. Drawing on an abundance of natural resources, their ancestors' survival relied upon a "seasonal round" involving hunting, harvesting, preserving foods, and trade. The annual cycle required them to catch and dry preferred types of salmon (such as sockeye, pink, and chum) at the Fraser and other rivers, gather large volumes of berries, and produce goods like wood carvings and blankets woven from mountain-goat wool. Today, the Nation is highly focused on stewardship,

working to restore and heal their lands while balancing ethical land and business development with asserting their Indigenous rights and title.

FortisBC has been engaging with the TWN regarding the Project since July 2019, including providing regular project updates, sharing draft EA documents, and signing a Capacity Funding Agreement. During this engagement, TWN raised concerns about potential negative effects from proposed waterborne activities on Indigenous interests, such as fishing, cultural practices, and the Southern Resident Killer Whale population. In response to these concerns, the Proponent adopted an avoidance measure by removing all waterborne activities, including the use of cargo vessels, barges for deliveries, and the Material Offloading Facility (MOF), thus addressing potential effects on water-related valued components (VC) and Indigenous interests.

A detailed list and summary of the Proponent engagements with TWN can be found in [Section 11.10](#) of the Revised Application. The EAO engaged TWN on proposed provincial conditions for ministers' decision, and IAAC engaged TWN on proposed federal conditions for ministers' decisions based on the KMMs.

TWN completed an assessment under Section 19(4) of the Act, which is a detailed assessment of the project on their interests and can be found in [Appendix 5](#) of this Report.

## 5.4 First Nations and Other Indigenous Groups

The following is a summary of each First Nations and Indigenous group engaged in the EA, and who were identified as Notification Nations, in the Assessment Plan for Tilbury Phase 2.

### 5.4.1 Katzie First Nation

Katzie First Nation has lived in its traditional territory for thousands of years and continues to maintain strong cultural and spiritual connections to the land and waterways, including rivers, sloughs, creeks, and wetlands. At the centre of their territory lies s'qáycəyaʔ ʔácaʔ, now known as Pitt Lake, which remains a central feature of their identity and heritage. Other modern names such as Pitt Meadows, Maple Ridge, Surrey, Langley, and Delta have replaced the original ones, Katzie retains and promotes its ancestral place names to preserve cultural continuity. Katzie First Nation is comprised of about 648 members, with roughly half living off-reserve but maintaining strong ties to their traditional lands and community. All of the Tilbury Phase 2 components are within Katzie First Nation's traditional territory.

During the Readiness Decision phase, EAO engaged with Katzie First Nation who indicated that their primary concerns included cumulative effects, marine use of the Fraser River during construction, accidents and malfunctions impacting the Fraser River, and GHG emissions. Following the Readiness Decision, Katzie First Nation had limited involvement in the EA for Tilbury Phase 2, providing some input during process planning phase. Katzie was invited to attend TAC meetings and provide comments or share their concerns on the Revised Application.

The EAO engaged Katzie First Nation on the proposed provincial conditions to support ministers' decisions, and IAAC engaged Katzie First Nation on the proposed federal conditions, based on the KMMs, to support federal minister's decisions.

A detailed assessment of Katzie First Nation's interests can be found in [Appendix 5](#).

### 5.4.2 Semiahmoo First Nation

Semiahmoo First Nation (Semiahmoo) are Coast Salish peoples located near White Rock B.C., sharing a boarder with the United States border along Boundary Bay. Semiahmoo's traditional territory includes sections of Point Roberts, Washington, and includes the Serpentine and Nicomekl Rivers, and Lake Terrell. Semiahmoo is a transboundary nation that has historically inhabited and used areas of the Lower Mainland of B.C. and the Salish Sea. Semiahmoo people have deep connections to the land and resources in and around their traditional territory and continue to have close ties with the Lummi and Nooksack Peoples in the state of Washington. Semiahmoo is comprised of about 151 members, with roughly 71 members living within Semiahmoo Reservation. All of the Tilbury Phase 2 components are within Semiahmoo's traditional territory.

EAO provided documents to Semiahmoo such as project updates, the draft IPD and DPD, and Process Planning documents for their review. EAO worked collaboratively with Semiahmoo throughout the assessment process. As part of the TAC, Semiahmoo participated in technical meetings throughout the EA. During the Process Planning phase, Semiahmoo and the EAO agreed that the EAO would conduct an assessment of project effects on Semiahmoo Indigenous interests with Semiahmoo input and review. Semiahmoo was invited to attend TAC meetings and provide comments or share their concerns on the Revised Application.

The EAO engaged Semiahmoo on proposed provincial conditions to support Ministers' decision, and IAAC engaged Semiahmoo on proposed federal conditions, based on the KMMs, to support federal Ministers' decisions.

A detailed assessment of Semiahmoo's interests can be found in [Appendix 5](#).

### 5.4.3 Sk̓wx̓wú7mesh Úxwumixw (Squamish Nation)

Sk̓wx̓wú7mesh Úxwumixw (Squamish Nation) is a distinct group of Coast Salish Peoples with ancestors dating back many millennia. The traditional territory spans a large area including Vancouver, Burnaby, New Westminster, North Vancouver, West Vancouver, and Squamish, which includes waters such as Burrard Inlet, English Bay, False Creek, and Howe Sound. The Squamish Nation has 24 reserves within their traditional territory, totalling 2,120 hectares.

The Proponent and the EAO engaged and consulted with Sk̓wx̓wú7mesh Úxwumixw beginning in 2019 by providing project updates and offering opportunities to meet and discuss Tilbury Phase 2 during the development of the IPD, the DPD, the Draft AIR and provided drafts of the Indigenous Knowledge and secondary sources sections of the Revised Application. Despite these efforts by both the Proponent and the EAO, Sk̓wx̓wú7mesh Úxwumixw did not provide any comments to Tilbury Phase 2. However, in January of 2025, Sk̓wx̓wú7mesh Úxwumixw stated in its [Climate Legacy Strategy](#), Sk̓wx̓wú7mesh Úxwumixw does not support new industrial fossil fuel projects in the Sk̓wx̓wú7mesh Aysáych (territory). As such, Sk̓wx̓wú7mesh Úxwumixw indicated that it does not support the Tilbury Phase 2 LNG Expansion and would not be providing further review or comment.

A detailed assessment of Sk̓wx̓wú7mesh Úxwumixw's (Squamish Nation's) interests can be found in [Appendix 5](#).

### 5.4.4 Leq'á:mel First Nation

Leq'á:mel First Nation (Leq'á:mel) is a member of the Stó:lō Nation and a member of the Coast Salish Peoples, located in Deroche, B.C., 22 km east of Mission, B.C., in the Fraser Valley region. Leq'á:mel assert rights and title over territory south to the Nooksack River, east to the Harrison knob, northwest to the north shore of Stave Lake, southwest to the northern shores of the Alouette Lake and down the west side of Silver Creek.

Leq'á:mel participated in the EA for Tilbury Phase 2 through engagement with the EAO and the Proponent. During the Early Engagement Phase, Leq'á:mel did not identify as a participating Indigenous nation. In the Assessment Plan, the EAO committed to notifying Leq'á:mel of five key milestones: receipt of FortisBC's Application, public comment periods required, acceptance of a revised Application, referral to Ministers for decision on an EA Certificate, and issuance of any legal orders issued under the Act in relation to Tilbury Phase 2. The EAO provided documents, project updates, the draft IPD and DPD, and Process Planning documents for review. During Application Review Leq'á:mel submitted a technical memo outlining concerns that Tilbury Phase 2, especially when linked with the Tilbury Marine Jetty, has proceeded without meaningful Leq'á:mel involvement and will worsen already stressed fish populations, harm critical habitat, increase marine and vehicle traffic, and further limit access to important cultural and harvesting areas, all while overlooking Leq'á:mel stewardship responsibilities, cultural values, and traditional economies.

A detailed assessment of Leq'á:mel's interests can be found in [Appendix 5](#).

### 5.4.5 Matsqui First Nation

Màthexwi First Nation (Matsqui) is a Stó:lō First Nation located in the central Fraser Valley and a member of the Stó:lō Nation. Matsqui has lived within S'ólh Téméxw since time immemorial and maintains strong cultural, spiritual, and subsistence connections to the Fraser River, particularly related to salmon harvesting and stewardship. Tilbury Phase 2 is located within the Stó:lō Nation's asserted territory.

Matsqui First Nation participated in the EA for Tilbury Phase 2. The EAO provided project information, funding support, and opportunities for review throughout the assessment process. Key concerns related to potential effects on harvesting and subsistence activities, cultural use sites and areas, social and economic conditions, and Indigenous health and well-being, particularly in the context of cumulative industrial development along the Fraser River. These concerns were addressed through avoidance measures, proponent mitigation measures, and proposed provincial conditions.

A detailed assessment of Matsqui's interests can be found in [Appendix 5](#).



#### 5.4.6 Pópkw'em First Nation

Pópkw'em (Popkum First Nation) is a Stó:lō community located along the Fraser River in the Upper Fraser Valley region, approximately 30 km west of Hope and 30 km east of Chilliwack. First Nation is an Upper Stó:lō Nation and a member of the Stó:lō Nation, located in the Upper Fraser Valley near present-day Hope, B.C. Pópkw'em has lived within S'ólh Téméxw since time immemorial and maintains deep cultural, spiritual, and physical connections to the Fraser River and surrounding lands. As Stó:lō peoples, Pópkw'em shares responsibility for the stewardship of S'ólh Téméxw and asserts Aboriginal rights throughout the Stó:lō Nation's shared territory, including downstream areas of the Fraser River. The Nation's identity, culture, and governance are closely tied to the river, salmon, and the broader land and water systems that sustain their way of life.

Pópkw'em participated in the EA for Tilbury Phase 2 through engagement with the EAO and the Proponent. Pópkw'em was provided with project information, draft assessment materials, and opportunities to review and provide input at key stages of the assessment, including Application Review. The assessment of potential effects on Pópkw'em's Indigenous interests was informed by information provided by the Nation, the Proponent's Revised Application, and conclusions from relevant VC assessments, with detailed findings documented in the assessment appendices.

A detailed assessment of Pópkw'em's interests can be found in [Appendix 5](#).

#### 5.4.7 Malahat First Nations

Malahat Nation is a Coast Salish Indigenous community and one of the five W̱SÁNEĆ (Saanich) Nations, located between Victoria and Mill Bay, B.C. The Nation's reserves are situated along the western shore of the Saanich Inlet beneath the Malahat mountain range, a place of deep cultural and spiritual significance. Malahat maintains strong kinship ties with other W̱SÁNEĆ Nations and cultural connections with neighbouring Coast Salish peoples, including the Quw'utsun. The Nation places a strong emphasis on cultural revitalization, stewardship of marine resources, and economic development.

Malahat Nation has been engaged by the EAO and Proponent since 2019 in the Tilbury Phase 2 EA, including through information sharing and review of assessment materials. The EAO and the Agency provided funding support and shared project updates, draft project descriptions, and process planning documents. Malahat provided information on its interests during the assessment, which informed the EAO's assessment of potential effects on W̱SÁNEĆ Nations' Indigenous interests.

A detailed assessment of Malahat First Nation's interests can be found in [Appendix 5](#).

#### 5.4.8 Pauquachin First Nation

Pauquachin First Nation is a W̱SÁNEĆ Nation located on southern Vancouver Island. The Nation's name reflects its connection to the coastal landscape, including cliffs and bluffs that characterize its territory. Pauquachin is governed by an elected Chief and Council under the *Indian Act* and pursues economic development initiatives supported by regional partnerships, while maintaining strong cultural and territorial connections within the W̱SÁNEĆ homeland.

Pauquachin First Nation did not identify as a participating Indigenous nation during Early Engagement for Tilbury Phase 2. The EAO and the Agency provided funding support, project updates, and assessment materials for review. Pauquachin's interests were considered as part of the EAO's assessment of W̱SÁNEĆ Nations' Indigenous interests, informed by available information and conclusions from relevant VC assessments.

A detailed assessment of Pauquachin First Nation's interests can be found in [Appendix 5](#).

#### 5.4.9 Tsartlip First Nation

Tsartlip First Nation is a W̱SÁNEĆ Nation whose primary reserve is located in Brentwood Bay on the Saanich Peninsula. Tsartlip has strong cultural, spiritual, and subsistence ties to the Salish Sea, Southern Gulf Islands, and surrounding marine

and terrestrial environments. The Nation's identity and governance are closely connected to stewardship of these lands and waters, including culturally significant marine species and sacred sites.

Tsartlip First Nation did not participate directly as a participating Indigenous nation in the EA for Tilbury Phase 2. The EAO and the Agency provided project information, funding support, and opportunities for review. Tsartlip's Indigenous interests were assessed collectively as part of the WSÁNEĆ Nations assessment, drawing on available information, engagement records, and conclusions from relevant VC assessments.

A detailed assessment of Tsartlip First Nation's interests can be found in [Appendix 5](#).

#### 5.4.10 Tseycum First Nation

Tseycum First Nation is a WSÁNEĆ Nation located on the Saanich Peninsula near Patricia Bay on southern Vancouver Island. The Nation maintains strong cultural, economic, and governance ties to the Salish Sea and surrounding lands. Tseycum continues to pursue opportunities to strengthen community well-being, including land base expansion, economic partnerships, and member services.

Tseycum First Nation did not identify as a participating Indigenous nation during Early Engagement for Tilbury Phase 2. The EAO and the Agency provided project information, funding support, and opportunities to review assessment materials throughout the process. Tseycum's Indigenous interests were considered as part of the EAO's assessment of WSÁNEĆ Nations' Indigenous interests, informed by available information and conclusions from relevant VC assessments.

A detailed assessment of Tseycum First Nation's interests can be found in [Appendix 5](#).

#### 5.4.11 Lummi Nation

Lummi Nation (Lummi) describe themselves as a Self-Governing Nation within the U.S., the third largest tribe in Washington State, serving over 5,000 members. Lummi manages nearly 13,000 acres of tidelands on the Lummi Reservation. The Lummi Reservation is situated to the west of Bellingham and to the south of Ferndale, Washington. The Lummi describe their traditional territory as centered around the Salish Sea and extending west and north across the Gulf Islands and into the Province of B.C.

Lummi was consulted in accordance with the June 27, 2024, Order under the *Environment and Land Use Act*, the July 3, 2024, letter from the EAO to Lummi, and the Process Order (as amended on May 5, 2025). This included notifying Lummi of key EA milestones, sharing information, and responding to issues and concerns raised.

A detailed assessment of Lummi's interests can be found in [Appendix 5](#).

#### 5.4.12 Métis Nation British Columbia (MNBC)<sup>2</sup>

MNBC is the Métis governing body in B.C. that represents the interests of Métis citizens in B.C. Métis people are one of the three Indigenous Peoples of Canada recognized under Section 35(2) of the *Constitution Act, 1982*, with deep historical and contemporary connections throughout the province, including the Lower Mainland. Tilbury Phase 2 is located within MNBC Region 2 – Lower Mainland, where Chartered Communities such as the North Fraser Métis Association and the Surrey Delta Métis Association are located. While MNBC identifies areas of cultural interest across B.C., there is no legally

<sup>2</sup> In accordance with the substitution conditions and the Cooperation Agreement, the EAO delivered the procedural aspects of consultation with Métis Nation British Columbia on behalf of the Government of Canada and directed the Proponent to undertake specific consultation activities with Métis Nation British Columbia to meet the federal requirements of the Cooperation Agreement. Any consultation activities conducted by B.C. with Métis or organizations representing Métis within B.C. under a substituted impact assessment should be understood to have been conducted on behalf of the Government of Canada and should not be construed in any way as an acknowledgement by B.C. that it owes a duty of consultation or accommodation to Métis within B.C. under Section 35 of the *Constitution Act*.

recognized Métis traditional territory in the province, and engagement in the EA on behalf of the Government of Canada occurs on the basis of Métis cultural interests and community presence.

The EAO notified MNBC of key milestones throughout the assessment process, including the Readiness Decision, issuance of the Process Order, and submission of the Application, and provided opportunities to review and comment during the Application Review phase. The Proponent and the EAO engaged and consulted with MNBC beginning in 2019, however MNBC did not participate during Early Engagement and did not provide comments during the EAO’s assessment. The EAO’s assessment of potential effects on MNBC Indigenous interests was informed by the Proponent’s Revised Application and publicly available information.

A detailed assessment of MNBC’s Indigenous interests can be found in [Appendix 5](#).

5.5 Indigenous Knowledge

The Act establishes that one of the purposes of the EAO is to use the best available science, Indigenous Knowledge<sup>3</sup> and local knowledge in decision-making under the Act. The IAA also requires the consideration of Indigenous Knowledge provided with respect to the designated project. To meet the requirements of the Act and paragraph 22(1)(g) of the IAA, the EAO required that the best available science, Indigenous Knowledge and local knowledge be considered and integrated throughout the assessment process. Refer also to [Appendix 15.7](#) for Indigenous knowledge provided with respect to Tilbury Phase 2.

The EAO recognizes that First Nations are best positioned to identify the sources of information, including Indigenous knowledge, appropriate for the use in the assessment of Tilbury Phase 2. Indigenous Knowledge is the subset of a First Nation’s knowledge that the First Nation decides, through representatives chosen by themselves in accordance with their own procedures, is appropriate to be used in an EA. The Application described how scientific, Indigenous, and local knowledge was used in the assessment. During all phases of the EA, the EAO provided opportunities for the inclusion of Indigenous knowledge from First Nations and has integrated it throughout the assessment.

6.0 PREDICTED EFFECTS OF TILBURY PHASE 2

The EAO completed a detailed assessment of effects on the VCs, Indigenous interests, and other assessment matters, as described under [Section 25](#) of the Act. The matters, or topics, to be assessed were determined by the EAO, in consultation with the TAC, First Nations, Indigenous groups and the public, and through consensus seeking with the participating Indigenous nations, through the [Application Information Requirements](#) set out by the EAO for Tilbury Phase 2. These assessments incorporated information submitted by FortisBC, advice from the TAC and CAC, local information and concerns raised by the public, and Indigenous knowledge provided by the participating Indigenous nations. A list of the factors assessed and where to find more detailed information is provided below in Table 5. The assessment and conclusion for federal effects are found in [Appendix 15](#).

Table 5: Valued Components, Indigenous Interests, and Other Assessment Factors Assessed

|                                                                                                |                                                                                       |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Environmental Effects</b><br><i>Air Quality (<a href="#">Appendix 6, Section 17.01</a>)</i> | <b>Health Effects</b><br><i>Acoustics (<a href="#">Appendix 6, Section 17.02</a>)</i> |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|

<sup>3</sup> Within the context of environmental assessments, Indigenous Knowledge is a unique way of knowing that is held by Indigenous Knowledge holders that pertains to the area within which a project may occur, including how that project may interact with the environment and people in the region. Indigenous Knowledge not only informs how projects should be delivered and their relationship to the land but also informs Indigenous decision-making. [The EAO’s Guide to Indigenous Knowledge in Environmental Assessments](#) provides further detail on the EAO’s approach to the consideration of Indigenous Knowledge.

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| <p><i>Fish and Fish Habitat</i> (<a href="#">Appendix 6, Section 17.08</a>)</p> <p><i>Greenhouse Gas Emissions</i> (<a href="#">Appendix 12</a>)</p> <p><i>Groundwater</i> (<a href="#">Appendix 6, Section 17.04</a>)</p> <p><i>Surface Water</i> (<a href="#">Appendix 6, Section 17.03</a>)</p> <p><i>Soil</i> (<a href="#">Appendix 6, Section 17.05</a>)</p> <p><i>Vegetation</i> (<a href="#">Appendix 6, Section 17.06</a>)</p> <p><i>Wildlife and Wildlife Habitat</i> (<a href="#">Appendix 6, Section 17.07</a>)</p> <p><i>Effects on Biophysical Factors that Support Ecosystem Function</i> (<a href="#">Appendix 9</a>)</p> <p><i>Potential Changes to Tilbury Phase 2 Caused by the Environment</i> (<a href="#">Appendix 14</a>)</p> <p><b>Economic and Social Effects</b></p> <p><i>Land and Resource Use</i> (<a href="#">Appendix 6, Section 17.10</a>)</p> <p><i>Infrastructure and Services</i> (<a href="#">Appendix 6, Section 17.11</a>)</p> <p><i>Employment and Economy</i> (<a href="#">Appendix 6, Section 17.09</a>)</p> <p><i>Consistency with Land Use Plans</i> (<a href="#">Appendix 11</a>)</p> <p><i>Human and Community Well-being</i> (<a href="#">Appendix 8</a>)</p> <p><i>Effects on Current and Future Generations</i> (<a href="#">Appendix 10</a>)</p> <p><b>Other Assessment Factors</b></p> <p><i>Risks of Malfunctions and Accidents</i> (<a href="#">Appendix 7</a>)</p> <p><i>Effects of the Environment on the</i> (<a href="#">Appendix 14</a>)</p> <p><i>Alternative Means of Carrying out the Project</i> (<a href="#">Appendix 13</a>)</p> <p><i>Project's Contribution to Sustainability</i> (<a href="#">Section 9</a>)</p> | <p><i>Human Health</i> (<a href="#">Appendix 6, Section 17.14</a>)</p> <p><i>Human and Community Well-being</i> (<a href="#">Appendix 8</a>)</p> <p><b>Cultural Effects</b></p> <p><i>Archaeological and Heritage Resources</i> (<a href="#">Appendix 6, Section 17.12</a>)</p> <p><i>Culture</i> (<a href="#">Appendix 6, Section 17.13</a>)</p> <p><b>Effects to Indigenous Interests</b></p> <p><i>Chawathil First Nation</i> (<a href="#">Appendix 5, Section 16.01</a>)</p> <p><i>Cheam First Nation</i> (<a href="#">Appendix 5, Section 16.02</a>)</p> <p><i>Katzie First Nation</i> (<a href="#">Appendix 5, Section 16.03</a>)</p> <p><i>Kwantlen First Nation</i> (<a href="#">Appendix 5, Section 16.04</a>)</p> <p><i>K'wik'əłəm First Nation</i> (<a href="#">Appendix 5, Section 16.05</a>)</p> <p><i>x'wəθk'əyám</i> (<a href="#">Appendix 5, Section 16.06</a>)</p> <p><i>Quw'utson Nation</i> (<a href="#">Appendix 5, Section 16.07</a>)</p> <p><i>Leq'á:mel First Nation</i> (<a href="#">Appendix 5, Section 16.08</a>)</p> <p><i>Lummi Nation</i> (<a href="#">Appendix 5, Section 16.09</a>)</p> <p><i>Matsqui First Nation</i> (<a href="#">Appendix 5, Section 16.10</a>)</p> <p><i>Métis Nation British Columbia</i> (<a href="#">Appendix 5, Section 16.11</a>)</p> <p><i>Popkum First Nation (Pópkw'em)</i> (<a href="#">Appendix 5, Section 16.12</a>)</p> <p><i>Semiahmoo First Nation</i> (<a href="#">Appendix 5, Section 16.13</a>)</p> <p><i>Snuneymuxw First Nation</i> (<a href="#">Appendix 5, Section 16.14</a>)</p> <p><i>S'ólh Téméxw Stewardship Alliance</i> (<a href="#">Appendix 5, Section 16.15</a>)</p> <p><i>Sḵwxwú7mesh Úxwumixw (Squamish Nation)</i> (<a href="#">Appendix 5, Section 16.16</a>)</p> <p><i>STÁUTW First Nation</i> (<a href="#">Appendix 5, Section 16.17</a>)</p> <p><i>Tsawwassen First Nation</i> (<a href="#">Appendix 5, Section 16.18</a>)</p> <p><i>Tsleil-Waututh Nation</i> (<a href="#">Appendix 5, Section 16.19</a>)</p> <p><i>Ts'uubaa-astx Nation</i> (<a href="#">Appendix 5, Section 16.20</a>)</p> <p><i>W̱SÁNEĆ Nations</i> (<a href="#">Appendix 5, Section 16.21</a>)</p> |
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The EAO identified Tilbury Phase 2 project-specific (residual) adverse effects for 10 of the 14 valued components after FortisBC's proposed mitigations, provincial conditions, federal Key Mitigation Measures and applicable regulatory frameworks are applied. The EAO concluded that there would not be a significant adverse residual effect from the incremental changes for any of the valued components as a result of the Project. The EAO's conclusions for each valued component are outlined in Table 6, and more detail on each is included in [Appendix 6](#).

Table 6 Predicted Residual Effects and Conclusions on the Identified Valued Components

| Valued Component              | Adverse Residual Effect                                                                  | Conclusion [i.e., significance <sup>4</sup> ] | Project's Contribution to Cumulative Effects |
|-------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------|
| Air Quality                   | Increase in ambient NO <sub>2</sub> , concentrations during Operation.                   | Not significant                               | Not significant                              |
|                               | Increase in SO <sub>2</sub> concentrations during Operation.                             | Not significant                               | Not significant                              |
|                               | Increase in CO, PM, VOCs concentrations during Operation.                                | Not significant                               | Not significant                              |
|                               | Increase in short-term CAC emissions during Project Site preparation and Construction    | Not significant                               | Not significant                              |
|                               | Increase in short-term CAC concentrations during abnormal operating conditions (flaring) | Not Significant                               | Not significant                              |
| Acoustic                      | Increase in noise levels during Construction                                             | Not significant                               | Not significant                              |
|                               | Increase in vibration levels during Construction                                         | Not significant                               | Not significant                              |
|                               | Increase in noise levels during Operation                                                | Not significant                               | Not significant                              |
| Human Health                  | Inhalation of Contaminants of Potential Concern (COPCs)                                  | Not significant                               | Not significant                              |
|                               | Health and well-being effects from shift work                                            | Not significant                               | Not significant                              |
| Land and Resource Use         | Change to use of tenures and licensed resource uses                                      | Not significant                               | Not significant                              |
|                               | Change to visual quality of the landscape                                                | Not significant                               | Not significant                              |
| Vegetation                    | Introduction or spread of invasive plant species                                         | Not significant                               | Not significant                              |
| Wildlife and Wildlife Habitat | Loss or Alteration of Wildlife Habitat                                                   | Not significant                               | Not significant                              |
|                               | Increased wildlife health and mortality risk                                             | Not significant                               | Not significant                              |
| Infrastructure and Services   | Effects to domestic water supply                                                         | Not significant                               | Not significant                              |
|                               | Effects to landfill and recycling facilities                                             | Not significant                               | Not significant                              |
|                               | Effects to transportation infrastructure and safety                                      | Not significant                               | Not significant                              |

<sup>4</sup> A determination of the limit of acceptable change.

|                            |                                                      |                 |                 |
|----------------------------|------------------------------------------------------|-----------------|-----------------|
| Culture                    | Change to land and water based cultural practices    | Not significant | Not significant |
|                            | Change to intergenerational knowledge transfer       | Not significant | Not significant |
|                            | Change to diversity and use of Indigenous languages  | Not significant | Not significant |
|                            | Change to cultural cohesion and community continuity | Not significant | Not significant |
| Fish and Fish Habitat      | Reduced fish habitat quality.                        | Not significant | Not significant |
|                            | Increase risk to fish health, injury, and mortality  | Not significant | Not significant |
|                            | Changes in fish distribution and abundance           | Not significant | Not significant |
| Surface Water              | Change in water quality in Tilbury Slough            | Not significant | Not significant |
|                            | Change in water quantity in Tilbury Slough           | Not significant | Not significant |
| Employment and Economy     | None                                                 | NA              | NA              |
| Groundwater                | None                                                 | NA              | NA              |
| Soil                       | None                                                 | NA              | NA              |
| Archeological and Heritage | None                                                 | NA              | NA              |

Table 7 below outlines the predicted positive effects of Tilbury Phase 2. The analysis that led to these conclusions can be found in [Appendix 6](#).

Table 7 Predicted positive effects of Tilbury Phase 2

| Valued Component       | Predicted Positive Effects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Human Health           | The <a href="#">Revised Application, Section 7.15</a> identified that Project activities during construction, operation, and decommissioning may affect human health and well-being by altering population health status through changes in employment rates and regional economic activities, and through changes to land and resource use. This includes indirect positive effects to population health status through increased access to employment, improved employment/ income inequity, and elevated household income. |
| Employment and Economy | As noted in above the <a href="#">Revised Application, Section 7.15</a> identifies that indirect positive effects from employment and economy can improve population health status.<br><br>Positive effects of employment and economy were identified in the <a href="#">Revised Application, Section 7.10</a> and considered by the EAO in <a href="#">Appendix 6</a> of the Assessment Report.                                                                                                                              |



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|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>The EAO also acknowledges that Tilbury Phase 2 would contribute to a number of positive effects to employment and economy in the region, including:</p> <ul style="list-style-type: none"> <li>• Increased direct, indirect, and induced employment;</li> <li>• Increased income resulting from employment opportunities;</li> <li>• Enhancement of workforce;</li> <li>• Increased contracting and procurement opportunities;</li> <li>• Changes to opportunities for traditional economic activities;</li> <li>• Increase in government revenues;</li> <li>• Economic benefits to the B.C. economy; and,</li> <li>• Positive change to business revenue.</li> </ul> <p>In addition to the above effects, increase in government revenue also supports construction and maintenance of public infrastructure, and the delivery of government services.</p> <p>The Proponent also identified in the <a href="#">Revised Application, Section 1.7</a> that the purposes of the project have positive effects. These purposes are:</p> <ul style="list-style-type: none"> <li>• Strengthen resiliency by providing instantaneous backup gas supply to FortisBC customers, primarily in the Lower Mainland, in the event of a supply emergency; and,</li> <li>• Provide a clean-burning, lower-carbon fuel alternative for local and global markets to meet the growing demand.</li> </ul> |
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Table 8 below outlines the conclusions on the other assessment matters. The analysis that led to these conclusions can be found in Appendices 7 to 14. These conclusions consider the information and analysis presented in the respective section; the views of the technical advisory committee, First Nations, and Proponent; as well as the proposed conditions identified in the provincial Table of Conditions; and federal Key Mitigation Measures and Follow-up Programs under the IAA, where relevant to areas within federal jurisdiction (Appendix 2).

Table 8 Predicted Effects and Conclusions on the Other Assessment Matters

| Other Assessment Matters                                                                                  | Conclusion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Risks and uncertainties associated with effects, including the results of any interaction between effects | Risks and uncertainties associated with residual effects are assessed within each VC section. Where residual effects on a VC were predicted and the valued component was also considered a pathway for other potential effects on other VC, as outlined in Table 5.1–1 of the Revised Application, the EAO considered the linkages between these VCs.                                                                                                                                                                                                                                                                                                                           |
| Risk of Accidents and Malfunctions                                                                        | The EAO is of the view that the potential for severe and high-risk effects due to accidents and malfunctions associated with Tilbury Phase 2 have been appropriately reduced and/or managed for this environmental assessment.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Human and Community Well-Being                                                                            | After considering identified KMM and follow-up programs, Certificate conditions (which would become legally binding if a Certificate is issued), and federal and provincial regulatory requirements, the EAO concludes that significant adverse effects on overall human and community well-being are unlikely, certain diverse sub-populations may remain at heightened risk, highlighting the need for ongoing attention to equity, inclusion, and culturally responsive mitigation and monitoring efforts. This conclusion considers the information and analysis presented in this and related sections, as well as the views of the TAC, First Nations, and the Proponent. |

| Other Assessment Matters                                       | Conclusion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alternative Means of Carrying out Tilbury Phase 2              | The EAO concludes that the Proponent has adequately assessed alternative means for Tilbury Phase 2 and components of Tilbury Phase 2 design.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Effects on Current and Future Generations                      | The EAO concludes Tilbury Phase 2 will provide positive employment, training, and economic opportunities for current and future generations. Project design, electrification, and a Net-Zero Plan will minimize greenhouse gas emissions (GHGs), though cumulative climate change remains a global concern. Regarding Indigenous interests, while some Nations view any additional impact as significant, the EAO considers residual effects on rights and cultural practices to be not significant. Mandatory conditions for engagement, benefit-sharing, and cultural awareness aim to reduce these impacts. Overall, with the implementation of all measures and conditions, the project is unlikely to result in significant adverse effects on current and future generations. |
| Consistency with Land Use Plans                                | The EAO has considered the consistency of Tilbury Phase 2 with the Land Use Plans and the potential of Tilbury Phase 2 to affect the objectives of the land use plans, strategies and management programs of Metro Vancouver, City of Delta, City of Richmond, Vancouver Fraser Port Authority (VFPA), First Nation Land Use Plans, and the Fraser River Estuary Management Program (FREMP). Tilbury Phase 2 is not expected to have an adverse effect on the overall objectives of these plans.                                                                                                                                                                                                                                                                                    |
| Contribution to Sustainability                                 | The EAO concludes that Tilbury Phase 2 is consistent with the promotion of sustainability in B.C., as provincial conditions and permitting will minimize environmental impacts while fostering a sound economy through employment, training, and tax revenue for the Province and Indigenous Nations. Although the project may contribute to localized adverse health effects if air contaminant objectives are exceeded nearby, it is expected to support the overall well-being of British Columbians. While the EAO notes some uncertainty regarding specific mitigation interactions, it maintains that the project's positive contributions outweigh these factors, provided there is ongoing regulatory oversight through certificate and permit requirements.                |
| Effects on Biophysical Factors that Support Ecosystem Function | The EAO concludes that there would be a low magnitude of effects on biophysical factors that support ecosystem function. The EAO is satisfied that effects on these factors would be appropriately mitigated and minimized to the extent possible for the Project.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Potential Changes to the Project Caused by the Environment     | EAO concludes the effects of the environment would not cause significant adverse effects on Tilbury Phase 2 during construction and operations due to the engineering design requirements for Tilbury Phase 2 to withstand the types of extreme weather, flooding, and seismic events occurring nearby during the life of the project under current and future climate conditions.                                                                                                                                                                                                                                                                                                                                                                                                  |
| Greenhouse Gas Emissions                                       | The EAO is satisfied that Tilbury Phase 2 would not have significant adverse effects on Greenhouse Gas (GHG) emissions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Requirements of the /AA                                        | EAO evaluated effects within federal jurisdiction under the /AA and determined that Tilbury Phase 2 is unlikely to result in significant adverse federal effects. The EAO concluded that adverse residual and cumulative effects are not significant for fish and fish habitat, as all in-water works were removed from the project scope and strict upland mitigations will                                                                                                                                                                                                                                                                                                                                                                                                        |

| Other Assessment Matters | Conclusion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          | <p>protect aquatic species. Regarding the acoustic environment, while regional cumulative noise may be moderate, the project’s specific contribution is negligible to low and not significant. Regarding GHG emissions, the EAO found effects are not significant based on the project’s exceptionally low emission intensity (0.021 Metric tonne(s) of carbon dioxide equivalent (tCO2e/tonne)) and a credible Net-Zero Plan aligned with the federal Strategic Assessment of Climate Change. Regarding migratory birds and species at risk, the EAO determined that because the project is located on a highly disturbed brownfield site with limited habitat value, incremental contributions to cumulative effects are negligible to low and not significant.</p> <p>With respect to Indigenous peoples, the EAO acknowledges that some Nations view any additional industrial activity as a significant barrier to cultural restoration; however, the EAO concluded that residual federal effects on the current use of lands and resources, health, and socio-economic conditions are not significant. Overall, the EAO is of the view that Tilbury Phase 2 will not hinder Canada’s ability to meet its environmental obligations or climate change commitments.</p> |

7.0 KEY CONCERNS IDENTIFIED IN THE EAO’S ASSESSMENT OF EFFECTS

The matters, or topics, to be assessed were determined by the EAO, in consultation with the TAC, First Nations and the public, and through consensus seeking with the participating Indigenous nations, through the [Application Information Requirements](#) set out by the EAO for Tilbury Phase 2. These assessments incorporate the factors set out in subsection 22(1) of the IAA and effects within federal jurisdiction, information submitted by FortisBC, advice from the TAC and CAC, local information and concerns raised by the public, and Indigenous knowledge provided by the participating Indigenous nations. Key concerns, such as assessment matters, including how to identify, assess and manage potential environmental, economic, social, cultural and health effects, were considered following EAO’s [Effects Assessment Policy](#) guidance.

The remainder of this section summarizes the key themes that, due to their complexity and the level of concern from the TAC, CAC, participating Indigenous nations and/or the public, became the main focus of the Tilbury Phase 2 EA.

[Appendix 6](#) provides the detailed assessment of potential effects of Tilbury Phase 2 on each of the key concerns, identifies mitigation measures, including the KMMs and Follow-Up Program under the IAA, discusses the key issues raised, and reaches conclusions on the significance of residual effects on each valued component (VC) and other required assessment matters, as required by [Section 25](#) of the Act and the factors set out in subsection 22(1) of the IAA.

7.1 Greenhouse Gas Emissions

The Proponent assessed GHG emissions associated with Tilbury Phase 2 across construction, operation, and decommissioning phases. The assessment focused on project-level emissions, including direct emissions from on-site activities and indirect emissions associated with energy use. Upstream GHG emissions, including fugitive methane emissions, were assessed in accordance with the Strategic Assessment of Climate Change and associated technical guidance, using prescribed methods and data from the Government of Canada and Environment and Climate Change Canada (ECCC). Results of the upstream assessment are provided in [Appendix M, Upstream Greenhouse Gas Assessment Technical Data Report](#), of the Revised Application.

Members of the TAC, participating Indigenous nations, and the public raised concerns regarding greenhouse emissions and climate change generally to be important considerations for decisions related to the Project. This included raising questions relating to the need of the Project, ability to meet GHG targets, and the scope of the assessment.

Comments about the GHG assessment, included the consideration of upstream and downstream emissions, and the characterization of natural gas and LNG as a low-carbon or lower-carbon fuel. The EAO notes that downstream emissions from end-use combustion are not required to be assessed under the Act or the IAA, and that this approach is consistent with standard carbon accounting practices for industrial facilities. While the Proponent provided an analysis describing how the Project could contribute to global emissions reductions, the EAO did not rely on this analysis due to uncertainty associated with displacement assumptions and global market dynamics. Instead, the EAO focused its assessment on project-level emissions that can be measured and regulated.

Reviewers also raised concerns regarding the Project's ability to meet GHG reduction targets and to operate as a net-zero LNG facility, including questions related to the availability of electricity, implementation of Best Available Technologies (BAT) and Best Environmental Practices (BEP), use of renewable natural gas, acquisition of B.C. Offset Units, and the long-term credibility and adaptability of the Net-Zero Plan. The Proponent committed to securing sufficient grid electricity, implementing BAT and BEP, acquiring renewable natural gas from commercially available sources, and purchasing B.C. Offset Units for any residual emissions to meet net-zero requirements.

The EAO has proposed Condition 11 (Greenhouse Gas Emissions and Net-Zero Plan), which would require the implementation and periodic updating of a credible Net-Zero Plan. Updates to the Net-Zero Plan would be required every five years to reflect changes in technology and regulatory requirements and must be completed in consultation with First Nations, Ministry of Energy and Climate Solutions, ECCC, and Metro Vancouver. The EAO notes that GHG emissions from LNG facilities in B.C. are also subject to mandatory reporting and third-party verification under the *Greenhouse Gas Industrial Reporting and Control Act* (GIRCA) and its regulations.

The EAO concludes that, with the implementation of proposed conditions and applicable regulatory requirements, GHG emissions from Tilbury Phase 2 have been adequately addressed for the purposes of the EA.

For further details on the assessment of effects to GHG, see [Appendix 12 Greenhouse Gas Emissions](#) of this Report.

## 7.2 Effects to Air Quality and Human Health

The Proponent assessed air quality and human health effects from Tilbury Phase 2 emissions during construction, commissioning, operation, and flaring events (including start-up, shutdown, upset conditions, and potential grid power outages). Decommissioning-related effects were assessed using construction activities as a conservative proxy, as decommissioning is expected to involve similar or lower emission sources over a shorter duration.

The assessment focused on air contaminants, including Nitrogen Dioxide (NO<sub>2</sub>), Sulphur Dioxide (SO<sub>2</sub>), and particulate matter (PM), and their potential effects on human health and the environment. Air dispersion modelling was initially completed using a conservative, unmitigated scenario, followed by additional modelling incorporating proposed emission controls. Results indicate that the Project would contribute a relatively small incremental increase in NO<sub>2</sub> concentrations compared to existing background levels; however, in some worst-case scenarios, with the most conservative weather conditions, combined Project and background levels could exceed the applicable threshold, with the exceedance occurring within approximately 50 metres of the Project location.

Participating Indigenous nations, Metro Vancouver, regional health authorities, local governments, and members of the public raised concerns that, while the Project's individual emissions are relatively low in magnitude, its potential contribution to cumulative air quality conditions, under reasonably foreseeable cumulative development scenarios, remains an important consideration within an already industrialized airshed. Under these cumulative scenarios, modelled concentrations may exceed health-based screening thresholds, assuming full build-out of identified projects and

continuation of existing sources. The Proponent noted that predicted concentrations are based on conservative assumptions and that actual impacts may be lower once final design, mitigation, and operating conditions are confirmed.

Additional concerns were raised regarding flaring emissions, which are predicted to exceed health-based thresholds by up to five times during temporary events, including one-time commissioning activities and infrequent start-up, shutdown, and upset conditions. These events are expected to be limited in duration, ranging from several hours to several days.

The EAO is of the view that potential project-related air quality and human health effects have been adequately assessed and can be addressed through applicable permitting requirements and proposed conditions, including Condition 14 (Air Quality Management Plan) which would require operation emissions and flaring monitoring, reporting and requirements for adaptive management and Condition 18 (Regional Cumulative Effects Initiatives). The extent to which air quality effects will be managed through permitting remains subject to future regulatory decisions.

For further details on the assessment of effects to air quality and human health, see [Appendix 6, Section 17.01](#) (Air Quality) and [Appendix 6, Section 17.14](#) (Human Health).

### 7.3 Project Scope and Aquatic Effects

First Nations and members of the public raised concerns about potential effects on fish, marine mammals (including Southern Resident Killer Whales), the Fraser River, and the Salish Sea. Many of these concerns focused on increased vessel traffic and related impacts. These issues largely stemmed from the association between the Tilbury Phase 2 Project and the separately assessed Tilbury Marine Jetty (TMJ), which includes a shipping component.

Tilbury Phase 2 does not include operational shipping in its project description. As a result, an operational shipping assessment was not undertaken for this project. Early in planning, and as reflected in the DPD and the Process Order, the Project included a proposed upgrade to the existing MOF and the movement of modules to the Project Site by marine vessels from Sand Heads lighthouse.

Following extensive engagement with First Nations, including concerns regarding in-river works and vessel activity in the Fraser, FortisBC refined the Project design and removed the MOF upgrade, barge delivery, and all associated in-river works from the Project. In accordance with the Process Order requirement to describe changes to project components since the DPD, the Revised Application identifies these changes. With these elements avoided, and to enable a focused assessment of Project-related effects, the EAO directed the Proponent to limit the Revised Application to effects unrelated to barge delivery or in-river construction. The EAO's assessment reflects this refined scope.

Construction materials for Tilbury Phase 2, including large components such as tanks or large prefabricated components, may arrive in B.C. through established commercial supply chains using existing port facilities. These activities do not involve project-specific marine infrastructure, do not introduce project-controlled vessel movements in the Fraser River or Salish Sea, and therefore are not considered Project components or associated works within the meaning of the Process Order. Should the Proponent in the future propose any marine-based construction access, barge delivery to the site, or in-river works, this would constitute a change to the Project and would be subject to EAO review and any additional regulatory approvals.

In response to concerns that Tilbury Phase 2 could drive increased shipping through the Tilbury Marine Jetty (TMJ) the EAO notes that the Jetty's federal Decision Statement caps LNG vessel traffic at 365 vessels per year, including up to 68 export carrier calls. It also limits vessels using crude-oil-based fuels to 13 calls annually and imposes a 10-knot speed restriction in the South Arm of the Fraser River. Any change to these limits would require a federal amendment.

The Proponent assessed potential Project effects on fish and fish habitat and water quality in the Revised Application. The EAO identified these areas of concern: potential contamination and resedimentation from hydrostatic testing of the LNG

storage tank, potential contamination of surface water during Operation and potential effects of 6PPD-Quinone (6-PPDQ), a tire wear chemical known to affect fish.

In response to these concerns, Condition 12 (Construction Environmental Management Plan (CEMP)) would require a hydrostatic testing plan developed in consultation with First Nations and technical experts. It would also formalize the restriction on delivering construction materials by barge or constructing a MOF as part of Tilbury Phase 2. Condition 13 (Operations Environmental Management Plan (OEMP)) would require addressing potential contaminants that could enter surface water during Operation. In addition, Condition 17 (Dry Street Sweeping Study) would require a report evaluating whether dry sweeping could help reduce 6-PPD-quinone reaching nearby waterways.

## 8.0 THE EAO'S PROPOSED CONDITIONS

As part of the recommendations of the CEAO to the Ministers, the EAO developed a draft Certificate. This Certificate, if issued, would allow Tilbury Phase 2 to proceed to permitting and other authorizations. If the Ministers decide to issue a Certificate, it will include a Certified Project Description and Table of Conditions. The Certified Project Description outlines the components and activities of a project that are approved by the Certificate. The Table of Conditions sets out legally binding requirements (or, conditions) to which the Certificate Holder (Holder) must adhere throughout the life of Tilbury Phase 2. These conditions describe 'how' a project must be implemented. Some of the conditions are procedural requirements common to all certified projects; others are project-specific and intended to prevent or reduce adverse effects. Conditions were developed following the [EAO's Certificate Policy](#).

If a Certificate is issued, the Holder must design, build, operate and decommission Tilbury Phase 2 in accordance with the Certificate. The B.C. Compliance and Enforcement Agency (BC-CEA) would then become responsible for the verification and enforcement of the requirements in the Tilbury Phase 2 Certificate. The BC-CEA conducts compliance inspections and, where required, uses enforcement to ensure that projects are compliant with the certificate conditions. For more information on compliance and enforcement, see the [EAO's website](#).

For Tilbury Phase 2, the EAO has proposed the 10 standard conditions which are common to all certified projects (see box at the end of this section) and 8 project-specific conditions to prevent or reduce adverse effects identified through the environmental assessment (EA). The following are Tilbury Phase 2 specific conditions and their purpose (full details will be included in the Certificate, if issued):

- **Condition 9 (Public Information):** This condition would require the Holder to share information regarding Tilbury Phase 2 with the public through a dedicated Project website, a phone line, and newspaper notice, or other equally effective media, if appropriate. Through these mediums, the Holder would share information such as contact information, project updates and engagement opportunities, notice of planned flaring events, information about safety, and instructions for how to provide a complaint or comment.
- **Condition 10 (Community Feedback Process):** This condition would require the Holder to enable and collect public feedback, and to create a process for managing and responding to public comments and questions, and to develop reports in consultation with First Nations and Local Governments summarizing community feedback and engagement statistics and data which would be shared with specified groups and agencies
- **Condition 11 (Greenhouse Gas Emissions and Net-Zero Plan):** This plan would require the Holder to implement its plan for achieving net-zero energy emissions by 2030 and update the plan every five years in consultation with the Ministry of Energy and Climate Solutions, First Nations, ECCC, and Metro Vancouver.
- **Condition 14 (Air Quality Management Plan):** This plan would require the Holder to produce and implement a plan to manage the effects of Tilbury Phase 2 on air quality. The plan would describe how the Holder would implement mitigation measures related to air quality, include a process for selecting emissions control



technologies, and require monitoring of ambient air quality as well emissions from regular operations and flaring. The plan would be developed in consultation with First Nations, Metro Vancouver, ECCC, Health Authorities, Health Canada, and BC Energy Regulator (BCER).

- **Condition 15 (Chance Find Protocol):** This condition would require the Holder to submit and implement a Chance Find Protocol (CFP) for archaeological finds throughout the life of Tilbury Phase 2. The Protocol would be developed in consultation with First Nations, and BCER.
- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan):** This plan would require the Holder to produce a plan supporting the economic participation of First Nations and local communities in the Project. The plan would describe employment and contracting strategies and training practices, including on the job training and apprenticeships. The plan will also outline how reporting on employment and contracting outcomes will occur, and be developed in consultation with First Nations, Ministry of Jobs and Economic Growth (JEG), Local Governments, and the Ministry of Post-Secondary and Future Skills (PSFS).
- **Condition 17 (Dry Street Sweeping Report):** This condition would require the Holder to submit develop and submit a Report on the effectiveness of Dry Street Sweeping to mitigate the effects of 6PPD-Quinone (6-PPDQ) on fish within eighteen months of a Certificate being issued. If Dry Street Sweeping is an effective mitigation measure, the Holder would be required to describe how it would be implemented as an additional mitigation measures would be implemented by updating the CEMP in consultation with First Nations and agencies.
- **Condition 18 (Regional Cumulative Effects Initiatives):** This condition requires the Holders to participate, if directed, in any cumulative effects management committees to address regional socioeconomic and environmental issues.

***The following conditions are standard in most Certificates and proposed for inclusion in the Tilbury Phase 2 Certificate:***

**Document Review:** sets out timelines for EAO document reviews and requirements for plan implementation.

**Document Updates:** allows the Holder or the EAO to require the Holder to make changes to any document if it is not meeting objectives, intended effects or to be consistent with changes in industry best practice or technology.

**Document Development:** requires all documents to include purpose, roles and responsibilities, schedules, plans for evaluating mitigation effectiveness, schedules for reporting, schedules for document updates, and adaptive management.

**Consultation:** sets out the details of what consultation entails. This includes providing a written record of comments received and explanation of how they have been considered and addressed. This condition also includes ongoing consultation requirements for the Holder with First Nations and Local Governments throughout the life of the Project.

**Compliance Verification and Reporting:** allows the EAO to request information for the purposes of compliance inspection and verification and sets out requirements for compliance self-reports for Holders.

**Project Status Notification:** requires the Holder to provide project status notification, primary contact details, and notice when primary contact for Tilbury Phase 2 changes.

**Compliance Notification:** requires the Holder to notify the EAO in the event of any instances where it has not fully complied with the Certificate.

**Independent Environmental Monitor:** requires an Independent Environmental Monitor; includes a terms of reference that sets out the expectations and requirements for the Independent Environmental Monitor. This monitor could be an Indigenous monitor.

**Construction Environmental Management Plan (CEMP):** addresses standard issues with the potential to cause impacts to the environment during construction, including topics such as dust management, visual quality, an LNG Storage Tank Hydrostatic Testing Plan, a Transportation Management Plan, surface water quality and quantity management, and erosion and sediment control, among other topics.

**Operations Environmental Management Plan (OEMP):** addresses standard issues with the potential to cause impacts to the environment during Operation, including topics such as management of waste, surface water quality and quantity management, visual quality, and erosion and sediment control, among other topics.

## 9.0 TILBURY PHASE 2'S CONTRIBUTION TO SUSTAINABILITY

### 9.1 Introduction

Under Section 29 of the Act, the EAO must consider whether a project is consistent with the promotion of sustainability and include a recommendation to Ministers on this topic. This analysis supports the EAO in meeting its purpose under Section 2 of the Act to 'promote sustainability through protecting the environment and foster a sound economy and the well-being of British Columbians and their communities'.

In addition to the provincial assessment requirements, [Appendix 15 Section 26.8](#) assesses the extent to which Tilbury Phase 2 contributes to sustainability, as required under paragraph 22(1)(h) of the federal IAA.

### 9.2 Protecting the Environment

Tilbury Phase 2 is located on fee simple property zoned for industrial use and is not expected to cause significant changes to the environment based on project activities and potential effects.

Project activities are expected to interact with biophysical factors that support ecosystem function, including effects on Wildlife and Wildlife Habitat VC and Vegetation VC. The main potential interactions with wildlife and wildlife habitat are loss and alteration of habitat from both direct and indirect effect pathways, as well as changes in wildlife health and mortality risk. Residual effects on Vegetation VC are expected to be the introduction or spread of invasive species. These effects interactions are unlikely to have a significant effect, particularly when considering the location of the Project which is a highly industrial area with minimal vegetation or wildlife. The EAO does not expect the Project to have a measurable effects on ecosystem function or its susceptibility to change.

The Project has the potential to influence local and regional air quality through both construction and long-term operational activities, interacting with existing conditions in the Lower Mainland. To reduce potential air quality effects raised by technical advisors, First Nations and regulators, FortisBC has committed to regular inspection and maintenance programs, an idle-reduction policy for vehicles, continued engagement with First Nations and technical advisors on emissions control technologies, and operating within the emission limits set by Metro Vancouver through permitting, if an EAC is issued.

The EAO also considered potential effects on fish and fish habitat. Direct interactions between Tilbury Phase 2 and the marine environment are limited as the Project involves no in-water works, no shipping, and no direct flows into the Fraser River or Tilbury Slough. However, other indirect pathway interactions were considered, related to water discharged through the City of Delta's stormwater system, that released stormwater into the Tilbury Slough, including from the hydrostatic testing of the LNG storage tank, and concerns about effects from truck traffic during Construction to and from

the site impacting the health of fish related to 6PPD-Q. Technical advisors and First Nations raised potential risks from 6PPD-Q from vehicle tires entering stormwater and the potential to reach fish habitat. This potential indirect pathway was therefore considered as part of the assessment.

GHG emissions remain a significant concern for the public, local government, technical reviewers, and First Nations. The EAO notes FortisBC has outlined a credible plan to reach net-zero carbon emissions by 2030 through electrification, fugitive emission reductions, use of renewable fuels, managing entrained CO<sub>2</sub>, procuring lower-carbon electricity, and acquiring offsets to manage any residual emissions. The plan's effectiveness depends on how these commitments are implemented throughout Construction and Operation. Under proposed Condition 11 (Greenhouse Gas Emissions and Net-Zero Plan), FortisBC would be required to maintain and update the plan at least every five years in consultation with First Nations, Ministry of Energy and Climate Solutions, ECCC, and Metro Vancouver.

Through the proposed Certificate conditions, the Proponent would be required to develop management plans with the purpose of mitigating monitoring and adaptively managing the effects of the Project to the environment, including to the air, water, vegetation, wildlife and wildlife habitat, and fish and fish habitat. The EAO is proposing several Certificate conditions to help manage effects to the environment, including Condition 12 (CEMP), Condition 13 (OEMP), Condition 14 (Air Quality Management Plan), and Condition 16 (Dry Street Sweeping Report).

Tilbury Phase 2 is subject to regulatory approvals from both the provincial and federal governments. As a part of the substituted environmental assessment, the EAO and IAAC developed the [Joint Permitting/Regulatory Coordination Plan](#) to support an effective regulatory path for the project by including key federal and provincial regulatory instruments including permits, licenses and authorizations that may be required.

While Tilbury Phase 2 is not expected to result in significant residual environmental effects, both the Province and the federal government recognize concerns have been expressed about cumulative effects in the South Fraser Arm. This includes concerns raised by First Nations and those related to projects directly connected to TP2, such as the Tilbury Marine Jetty. Both levels of government remain committed to meaningfully addressing these concerns in partnership with First Nations through the various collaborative initiatives currently underway.

Examples of existing collaborative initiatives include the B.C. Coastal Marine Strategy, which will invest more than \$2.5 million in Indigenous-led marine stewardship initiatives focused on habitat restoration, pollution prevention, and environmental monitoring, and the British Columbia Salmon Restoration and Innovation Fund, which invested \$128.6 million in 97 projects between 2019 and 2024 to support salmon restoration, habitat recovery, sustainable fisheries, climate resilience, and Indigenous participation.

Federally, through the Oceans Protection Plan, the Government of Canada has also invested \$1.5 billion to improve marine safety, protect coastal ecosystems, and strengthen Indigenous partnerships, including through the Cumulative Effects of Marine Shipping (CEMS) Initiative that assesses cumulative effects of marine shipping. In 2022, the Government of Canada committed an additional \$2 billion to continue some of the existing Ocean Protection Plan initiatives. This includes establishing 15 new measures to expand ocean protection initiatives to more regions and improve marine safety. As part of the [Spring Economic Update 2026: Canada Strong For All](#), the [Government of Canada committed more than \\$258 million](#) over five years to renew and enhance funding for protection of whales and their habitats. Of the \$258 million, \$163.8 million over five years has been allocated to continue the important work of the Whales Initiative, ensuring immediate and comprehensive action to protect whales. This funding will support measures to address threats facing endangered whale species, including the Southern Resident killer whale and the North Atlantic right whale. An additional \$95 million over five years, plus \$16.5 million annually thereafter, has been allocated to enhance protections specifically for Southern Resident killer whales, building on the strong management measures implemented to date.

Relevant sections: [Appendix 12](#) (Greenhouse Gas Emissions), [Appendix 6, Section 17.01](#) (Air Quality), [Appendix 6, Section 17.08](#) (Fish and Fish Habitat), [Appendix 6, Section 17.07](#) (Wildlife and Wildlife Habitat), [Appendix 6, Section 17.06](#) (Vegetation), and [Appendix 5](#) (Detailed Indigenous Nation Assessments).

### 9.3 Fostering a Sound Economy

To understand how the Project contributes to fostering a sound economy, the EAO considered FortisBC's assessment along with feedback from technical reviewers and First Nations, the positive regional and national effects to employment and economy generated, the proposed mitigation and enhancement measures, the draft Certificate conditions, and KMMs in [Appendix 2](#).

FortisBC indicated that the Project aligns with sustainability objectives and is intended to support the well-being of current and future generations, as the project will address energy demands of the growing population, as well as contribute to the economy of the region by providing a resilient energy supply in the Lower Mainland. The project's storage component is designed to reduce the risk of natural gas supply disruptions, which could otherwise result in impacts for both FortisBC transmission system and its customers. This includes financial costs (e.g. restarting gas supplies, costs for customers that use gas for businesses) as well as impacts from not being able to use gas for domestic purposes (e.g. heating, stoves).

FortisBC predicts that Tilbury Phase 2 would provide direct, indirect and induced jobs, delivering 13,300 jobs at \$1.2 billion during the construction phase and 600 jobs at \$122 million annually during the forty plus years of estimated operations phase. FortisBC expects the Project will increase tax revenues, alongside contributions to GDP through economic activities, construction and operation. GDP contributions are estimated at \$1.7 billion during the construction phase and \$499.5 million annually. Total tax revenues are forecasted at \$308.9 million during the construction phase and \$208.6 million annually during the operation phase.

An important part of the Province's commitment to reconciliation, reflected in the Declaration Act Action Plan for 2022 to 2027, is supporting First Nations in accessing economic opportunities and benefiting from the lands and resources in their territories. The Action Plan includes a theme focused on social, cultural and economic well-being, which emphasizes Indigenous peoples' ability to fully exercise their rights, including maintaining and developing cultural heritage, traditional knowledge, languages, and food systems. These commitments are supported by initiatives that promote connection, capacity, and participation in B.C.'s economy. TP2 supports these provincial objectives by creating opportunities for Indigenous participation in project planning, construction, contracting, employment, training, and long-term economic development associated with the Project. In line with this, FortisBC has committed to policies and practices aimed at enhancing positive socio-economic outcomes and reducing adverse impacts, developed in collaboration with First Nations, the Province, local governments and other partners.

To promote equitable distribution of Project benefits, FortisBC has committed to implement policies, programs, and practices to support First Nation contracting, and the employment of members of First Nations and traditionally underrepresented groups. FortisBC has also committed to implementing a cultural awareness program for employees and contractors working on the Project.

In addition to this, the EAO is proposing Condition 16: First Nation and Local Economic Inclusion and Monitoring Plan, to ensure implementation, and monitoring the effectiveness, of measures to strengthen First Nations and local participation in Tilbury Phase 2.

Relevant sections: [Appendix 6, Section 17.09](#) (Employment and Economy), [Appendix 8](#) (Human and Community Well-Being), [Appendix 10](#) (Effects on Current and Future Generations), [Appendix 11](#) (Consistency with Land Use Plans), and [Appendix 5](#) (Detailed Indigenous Nation Assessments).

## 9.4 The Well-being of British Columbians and Their Communities

Four primary potential project effects have been identified that relate to the well-being of British Columbians and their communities, including;

- changes to equitable access to employment and procurement opportunities;
- risk that the Project may contribute to disagreement, conflict, or polarization among community members;
- altering visual and sensory impacts associated with land and resource use;
- affecting human health impacts which are associated primarily with air quality; and,
- positive contributions to community well-being through employment, training, procurement opportunities, and increased regional energy resiliency.

The economic and employment benefits, as well as the contribution to regional energy resiliency outlined above, are expected to support the well-being of local communities by providing jobs, opportunities, and services that help British Columbians support their families and communities. The project is anticipated to create 6,200 full-time equivalent direct jobs over a potential three-to-six-year construction period, peaking at 600 onsite workers. When considering mitigation measures, the EAO does not expect significant residual adverse effects on infrastructure, services, or cultural resources. This is because the labour force is expected to be drawn largely from Metro Vancouver, minimizing incremental pressures on housing and local services. In addition, access changes to and use of lands and waters near the Project site are expected to be negligible.

Positive effects for workers, including Indigenous workers, are anticipated through increased employment and training opportunities, as well as and a potential improvement of social conditions associated with employment and training. Employment income, education and skills training, procurement opportunities, and government revenue are anticipated as positive effects. Indigenous Nation members who hold a trades certificate, have relevant experience, or are interested in training or gaining experience in the construction sector would be most likely to benefit from direct employment with the Project. However, increased Indigenous participation in wage-based economies may reduce participation in traditional subsistence and non-wage economic activities. Workers engaged in Project construction might otherwise be engaged in resource harvesting or related economic activities, resulting in lost opportunity.

Overall, EAO expects economic opportunities to positively benefit workers and their families by providing improved income security. FortisBC does not anticipate other adverse impacts to labour market, opportunities for traditional economic activities, business revenues, property values, cost of living, or impacts to regional transportation networks by truck traffic.

While Project lighting is required for site safety and security, FortisBC plans to mitigate visual impacts associated with land and resource use by designing project lighting in a manner that is consistent with BCER's Light Control Best Practices Guideline, the International Commission on Illumination's Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations, and the City of Delta's municipal zoning bylaws. It would also be required under the LNG Facility Regulation for the Project to not cause excessive emanation of light on human and wildlife receptors.

The construction of new fossil fuel related infrastructure is a topic of active public discussions. Concerns were raised that that as new fossil fuel infrastructure the Project could contribute to intensified social divisions in local communities, that is, increased disagreement or tension between people who view the Project positively for its economic benefits and those who oppose it due to concerns related to climate change and environmental impacts.

FortisBC has committed to continuing to engage the public and other interested parties throughout the remaining phases of the project to seek input, answer questions, and address potential concerns. Should the Project proceed, ongoing work

will take place with First Nations, local government, and government agencies to continue dialogue, ensure compliance with conditions from authorizations needed for the Project, and to address feedback related to managing effects and operational issues.

First Nations, technical reviewers, and the public also raised concerns regarding the Project's impacts on the surrounding environment, including how those changes could affect its use and enjoyment, as well as implications for public health and air quality.

EAO's analysis indicated that background concentrations of NO<sub>2</sub> are already close to Metro Vancouver Ambient Air Quality Objectives. With the addition of emissions from Tilbury Phase 2, NO<sub>2</sub> levels would increase and could infrequently exceed these objectives at locations near to the Project site and over the Fraser River.

There is currently no flaring on Tilbury Island, and flaring associated with Tilbury Phase 2 would occur only during specific operational events. While adverse health effects of flaring are not expected to be significant, the Human Health Risk Assessment predicted that short-term flaring scenarios could result in estimated NO<sub>2</sub> exposures of up to approximately five times Metro Vancouver's Ambient Air Quality Objectives at the Project property line. Concentrations are expected to diminish with increasing distance from the source, though exceedances may occur beyond the property boundary.

Short-term exceedances could contribute to localized respiratory and cardiovascular health effects, particularly for sensitive people living, working, or recreating near the Project Site. With application of certificate conditions, including ambient air quality monitoring, permitting by Metro Vancouver (including its regulatory air emissions permitting, monitoring, reporting, and compliance requirements), design requirements under the LNG Facility Regulation (including requirements governing LNG facility design and operation related to flaring), the EAO expects air-quality-related health risks to remain manageable and localized.

First Nations identified concerns relating to the ability to participate in traditional activities, residual effects to harvesting and subsistence activities, cultural use areas, and the overall impacts to Indigenous health and well-being. To help mitigate impacts associated with the Project, FortisBC will be implementing a range of policies and management plans to help mitigate impacts associated with the Project, many of which will be developed in collaboration with First Nations and other levels of government. In addition to this the EAO is proposing Condition 9 (Public Information), Condition 10 (Community Feedback Process), Condition 11 (Greenhouse Gas Emissions and Net-Zero Plan), Condition 12 (CEMP), Condition 13 (OEMP), Condition 14 (Air Quality Management Plan) and Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan) see summaries in [Section 8](#).

The interaction of Tilbury Phase 2 with 31 land use plans by local government, First Nations, Port Authorities, and other organizations have been considered. FortisBC considered the consistency of Tilbury Phase 2 with these plans as part of the Revised Application. The EAO notes that the Project site is located on privately owned land zoned by the City of Delta for industrial use, which permits the manufacturing, processing, finishing, and storage of natural gas and has concluded that Tilbury Phase 2 is not expected to have an adverse effect on the overall objectives of these plans as currently ratified.

Relevant sections: [Appendix 6, Section 17.09](#) (Employment and Economy), [Appendix 6, Section 17.11](#) (Infrastructure and Services), [Appendix 8](#) (Human and Community Well-Being), [Appendix 6, Section 17.14](#) (Human Health), [Appendix 10](#) (Effects on Current and Future Generations), [Appendix 11](#) (Consistency with Land Use Plans), and [Appendix 5](#) (Detailed Indigenous Nation Assessments).

## 9.5 The EAO's Sustainability Conclusion

Considering the above principles, the EAO is of the view that:



- Tilbury Phase 2 is located on fee simple property zoned for industrial use and provincial requirements for the Project established through proposed Certificate conditions and subsequent permitting processes would minimize adverse effects on the environment;
- Tilbury Phase 2 would foster a sound economy by providing continuing and new employment, contracting, and training opportunities, by generating higher wages in the region, increasing tax revenue, and would contribute to the Local Government and First Nations near the project area, and the Province;
- Existing NO<sub>2</sub> levels in the region are close to, and at times exceed air quality objectives. Tilbury Phase 2 would result in a small increase in ambient NO<sub>2</sub> concentrations during normal operations, with larger short-term increases during infrequent flaring events. These effects can be managed through proposed conditions and permitting requirements, and do not change EAO's conclusion that the Project remains consistent with the promotion of sustainability; and
- Tilbury Phase 2 has the potential to contribute to the well-being of British Columbians and their communities, including First Nations communities.

The EAO has administered the Tilbury Phase 2 environmental assessment to allow for a clear understanding of Tilbury Phase 2's contribution to the promotion of sustainability. The EAO notes that, while Tilbury Phase 2 is overall expected to have a positive contribution to sustainability, there are potential for adverse residual effects and some uncertainty related to some mitigation measures and interactions between value components. Considering all the factors outlined in this report, the EAO recommends that Tilbury Phase 2 is consistent with the promotion of sustainability in B.C.

## 10.0 CONCLUSIONS

Based on:

- Information contained in FortisBC (the proponent)'s Revised Application, as well as supplemental information provided by Indigenous peoples, TAC, and CAC during review of the Application;
- FortisBC, the EAO's and IAAC's consultation and engagement with First Nations, Indigenous peoples, provincial, and local government agencies, as well as the public;
- Comments received during the Tilbury Phase 2 EA made by First Nations and Indigenous peoples (including 24 First Nations and organizations<sup>5</sup>), including provincial, federal, and local government agencies as members of the EAO's TAC, as well as FortisBC and the EAO's responses to those comments;
- Comments received during the Tilbury Phase 2 public comment periods and from members of the CAC, and FortisBC's responses to those issues;
- Issues raised by Indigenous peoples regarding the potential effects of Tilbury Phase 2 on their Indigenous interests, as well as FortisBC's response and best effort to address those issues;
- The design of Tilbury Phase 2 as specified in the EAO's proposed Certified Project Description (Schedule A of the Certificate, if issued) which authorizes Tilbury Phase 2 components and activities that may occur;

<sup>5</sup> Chawathil First Nation; Xwchíyò:m (Cheam) First Nation; Katzie First Nation; ǵʷa:ńǵəń (Kwantlen) First Nation; kʷikʷəǵəm (Kwikwetlem) First Nation; Leq'á:mel First Nation; Malahat First Nation; Mǵthexwi (Matsqui) First Nation; xʷmǵθkʷəyǵm (Musqueam Indian Band); Pauquachin First Nation; Pǵpkw'em (Popkum First Nation); Quw'utsun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation); Semiahmoo First Nation; S'ólh Téméxw Stewardship Alliance members; Snuneymuxw First Nation; Skwxwú7mesh Úxwumixw (Squamish Nation); S7ÁUTW (Tsawout) First Nation; Tsartlip First Nation; Tsawwassen First Nation; Tseycum First Nation; Tsleil-Waututh Nation; and Ts'uubaa-asatx, Métis Nation British Columbia, and Lummi Nation.

- Mitigation measures identified in the EAO's proposed Table of Conditions (Schedule B of the Certificate, if issued) to be implemented by FortisBC during all phases of Tilbury Phase 2;
- The EAO's identified KMMs and Follow-up Programs under the IAA intended to inform federal conditions that would be implemented by FortisBC during all phases of Tilbury Phase 2; and
- Permitting and other regulatory requirements that Tilbury Phase 2 would be subject to if it receives a Certificate.

Considering Indigenous peoples' views of Tilbury Phase 2 including that:

- Indigenous Nations<sup>5</sup> had opportunities to participate and provide comments throughout all phases of the Tilbury Phase 2 EA;
- Participating Indigenous nations including Treaty Nations have an opportunity to provide a notice of consent or lack of consent;
- Chawathil First Nation, k'w'ik'w'əłəm First Nation, x'w'məθk'w'əyám (Musqueam Indian Band), Snuneymuxw First Nation, and Ts'uubaa-asatx Nation have provided consent for Tilbury Phase 2 proceeding as it is described in the EAO's Certified Project Description (Schedule A of the Certificate, if issued), provided that commitments, mitigation measures, and Certificate conditions are implemented, and ongoing engagement related to the Project.
- Kwantlen First Nation, Quw'utsun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe and Stz'uminus First Nation), S'ÁUTW First Nation have stated they do not consent to Tilbury Phase 2 receiving a Certificate.
- Tsawwassen First Nation withdrew its previous notice of non-consent and advised that it does not oppose issuance of the EA Certificate.

The EAO is satisfied that:

- The EA process has adequately identified and assessed potential adverse environmental, economic, social, cultural and health effects of Tilbury Phase 2, having regard to the proposed conditions set out in the Table of Conditions (Schedule B to the Certificate, if issued);
- Tilbury Phase 2 is expected to result in net positive residual effects to regional employment, regional business and regional economy and these positive effects have been maximized to the extent possible;
- Other assessment matters have been adequately assessed including: risks and uncertainties associated with effects, interactions between effects, the risks of malfunctions and accidents, disproportionate effects on distinct human populations, effects on biophysical factors that support ecosystem functions, effects on current and future generations, contributions to sustainability, consistency with land use plans, GHG emissions, alternative means for carrying out Tilbury Phase 2, and potential changes to Tilbury Phase 2 that may be caused by the environment;
- Consultation with provincial and federal departments, local governments and the public has been adequately carried out;
- Issues identified by the TAC and CAC as well as members of the public that were within the scope of this EA, were adequately and reasonably addressed during Application Review;
- The Project would result in adverse residual effects and contribute to cumulative effects on environmental, social, cultural, and health components. With mitigation measures and legally binding conditions in place, these effects are not expected to be significant.

- Practical means have been identified to prevent or reduce adverse effects, and these are included as appropriate in the Table of Conditions (Schedule B to the Certificate, if issued);
- The collaborative engagement and consensus seeking efforts and the EAO's process of seeking to understand potentially outstanding issues and impacts with participating Indigenous nations have been carried out in good faith;
- The potential for adverse effects on the Section 35 rights of First Nations that are within the scope of this EA, have been adequately avoided, minimized or otherwise accommodated;
- On matters within the scope of this EA, the provincial Crown has fulfilled its legal duty to consult potentially affected First Nations related to the issuance of a Certificate for Tilbury Phase 2; and,
- The EAO has delivered the procedural aspects of consultation with MNBC on behalf of IAAC according to the requirements of the Cooperation Agreement.

## 11.0 NOTIFICATIONS OF CONSENT OR LACK OF CONSENT BY PARTICIPATING INDIGENOUS NATIONS

One of the EAO's purposes is to support reconciliation with Indigenous peoples in B.C. by recognizing the inherent jurisdiction of First Nations and their right to participate in decision making in matters that would affect their rights, through representatives chosen by themselves. In fulfillment of this purpose, it is an objective of the EA process that participating Indigenous nations have the opportunity to make informed decisions regarding consent in relation to a Project in accordance with their own laws and traditions. This is an expression of their right to self-determination and self-government.

Under the Act, a participating Indigenous nation may choose to provide a notification of consent or lack of consent to the issuance of a Certificate and reasons for that consent or lack of consent. Provincial decision-makers are required by the Act to consider these notifications of consent or lack of consent alongside recommendations made by the CEAO when making a decision on whether or not to issue a Certificate.

The EAO received the following Notices of Consent from participating Indigenous nations regarding the issuance of a Certificate for Tilbury Phase 2:

- Chawathil First Nation: in an August 17, 2026, email, Chawathil First Nation stated its consent;
- k'w'ik'w'əłəm First Nation: in a July 22, 2026, email, k'w'ik'w'əłəm stated its consent;
- x'w'məθk'w'əyəm (Musqueam Indian Band): in a letter dated July 16, 2026, stated its consent;
- Snuneymuxw First Nation: in a letter dated July 23, 2026, Snuneymuxw stated its consent; and
- Ts'uubaa-asatx Nation: in a letter dated July 30, 2026, Ts'uubaa-asatx stated its consent.

The EAO received the following Notices of non-Consent from participating Indigenous nations regarding the issuance of a Certificate for Tilbury Phase 2:

- Kwantlen First Nation: in an August 21, 2026, letter, stated it does not consent;
- Quw'utsun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation): in a letter dated July 27, 2026, stated it does not consent; and,
- S'ÁUTW First Nation: in a letter dated July 27, 2026, stated it does not consent.

Tsawwassen First Nation, in a letter dated August 26, 2026, stated it withdrew its previous notice of non-consent and advised that it does not oppose issuance of the EA Certificate.

## 12.0 APPENDIX 1 THE ENVIRONMENTAL ASSESSMENT PROCESS

### 12.1 Early Engagement

The Early Engagement phase is the first phase of the provincial environmental assessment process and is an important preparatory stage during which meaningful conversations can begin about a proposed project Tilbury Phase 2 with FortisBC, Indigenous peoples, the public, local governments, provincial and federal government agencies, and other stakeholders to identify potential interests, issues and concerns early on in the process. The information gathered during the Early Engagement phase informs the development of the IPD and DPD and may also inform subsequent phases of the EA. IAAC and the EAO worked cooperatively in a coordinated process for the initial phase of the Project's review in accordance with the Cooperation Agreement, and in support of the principle of "one project, one assessment."

The Tilbury Phase 2 [Initial Project Description and Engagement Plan](#) was submitted by FortisBC to the EAO on February 11, 2020, under the Act. On March 5, 2020, B.C. requested to substitute the conduct of the federal impact assessment should a federal impact assessment be required under the IAA.

During the Early Engagement phase, IAAC and the EAO requested input from the public, potentially affected First Nation, Indigenous peoples, and technical advisors from provincial and federal government agencies, local governments, and health authorities to understand their preferred means of engagement and to gather their initial interests, concerns, questions, feedback, and knowledge regarding the Project. As part of the [public comment period](#), IAAC also invited comments from the public and Indigenous peoples, First Nation peoples on B.C.'s request that the conduct of the federal impact assessment be substituted to the province. Comments received in relation to the substitution request were considered by the federal Minister of Environment and Climate Change in making the substitution decision. To support engagement and feedback on the Initial Project Description, the EAO hosted two virtual open houses (in response to the COVID-19 emergency) and held virtual meetings and teleconferences with technical advisors and potentially affected Participating Indigenous Nations, First Nations) prior to and during the Early Engagement phase. IAAC posted a summary of the Initial Project Description in [English](#) and [French](#) to the *Canadian Impact Assessment Registry*.

Pursuant to Section 13(5) of the Act, the EAO and IAAC's [Joint Summary of Issues and Engagement](#) was provided to FortisBC on August 14, 2020, setting out a summary of comments received on the approved Initial Project Description, a description of the public comment period including a summary of what the EAO heard during the Early Engagement Phase from the public, a list of technical advisors, and a list of the First Nations who submitted notice under Section 14(1) of the Act to be Participating Indigenous Nations.

Following IAAC's [Guide to Preparing an Initial Project Description and a Detailed Project Description](#) and the EAO's [Early Engagement Guide](#), FortisBC provided a draft DPD including a response to the Joint Summary of Issues and Engagement, that met both federal and provincial requirements for the Project on September 7, 2021. This was reviewed by the EAO, IAAC, Participating Indigenous Nations, First Nations, local governments and provincial government agencies, and comments were provided to FortisBC. On January 4, 2022, FortisBC filed a final [Detailed Project Description](#) with the EAO which formally began the Readiness Decision Phase. On January 10, 2022, FortisBC submitted the final [Detailed Project Description](#) to IAAC so that IAAC could make a decision on whether or not an impact assessment is required for the Project. On January 20, 2022, IAAC accepted the DPD and response to Joint Summary of Issues and Engagement.

### 12.2 Readiness Decision

Under Section 16 of the Act, the CEAO determines whether a project should proceed to an EA that evaluates the effects of the project or should be referred to the Minister of Environment and Climate Change Strategy with a recommendation

that the Project be exempt from the requirement to obtain a Certificate, that the assessment be conducted by another assessment body (such as a review panel) or that it not proceed as proposed. This is referred to as the “Readiness Decision.” There are four options for this decision: a requirement to revise the DPD, the exemption of the project from the requirement to obtain a Certificate, the termination of the project, or the project can proceed to an environmental assessment.

The EAO sought advice from the technical advisors, including local governments, health authorities and provincial government agencies, on the sufficiency of the DPD and the recommendation of the EAO on the Readiness Decision. The EAO sought consensus on the recommendation for the Readiness Decision with the Participating Indigenous Nations. On January 12, 2022, the CEO determined that Tilbury Phase 2 could proceed to an environmental assessment. This decision was documented in the [Readiness Decision](#), including a report and reasons.

On January 10, 2022, IAAC decided that an impact assessment is required in accordance with Subsection 16(1) of IAA for Tilbury Phase 2 and posted the [Notice of Impact Assessment Decision with Reasons](#) to the Canadian Impact Assessment Registry.

On March 5, 2020, the EAO [requested](#) from IAAC that B.C. conduct a single environmental assessment for Tilbury Phase 2 that meets the legislative requirements of both B.C. and Canada.

On January 20, 2022, the former federal Minister of Environment and Climate Change [approved](#) EAO’s request for substitution. IAAC provided guidance and information directly to the EAO regarding the substituted process and federal requirements under the IAA.

### 12.3 Process Planning

The Readiness Decision to proceed to an environmental assessment initiated the legislated 120-day Process Planning phase of the environmental assessment for Tilbury Phase 2. During Process Planning, the EAO established a TAC (see [Section 4.1](#)), established a CAC (see [Section 4.2](#)) and developed the following documents that set the scope, procedures, methods, and timelines for the environmental assessment of Tilbury Phase 2:

- The Process Order, including the project scope, Assessment Plan and AIR; and,
- The Joint Permitting/Regulatory Coordination Plan.

During Process Planning, the EAO sought feedback on these draft process planning documents from Participating Indigenous Nations, the TAC, and the public through a 30-day [public comment period](#), which also included two virtual open houses. The EAO then collected all the feedback received on the draft process planning documents, sought consensus with Participating Indigenous Nations, and issued the [Process Order](#) on June 13, 2022, to FortisBC. The EAO also developed a [Summary of Engagement – Process Planning Phase](#) that was published on July 13, 2022, with more details.

The Process Order was [subsequently amended](#) by EAO on May 5, 2025, during the Application Development and Review phase. This included changes to the [Assessment Plan](#) to reflect changes to 19(4) Assessments conducted by Participating Indigenous Nations and consultation obligations.

### 12.4 Application Development and Review

During Application Development, FortisBC sought input from environmental assessment participants, including Indigenous peoples, to develop the Application with the intention to resolve issues early in the process. The TAC and Participating Indigenous Nations First Nations, and MNBC had the opportunity to review early information, including existing conditions reports, technical reports and modelling plans by FortisBC. The TAC and Participating Indigenous Nations had an opportunity to provide early comments to FortisBC regarding information that would be

included in the Application. The matters, or topics, to be assessed during the environmental assessment were determined by the EAO, in consultation with the TAC and the public, and with consensus with the Participating Indigenous Nations, through the AIR set out by the EAO for the Project.

FortisBC submitted the Application to the EAO on November 29, 2024. During Application Review, the EAO, IAAC, Participating Indigenous Nations, First Nations, MNBC, the TAC, and the CAC reviewed the [Application](#). Multiple rounds of review of the Application were completed, including additional technical memos from FortisBC. A 45-day [public comment period](#) was held from January 14, 2025, to March 3, 2025, that included one virtual and one in person open house. FortisBC submitted a [Public Engagement Report](#) on April 11, 2025.

Following the 180-day legislated time period for Application Review, on May 28, 2025, the EAO provided a [Notice Regarding Application Review](#), which included an overview of the key issues raised during Application Review and direction from the EAO to FortisBC regarding additional information or revisions to include in the Revised Application.

FortisBC then continued to work on the resolution of issues raised during Application Review with the TAC and Participating Indigenous Nations. On February 11, 2026, FortisBC submitted the Revised Application. The EAO reviewed the Revised Application, sought consensus with the Participating Indigenous Nations, and then [accepted the Revised Application](#) on March 27, 2026, for assessment.

## 12.5 Effects Assessment and Recommendation

Following the EAO's acceptance of the Revised Application the Effects Assessment phase began. During this phase, the EAO completed its assessment and developed a draft Assessment Report. This assessment considered the potential effects to all matters listed under [Section 25](#) of the Act, effects within federal jurisdiction set out in [Section 2](#) of the IAA and the factors set out in [Section 22\(1\)](#) of the IAA. The EAO also developed a proposed Certificate with conditions for the Ministers' consideration when deciding whether to issue a Certificate. The EAO coordinated with IAAC during this phase so that IAAC could develop draft potential federal conditions to be considered for the federal Decision Statement. All the EAO documents have considered the input received through engagement with Participating Indigenous Nations, First Nations, MNBC, the TAC, the public, and the CAC.

The EAO completed a detailed assessment of effects on the valued components, Indigenous interests, and other assessment matters, as described under [Section 25](#) of the Act. The matters, or topics, to be assessed had been determined by the EAO, in consultation with the TAC and the public, and through consensus seeking with the Participating Indigenous Nations, through the [Application Information Requirements](#) set out by the EAO for Tilbury Phase 2 during the Process Planning Phase. These assessments incorporated information submitted by FortisBC, advice from the TAC and CAC, local information and concerns raised by the public, and Indigenous knowledge and other information provided by the Participating Indigenous Nations, First Nations and Métis Nation British Columbia. The EAO also held a public comment period and virtual information session on the draft Assessment Report, proposed Certificate and draft potential federal conditions.

The EAO sought consensus with the Participating Indigenous Nations on this draft Assessment Report and the proposed Certificate with certificate conditions and project description. During the final public comment period, Participating Indigenous Nations also had the opportunity to provide notice of their consent or lack of consent to issuing the Certificate and reasons for that consent or lack of consent. The results of the consensus-seeking and provision of consent or lack of consent is described in [Section 11.1](#).

In keeping with the *Cooperation Agreement*, the EAO assessed Tilbury Phase 2 consistent with the requirements and associated conditions in the [Notice of Substitution Approval](#) under the IAA. Specifically, the EAO considered the effects within federal jurisdiction set out in [Section 2](#) of the IAA and the factors set out in [Section 22\(1\)](#) of the IAA, provided opportunities for the public to meaningfully participate in the environmental assessment, conducted consultation with



Indigenous peoples that may be affected by the Project and provided opportunities for IAAC to participate in consultation, and will provide an Assessment Report to the federal Minister of Environment and Climate Change that includes the findings and conclusions of the environmental assessment with respect to those factors.

## 12.6 Decision

For substituted assessments, both the provincial Ministers and federal Minister of Environment, Climate Change and Nature (or Governor in Council) retain the responsibility to make a decision on whether a project may proceed. The Tilbury Phase 2 Report, proposed Certificate, recommendations of the CEAO, and any notices of consent or lack of consent received from Participating Indigenous Nations will be referred to the Ministers for decision. The Ministers must consider these materials and any other public interest considerations and decide to issue (with conditions) or refuse a Certificate. The Ministers must then publish reasons for their decision. The EAO will provide the Tilbury Phase 2 Assessment Report to the federal Minister of Environment, Climate Change, and Nature that includes the findings and conclusion of the environmental assessment with respect to [Section 22\(1\)](#) factors, for their decision-making under the IAA. The federal Minister (or Governor in Council) will then consider the final Assessment Report in determining whether Tilbury Phase 2 is likely to cause significant adverse effects within federal jurisdiction, and the extent to which these effects are significant, after proposed mitigation measures are applied, and whether any significant adverse effects within federal jurisdiction are in the public interest. The federal Minister will then issue a Decision Statement under the IAA.

## 12.7 Post-Certificate

If a Certificate is issued, this phase will include all post-certificate activities for Tilbury Phase 2, including mitigation effectiveness reports, audits, certificate amendments, certificate extensions, and certificate transfers. IAAC will also work with FortisBC on the development and implementation of the federal conditions from the Decision Statement required for Tilbury Phase 2 (see [Appendix 2](#)).

The Compliance and Enforcement branch of the EAO conducts compliance inspections and, where required, uses enforcement to ensure that projects are compliant with the Certificate conditions. For more information on compliance and enforcement, see the [EAO's website](#).

## 13.0 APPENDIX 2 KEY MITIGATION MEASURES AND FOLLOW-UP PROGRAMS UNDER THE IAA

The Key Mitigation Measures and Follow-up Programs identified under the IAA and listed in Table 9 inform the development of potential federal conditions. Following the impact assessment, the federal Minister must make a determination under Section 60(1) of the IAA regarding the significance and justification of adverse effects within federal jurisdiction. If the Minister determines that the Project may proceed, the Minister will issue a Decision Statement, pursuant to Section 65(1) of the IAA, that includes legally binding conditions the proponent must comply with. These conditions are distinct from the Key Mitigation Measures and Follow-up Programs, which are not legally binding unless incorporated into the Decision Statement.

The substituted assessment process for Tilbury Phase 2 incorporated reliance on provincial mechanisms, such as conditions, permits, and authorizations, to address certain adverse effects within federal jurisdiction. The intent of this is to reduce duplicative conditions and streamline regulatory requirements for IAAC, the EAO, the proponent, and the parties that would be consulted. Subsection 64(1) of the IAA requires that the federal Minister establish any conditions that they consider appropriate in relation to the adverse federal effects within federal jurisdiction indicated in the Report. Paragraph 64(4)(a) of the IAA requires that the conditions established by the federal Minister include the implementation of mitigation measures, other than those the implementation of which the Minister is satisfied will be ensured by another jurisdiction. The EAO worked with IAAC and provincial permitting agencies during the Effects Assessment and Recommendation phase to identify and describe how provincial mechanisms can address adverse effects within federal jurisdiction, and identify which Key Mitigation Measures can be implemented through provincial mechanisms.

A full list of anticipated permits, authorizations, and regulatory requirements is outlined in the [Joint Permitting / Regulatory Coordination Plan](#), and the [Regulatory Coordination Issues Tracking Table](#). In Table 9, two primary pieces of provincial legislation are referenced as part of a suite of provincial regulatory instruments for the petroleum and natural gas sector:

- The [Energy Resource Activities Act](#) (ERAA) regulates energy resource activities in B.C., including facilities and/or natural gas processing plants, through permits, authorizations, orders and regulations. Regulations under ERAA outline technical standards and requirements that must be met throughout the lifecycle of LNG facilities and are supported by manuals published by the BC Energy Regulator (BCER). Applicable regulations include the [Liquefied Natural Gas Facility Regulation](#) (LNGFR) which provides requirements that must be met by LNG facilities as part of LNG Facility Permit, the primary permit required for LNG facilities. Additional information is provided in BCER's [Liquefied Natural Gas Facility Permit Application and Operations Manual](#), which provides a reference document for applicants that wish to construct and operate a LNG facility in B.C; and,
- The [Environmental Management Act](#) (EMA) is B.C.'s primary legislation for regulating pollution and managing waste to protect the environment and human health. The EMA sets requirements for pollution prevention and waste management. It defines what constitutes "waste" and "pollution" and focuses on the prevention, mitigation, or reduction of risk associated with waste discharges. Under EMA, Metro Vancouver has been delegated authority for managing air discharges within Metro Vancouver. Metro Vancouver exercises this authority through the Greater Vancouver Air Quality Management Bylaw NO. 1082, 2008 (as amended). This authority includes a permitting regime, air quality monitoring, and setting air quality emissions limits that must be at least as stringent as those set by the Ministry of Environment and Parks. Permits applications associated with liquid effluent from LNG facilities are adjudicated by BCER.

FortisBC intends to apply for new permits or amendments to the LNG Facility Permit for "FORTIS TILBURY 2 C-061-H/092-G-03 001" and Metro Vancouver Air Quality Permit GVA1215 to allow for the development and operation of Tilbury Phase 2. The EA Act specifies that no new permits, or permit amendments, may be granted prior to a decision on the EAC. The permitting processes include extensive technical review by experts, and new and revised permit conditions, should a permit be granted. Permitting processes, technical review, and condition development are subject to consultation and collaboration with Indigenous groups regarding the potential impacts on their interests and means to mitigate impacts to their rights.

For those Key Mitigation Measures in Table 9 below where a related mechanism was identified, the mechanism and how it addresses the adverse effects within federal jurisdiction has been described. The EAO considers provincial regulatory requirements on FortisBC to provide reasonable assurance that effects within federal jurisdiction will be addressed, as described below and within Schedule B Table of Conditions as part of Tilbury Phase 2's draft Environmental Assessment Certificate (EAC). In some instances, the EAO recommends that IAAC consider whether federal conditions may also be applied, in addition to provincial regulatory mechanisms, to ensure that effects within federal jurisdiction are addressed. The EAO's valued component (VC) or assessment factor for each Key Mitigation Measure has also been identified.

Section 13.1 below summarizes the comments received on the reliance of related mechanisms for Key Mitigation Measures and Follow-up Programs to address adverse effects within federal jurisdiction.

Table 9: Key Mitigation Measures and Follow-up Programs

| BC EAO VC                                                                                                                          | Key Mitigation Measure(s) or Follow-Up Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Related Mechanisms and EAO Recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Fish and fish habitat - Subparagraph(a)(i) of the definition of effects within federal jurisdiction in section 2 of the IAA</i> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Fish and Fish Habitat                                                                                                              | Design, implement and maintain, measures to control erosion, sedimentation and runoff within the Project area to avoid the deposit of sediment in water frequented by fish and the adverse effects of sediment suspension and deposition on fish and fish habitat in accordance with the requirements of the <i>Fisheries Act</i> , while taking into account Fisheries and Oceans Canada's <i>Measures to Protect Fish and Fish Habitat</i> .                                                                                                                                                                               | The EAO has proposed EAC Conditions 12.6 and 12.7: Construction Environmental Management Plan, which includes these key mitigation measures.<br><br>If any work in or about a stream were to occur, a permit would be required under the <i>Water Sustainability Act</i> .<br><br>An authorization under the EMA would be required if pollution were to be discharged into a receiving environment such as the Fraser River or Tilbury Slough.                                                                                                                                                                                                                                                                                           |
| Surface water                                                                                                                      | Collect and treat, as necessary, any hydrostatic testing waters, stormwater, water discharges from sediment basins, and contact water generated from site preparation activities, in accordance with the requirements of the <i>Fisheries Act</i> taking into account the Canadian Council of Ministers of the Environment's <i>Canadian Water Quality Guidelines for the Protection of Aquatic Life</i> or British Columbia's <i>Water Quality Guidelines for the Protection of Aquatic Life</i> , whichever is more protective of aquatic life, before discharging that water into the City of Delta's storm water system. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <i>Migratory birds - Subparagraph (a)(iii) of the definition of effects within federal jurisdiction in section 2 of the IAA</i>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Wildlife and Wildlife Habitat                                                                                                      | Protect migratory birds and avoid capturing, killing, taking, injuring or harassing migratory birds or destroying, taking or disturbing their eggs, or damaging, destroying, removing or disturbing their nests, protected under the <i>Migratory Birds Convention Act, 1994</i> and its regulations or the <i>Species at Risk Act</i> or both, while taking into account Environment and Climate Change Canada's <i>Guidelines to avoid harm to migratory birds</i> .                                                                                                                                                       | The EAO has proposed EAC Condition 12.7(g): Construction Environmental Management Plan, which would require the certificate holder to ensure that measures are implemented to address "interactions between the Project and birds" which includes migratory birds, which must take into account requirements of the <i>Migratory Birds Convention Act, 1994</i> and its regulations and the <i>Species at Risk Act</i> .<br><br>The EAO has proposed EAC condition 13.6(d): Operations Environmental Management Plan, which includes these key mitigation measures for the Operation phase.<br><br>The EAO recommends that IAAC consider whether federal conditions may be applied, supplemental to provincial regulatory mechanisms, to |

| BC EAO VC                     | Key Mitigation Measure(s) or Follow-Up Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Related Mechanisms and EAO Recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ensure that effects to migratory birds within federal jurisdiction are addressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Wildlife and Wildlife Habitat | Determine, under the direction of a Qualified Professional, the presence, or likely presence of migratory bird nest(s) protected under the <i>Migratory Birds Convention Act, 1994</i> and its regulations and residences protected under the <i>Species at Risk Act</i> that may be adversely affected by any project activity prior to initiating the activity. Non-intrusive methods used to determine the presence or likely presence of migratory bird nests should be appropriately selected based on the habitat type.        | The EAO has proposed EAC Condition 12.7(g): Construction Environmental Management Plan, which includes these key mitigation measures with requirements to take into account Environment and Climate Change Canada's <i>Guidelines to avoid harm to migratory birds</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Wildlife and Wildlife Habitat | Establish and delineate, under the direction of a Qualified Professional, set back distances around the nest(s) and residence(s) whose presence is likely or confirmed above, within which that activity shall not occur while those nest(s) are protected under the <i>Migratory Birds Convention Act, 1994</i> and its regulations or the <i>Species at Risk Act</i> or both. When establishing set back distances, take into account Environment and Climate Change Canada's <i>Guidelines to avoid harm to migratory birds</i> . |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Wildlife and Wildlife Habitat | Control project lighting, while meeting regulatory, operational, health and safety requirements to mitigate attraction and disorientation of migratory birds, taking into account the Convention on Migratory Species' <i>International Light Pollution Guidelines for Migratory Species</i> .                                                                                                                                                                                                                                       | <p>The EAO has proposed EAC Conditions 12.7(g)(iii): Construction Environmental Management Plan: and 13.6(d)(iii): Operations Environmental Management Plan, which includes these key mitigation measures to address the interaction between the Project and migratory birds by taking into account the Convention on Migratory Species' <i>International Light Pollution Guidelines for Migratory Species</i> during all phases of the Project.</p> <p>Light is a consideration under sections 4(1) and 15 of the LNGFR, which require the permit holders ensure that construction and normal operations of the LNG facility do not cause excessive noise or emanation of light on human and wildlife receptors.</p> <p>Under the LNGFR, the permit holder must demonstrate that they have done all that is reasonable to minimize light emissions to surrounding areas, without compromising the safety of workers or the facility's safe operation. The permit holder should be managing lighting in both the core of the facility and other areas (such as roadways, docks, etc.).</p> |

| BC EAO VC                                                                                                                                                                  | Key Mitigation Measure(s) or Follow-Up Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Related Mechanisms and EAO Recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Permit holders should ensure that mitigation measures are built into the design.</p> <p><i>CIE 150:2017 Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations</i> could be used by permit holders for guidance on meeting the requirement for no excessive emanation of light.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Health, social or economic conditions of the Indigenous peoples of Canada - Paragraph (d) of the definition of effects within federal jurisdiction in section 2 of the IAA |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Culture Employment and Economy                                                                                                                                             | <p>Develop and implement measures to promote safe, respectful and inclusive conduct in the workplace:</p> <ul style="list-style-type: none"> <li>implementing a workplace anti-harassment, anti-bullying, anti-discrimination and anti-violence policy that contains gender-appropriate and gender-specific policies and processes, including sexual harassment and assault counselling and confidential and culturally sensitive care;</li> <li>developing and implementing a workplace code of conduct that includes expectations and requirements in relation to the measures developed to promote safe, respectful and inclusive conduct in the workplace (including the policy above); and</li> <li>developing mandatory cross-cultural awareness training in consultation with Indigenous groups, and provide the training to employees of the Project and contractors associated with the Project.</li> </ul> | <p>The EAO has proposed EAC Condition 16: First Nation and Local Economic Inclusion and Monitoring Plan, which includes these key mitigation measures by, for example, requiring the implementation of:</p> <ul style="list-style-type: none"> <li>fair, accessible employment practices that ensure Indigenous peoples are considered fairly for employment opportunities;</li> <li>a cultural awareness programs for employees and contractors;</li> <li>a Human Resource Policy by the proponent to recruit Indigenous workers; and</li> <li>a policy to promote safe, respectful and inclusive conduct in the workplace that considers harassment, bullying, discrimination, violence and gender.</li> </ul> <p>BC's <i>Workers Compensation Act</i> and related regulations apply to the Project. This includes measures related to workplace conduct such as bullying and harassment.</p> |
| Human Health                                                                                                                                                               | <p>Develop and implement a community feedback protocol with respect to adverse federal effects on the health of Indigenous peoples caused by Project activities. Respond to any complaint within 48 hours of the complaint being received and implement corrective actions to reduce exposure in a timely manner.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>The EAO has proposed EAC Conditions 9: Public Information and 10: Community Feedback Process, which includes these key mitigation measures by:</p> <ul style="list-style-type: none"> <li>Requiring the publishing of planned activities as well as public health and safety information related to the Project as relevant to the public through various outlets;</li> <li>Implementing a community feedback process, through which Indigenous peoples, the public, and others can submit complaints as well as a process for triaging and addressing issues raised in a timely matter, and public reporting on how complaints were responded to.</li> </ul>                                                                                                                                                                                                                                |
| Air Quality                                                                                                                                                                | <p>Implement measures to reduce fugitive particulate emissions from mobile equipment and vehicles operating in the Project area during construction. As part of these measures:</p> <ul style="list-style-type: none"> <li>establish and enforce a policy to prohibit unnecessary idling, except when required for health, safety or operational reasons;</li> <li>undertake routine inspection, servicing and maintenance of engines and exhaust systems on all mobile equipment and vehicles.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                           | <p>The EAO has proposed EAC Condition 12.5(a): Construction Environmental Management Plan, which includes these key mitigation measures by requiring the certificate holder develop and implement a vehicle idle reduction policy for construction vehicles.</p> <p>The <i>Motor Vehicle Act</i> and <i>Motor Vehicle Act Regulations</i> require that, subject to exemptions under the Regulations, a carrier must not permit a driver to drive, and a driver must not drive, a commercial motor vehicle for the carrier, unless the carrier holds a valid safety certificate. Requirements for safety certificates include requirements for inspections, and records of commercial motor vehicle inspection and maintenance. The regulations include requirements for mufflers /</p>                                                                                                          |

| BC EAO VC                | Key Mitigation Measure(s) or Follow-Up Program                                                                                                                                                                                                                                                                                                                                                                                                      | Related Mechanisms and EAO Recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                     | exhaust systems. Provincial standards are consistent with the National Safety Code.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Air Quality              | Implement measures to reduce fugitive dust emissions within the Project area taking into account <i>Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (2005)</i> prepared for Environment and Climate Change Canada. As part of these measures: apply water, or any alternative dust suppressant on Project roads and other areas that may generate dust when dust generation is expected or occurring. | The EAO has proposed EAC Condition 12.7(h): Construction Environmental Management Plan, which includes these key mitigation measures by requiring the Holder to implement dust management measures while taking into account Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (2005) prepared for Environment and Climate Change Canada.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Air Quality              | Minimize the quantity of vented and flared gas and the duration of venting or flaring events to the minimum required for emergency or maintenance purposes.                                                                                                                                                                                                                                                                                         | <p>The LNGFR and LNG facility permits restrict and regulate flaring and venting.</p> <p>The applicant of an LNG facility permit must submit a summary of the flaring, incinerating, venting and relief system design basis and philosophy. The summary should provide sufficient information for BCER to understand the guidelines to be followed, the alternatives considered to minimize flaring, incinerating, and venting, and the design elements required to meet measurement and reporting requirements.</p> <p>Under Section 18, an LNG facility permit holder must not flare gas from the LNG facility unless flaring is required for emergency purposes except for maintenance or if permission is granted in the LNG facility permit. The holder must also ensure that the duration of flaring and the quantity of gas that is flared is minimized. A permit holder must notify BCER of gas flaring events and report monthly flaring volumes. Under Section 17, the holder must not vent gas unless the gas heating value, volume or flow rate is insufficient to support stable conditions and other conditions apply.</p> <p>BCER consults with First Nations and may include additional conditions in the LNG facility permits related to flaring, such as notifications, or design/operations measures implemented to reduce flaring.</p> <p>The EAO has proposed EAC Condition 14.4(e): Air Quality Management Plan in relation to reporting and adaptive management provisions for minimizing the use of the flare.</p> |
| Acoustic and Air Quality | Develop and implement measures to mitigate adverse effects within federal jurisdiction from the Project on human health as a result of changes to the acoustic environment, and air quality. As part of these measures: enclose all compressors in sealed structures during operation to reduce noise and air emissions.                                                                                                                            | <p>Subsections 4 (1) (c) and (e) of the LNGFR require that the engineering design and siting for the LNG facility take into consideration the effects of noise and light associated with the normal operation of the LNG facility. Permit holders should ensure that mitigation measures are built into the design and operating procedures using the <a href="#">BC Noise Control Guidelines</a> which outlines study requirements and expected best practices, including for Low Frequency Noise.</p> <p>Under Section 15 of the LNGFR, the permit holder must ensure that construction and normal operations of the LNG facility do not cause excessive noise or emanation of light on human and wildlife receptors.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



| BC EAO VC                                                        | Key Mitigation Measure(s) or Follow-Up Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Related Mechanisms and EAO Recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>As part of an LNGFR permit, the decision maker can impose conditions associated with noise management and monitoring.</p> <p>The EAO has proposed EAC Condition 12 and 13: Construction and Operations Environmental Management Plans, which includes these key mitigation measures such as enclosing all compressors to reduce noise.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Employment and Economy                                           | <p>Implement, mitigation measures to create and enhance opportunities for Indigenous peoples, including Indigenous women and Indigenous businesses, to obtain and retain employment, procurement or contracting opportunities related to the Project. As part of these measures:</p> <ul style="list-style-type: none"> <li>• identify the prerequisite skills and training, both certified and uncertified, required to be employed by the Project;</li> <li>• identify existing gaps in relation to the prerequisite skills and training among Indigenous peoples that may be employed by the Project and describe additional measures under the care and control of the Proponent for filling these gaps, including the provision of on-the-job training and apprenticeship programs for Indigenous peoples;</li> <li>• inform Indigenous groups, using targeted communication procedures designed in consultation with Indigenous groups, of the skills and training prerequisites and measures to achieve these prerequisites;</li> <li>• inform Indigenous peoples of Project-related employment and procurement opportunities, using targeted communication procedures designed in consultation with Indigenous groups.</li> </ul> | <p>The EAO has proposed EAC condition 16: First Nation and Local Economic Inclusion and Monitoring Plan, which includes these key mitigation measures such as identifying skill gaps, supporting training, increasing Indigenous participation in employment and procurement to enhance opportunities for First Nations, and their members or citizens, be implemented throughout the life of the Project.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Malfunctions and Accidents - Subparagraph 22(1)(a)(i) of the IAA |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Malfunctions and Accidents                                       | <p>Implement measures to prevent accidents and malfunctions that may result in adverse effects within federal jurisdiction and mitigate any adverse effects within federal jurisdiction from accidents and malfunctions that occur. As part of these measures:</p> <ul style="list-style-type: none"> <li>• establish fire, spill and explosion prevention plans;</li> <li>• restrict vehicle and equipment refueling and servicing to designated locations;</li> <li>• provide training to Project employees on accident and malfunction prevention and response.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>Tilbury Phase 2 would require an emergency response program and emergency response plan be developed and implemented in accordance with the <a href="#">Emergency Management Regulation</a> which prescribes requirements that must be maintained and implemented by all LNG Facility permit holders. BCER's <a href="#">Emergency Management Manual</a> provides an overview of the regulatory requirements for emergency management, recommendations based on industry best practices, references to applicable national standards, examples to assist with interpretation of requirements, and guidance to assist in the development and documentation of competencies related to emergency management. This manual guides the user through the requirements of the <i>Emergency Management Regulation</i> (EMR) and the <i>Energy Resource Activities Act</i>. This includes requirements related to training and exercises.</p> |

| BC EAO VC                  | Key Mitigation Measure(s) or Follow-Up Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Related Mechanisms and EAO Recommendations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p><i>Environmental Emergency Regulations, 2019</i> (E2 Regulations) under the <i>Canadian Environmental Protection Act, 1999</i> (CEPA) require regulated facilities to prepare and implement an environmental emergency plan, conduct simulation exercises, and comply with notification and reporting requirements when both the total quantity on site and the largest container capacity of a regulated substance exceed the applicable Schedule 1 thresholds.</p> <p>Spill prevention and reporting are required under Section 37 of ERAA. In addition, for incidents that involve the release of a reportable volume / product, as defined under the <a href="#">Spill Reporting Regulation</a> (a regulation under EMA), a Dangerous Goods Incident Report must be obtained from the Ministry of Emergency Management and Climate Readiness.</p> <p>The LNGFR requires safety and risk assessment studies to be carried out at appropriate stages of the Project. These studies should follow a process of hazard identification, risk assessment, mitigation and monitoring. The BCER's approach to decisions regarding the management of risk to the public, environment, and facility is to require the design, construction and operation of the LNG facility to be conducted in a manner that results in a facility's risks to be as low as reasonably practicable.</p> |
| Malfunctions and Accidents | <p>In the event of an accident or malfunction with the potential to cause adverse federal effects, including fires, emergency flaring, and the release of LNG and other substances, submit a report to IAAC within 60 days, describing:</p> <ul style="list-style-type: none"> <li>the accident or malfunction and its adverse federal effects, including effects on Indigenous groups;</li> <li>the measures taken to mitigate the adverse federal effects;</li> <li>the views of Indigenous groups and advice from relevant authorities received with respect to the accident or malfunction, its adverse federal effects, and the measures taken by the Proponent to mitigate those effects;</li> <li>any residual adverse federal effects;</li> <li>any modified or additional mitigation or monitoring measures; and,</li> <li>the steps taken to prevent recurrence.</li> </ul> | <p>The EAO recommends that IAAC consider if federal conditions should be required to ensure that IAAC is notified in the event of an accident or malfunction with the potential to cause adverse federal effects.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Malfunctions and Accidents | <p>Develop, in consultation with Indigenous groups and relevant authorities, and implement and maintain, an accidents and malfunctions response plan in relation to each phase of the Project. The accidents and malfunctions response plan must include:</p> <ul style="list-style-type: none"> <li>a description of the types of accidents and malfunctions that may cause adverse federal effects during any phase of the Project, including fires and the release of LNG and other substances;</li> </ul>                                                                                                                                                                                                                                                                                                                                                                         | <p>Under the <a href="#">Emergency Management Regulation</a> when an emergency occurs, the permit holder must notify Indigenous nations as soon as possible, after the permit holder has taken any immediate actions necessary for public safety, or to minimize immediate environmental impacts.</p> <p>Prior to the submission of an Emergency Response Plan, the permit holder must provide information to local Indigenous nations that includes a description of site-specific hazards and risks of the energy resource activity, how emergency response may impact the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| BC EAO VC                  | Key Mitigation Measure(s) or Follow-Up Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Related Mechanisms and EAO Recommendations                                                                                                                                                                                                                                                                                                                                                         |
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|                            | <ul style="list-style-type: none"> <li>the measures to be implemented for each scenario to mitigate any adverse federal effect caused by the accident or malfunction; and,</li> <li>clearly defined roles and responsibilities for the Proponent, each relevant authority, and any other party that may be involved in response efforts.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p>Indigenous nation, when shelter in place or evacuations should occur in the event of a emergency, and a description of any sites or areas in the emergency planning zone that are likely to be in use by members of the local Indigenous nation. If the permit holder receives a response when providing information, it must consider the response as part of the preparation of the plan.</p> |
| Malfunctions and Accidents | <p>In the event of an accident or malfunction with the potential to cause adverse federal effects, including fires and the release of LNG and other substances:</p> <ul style="list-style-type: none"> <li>notify Indigenous groups as soon as feasible, and no later than 24 hours after the accident or malfunction, and notify IAAC within 24 hours, of: <ul style="list-style-type: none"> <li>the date, time, and location of the accident or malfunction;</li> <li>a summary of the accident or malfunction;</li> <li>any substance and quantities potentially released into the environment as a result of the accident or malfunction; and,</li> <li>the relevant authorities notified and involved in the response.</li> </ul> </li> </ul>                                        | <p>To complement the reporting to First Nations requirement under the <i>Emergency Management Regulation</i> as part of proposed Conditions 12 and 13: Construction and Operations Environmental Management Plans, the Holder would be required develop and implement an emergency communications protocol with First Nations.</p>                                                                 |
| Malfunctions and Accidents | <p>Develop, in consultation with Indigenous groups, an Indigenous communication plan for accidents and malfunctions in relation to the Project and implement and maintain it during all phases of the Project. The plan must include:</p> <ul style="list-style-type: none"> <li>the geographic areas of possible accidents and malfunctions where Indigenous groups would like to receive notifications;</li> <li>the types and thresholds of accidents and malfunctions that would trigger notification of Indigenous groups;</li> <li>the information to be included in notifications to support community preparedness and response; and,</li> <li>the method and frequency of notifications, including opportunities for Indigenous group involvement in response efforts.</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                    |

### 13.1 Comments Raised on Related Mechanisms for Key Mitigation Measures

Tsleil-Waututh Nation, Quw'utsun Nation, xʷməθkʷəy̓əm (Musqueam Indian Band), and kʷikʷəḷəm First Nation expressed their disagreement with reliance on provincial mechanisms for addressing effects within federal jurisdiction, identifying it as a deference to the province, including impacts on the health, social, and economic conditions of Indigenous peoples, and effects on Indigenous peoples' physical and cultural heritage. They expressed their views that the key mitigation measures are not consistently secured through enforceable, legally binding measures in the decision materials, and recommend clearer requirements and stronger provisions. Lummi Nation, which identifies as a self-governing nation in the U.S. and asserts section 35 rights in Canada, expressed similar concerns, noting the need to detail Indigenous consultation for every potential federal condition, including with Lummi Nation.

Tsleil-Waututh Nation, Quw'utsun Nation, k'wík'wəłəm First Nation, x'wəθk'əyəm (Musqueam Indian Band), Kwantlen First Nation, as well as SṪÁUTW First Nation expressed concerns about the reliance on EAO's proposed conditions requiring future management plans and adaptive management to address potential effects in federal jurisdiction. They raised that the conditions cannot effectively avoid or mitigate the project's impacts, including potential impacts on their rights and interests, and particularly within the context of high cumulative effects in the area.

x'wəθk'əyəm (Musqueam Indian Band) raised concerns with the reliance on provincial mechanisms and environmental management plans to address potential effects of the Project to fish, fish habitat, and Indigenous fishing rights under the *Fisheries Act* and its regulations which are matters within federal jurisdiction. The EAO and IAAC facilitated discussions on the conclusions to fish and fish habitat, the provincial mechanisms to address potential project effects, and compliance and enforcement by Environment and Climate Change Canada under the pollution prevent provisions of the *Fisheries Act* in the event of any deleterious substances affecting water quality.

The EAO and IAAC acknowledge these concerns and recognize the importance of ensuring that key mitigation measures relied upon in the assessment are clearly reflected in the regulatory and conditions framework. In response to these concerns, the EAO and IAAC have reviewed the relationship between the assessment conclusions, proposed provincial conditions, and key mitigation measures to provide additional clarity or refinement where warranted.

The EAO and IAAC acknowledge the concerns that residual effects conclusions rely, in part, on future management plans that are not drafted at the time of decision, permitting processes, adaptive management measures, and regulatory frameworks. The provincial environmental assessment framework considers proposed conditions, mitigation measures, management plans, monitoring requirements, adaptive management provisions, and applicable regulatory requirements as part of the overall mitigation package supporting residual effects conclusions. When documents (e.g. management plans, monitoring programs, etc.) are submitted to the EAO they are then reviewed against conditions in certificates, to ensure that the intent and requirements of the conditions are fulfilled. Prior to documents submission to the EAO, a certificate Holder must consult with First Nations, technical advisors, and local government as outlined in a certificate condition and submit consultation logs to the EAO. Requirements in documents are inspected against the certificate conditions, and non-compliance can lead enforcement actions. The EAO also relies on the expertise and statutory mandates of other regulatory authorities responsible for detailed technical review, permitting, compliance, and enforcement. The EAO and IAAC are satisfied that these mechanisms provide sufficient certainty regarding the implementation and enforceability of the mitigation measures relied upon in the assessment.

IAAC employs a similar framework to propose key mitigation measures, in addition to permitting and/or monitoring requirements from other federal authorities. Under the IAA, the federal Minister may rely on another jurisdiction's mechanisms to address effects within federal jurisdiction, which includes EAO's proposed conditions, management plans, monitoring requirements, adaptive management provisions, and applicable regulatory requirements. Paragraph 64(4)(a) of the IAA requires that the federal Minister establish any conditions they consider appropriate in relation to the adverse effects within federal jurisdiction that are indicated in this Report, other than those the implementation of which the Minister is satisfied will be ensured by another jurisdiction. In considering whether reliance on another jurisdiction's mechanisms is appropriate, IAAC assessed the proposed provincial conditions, associated management plans, compliance and enforcement mechanisms, and applicable regulatory requirements, and is satisfied that the implementation of the relevant mitigation measures will be ensured by the Province through these mechanisms.

## 14.0 APPENDIX 3 RESIDUAL EFFECTS CHARACTERIZATION DEFINITIONS

Residual effects are usually described using standard criteria: context, magnitude, extent, duration, reversibility and frequency. These criteria, as well as likelihood, are summarized in the following tables for characterizing effects to Value Components; Table 10, and First Nation Interest and Rights; Table 11.

Table 10: Valued Component Residual Effects Characterization Definitions

| Criteria  | General Description                                                                                                                                                                                                                                                                                                                                                                                     | Assessment Definitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| Context   | Consideration of context draws heavily on the description of existing conditions (the environmental, economic, social, cultural and/or health setting) of the valued component, which reflect cumulative effects of other projects, and activities that have been carried out, and especially information about the effect of natural and human-caused trends in the condition of the valued component. | <p><b>Low:</b> the receiving environment or population has low resilience to imposed stresses and will not easily adapt to the potential residual effect.</p> <p><b>Moderate:</b> the receiving environment or population has a moderate resilience to imposed stresses and may be able to respond and adapt to the potential residual effect.</p> <p><b>High:</b> the receiving environment or population has high natural resilience to imposed stresses and can respond and adapt to the potential residual effect.</p>                                                        |
| Magnitude | Magnitude refers to the expected size or severity of the residual effect. When evaluating magnitude of residual effects, consider the proportion of the Valued component affected within the spatial boundaries and the relative effect (e.g., relative to natural annual variation in the magnitude of the valued component or other relevant characteristic).                                         | <p><b>Negligible:</b> no detectable change from existing conditions.</p> <p><b>Low:</b> the potential residual effect will slightly alter or change the valued component without changing its role or function.</p> <p><b>Medium:</b> the potential residual effect will alter or change the nature, role, or function of a valued component but will not affect its integrity.</p> <p><b>High:</b> the potential residual effect will substantially alter or change the nature, role, or function of a valued component and may jeopardize the valued component's integrity.</p> |
| Extent    | The spatial scale over which the residual effect is expected to occur.                                                                                                                                                                                                                                                                                                                                  | <p><b>Limited:</b> the potential residual effect is restricted to the project footprint.</p> <p><b>Local:</b> the residual effect will be within the local assessment area.</p> <p><b>Regional:</b> the potential residual effect will be within the Regional Assessment Area (RAA).</p> <p><b>Beyond Regional:</b> the potential residual effect will be beyond the RAA.</p>                                                                                                                                                                                                     |

| Criteria                           | General Description                                                                                                                                                                                                                                                                          | Assessment Definitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Duration                           | The period during which the potential effect persists and acts upon the valued component. This may be longer than the duration of the physical work or activity that produced the potential residual effect.                                                                                 | <p><b>Short-term:</b> the anticipated potential residual effect will be felt temporarily during Construction or Decommissioning phase only. It also applies to any effect that will occur for less than two years in Operation.</p> <p><b>Medium-term:</b> the anticipated potential residual effect will be felt for a limited period of time greater than two years, generally corresponding to the Operation and Decommissioning phase.</p> <p><b>Long-term:</b> the anticipated potential residual effect will be felt beyond decommissioning.</p> |
| Reversibility                      | Whether or not the residual effect on the valued component can be reversed once the physical work or the activity causing the effects stop or mitigation measures take effect to eliminate the effect.                                                                                       | <p><b>Fully reversible:</b> may fully recover and return to its pre-project state.</p> <p><b>Partially reversible:</b> may partially recover from project effects.</p> <p><b>Irreversible:</b> will not recover and return to its pre-project state.</p>                                                                                                                                                                                                                                                                                               |
| Frequency                          | How often or how many times the anticipated residual effect may occur.                                                                                                                                                                                                                       | <p><b>Once:</b> the effect is confined to one discrete event.</p> <p><b>Regular:</b> the effect occurs at consistent intervals.</p> <p><b>Irregular:</b> the effect occurs at sporadic intervals.</p> <p><b>Continuous:</b> effects occur constantly.</p>                                                                                                                                                                                                                                                                                              |
| Affected Populations               | A subset of the population being affected disproportionately by certain valued components. Examples of affected populations could include different groups within the Indigenous nation who may experience the effects in a different way, such as youth, Elders, or women.                  | <p><b>Even:</b> the potential effect is experienced by any or all sub-populations.</p> <p><b>Disproportionate:</b> the potential effect is experienced only by certain populations or experienced more acutely by certain sub-populations.</p>                                                                                                                                                                                                                                                                                                         |
| Risk (likelihood and consequences) | The likelihood (probability) of an event (incident) occurring and its consequences. Likelihood is whether a residual effect is likely to occur. It may be influenced by a variety of factors, such as the likelihood of a causal disturbance occurring or the likelihood of mitigation being | <p><b><u>Likelihood</u></b></p> <p><b>Low:</b> less than 40 percent chance of effect occurring</p> <p><b>Medium:</b> 40 to 80 percent chance of effect occurring</p> <p><b>High:</b> more than 80 percent chance of effect occurring</p> <p><b><u>Consequence</u></b></p> <p>Can be assessed as minor, moderate or major based on the combination of magnitude and extent.</p>                                                                                                                                                                         |



| Criteria    | General Description                                                                                                                                                                                                                                                                                                         | Assessment Definitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |       |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
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|             | successful. The consequences are the residual effect, positive or negative. The magnitude and extent of the residual effect provides information on the consequence, which in conjunction with likelihood, informs the understanding of risk.                                                                               | <p><b>Risk</b> is consequence multiplied by likelihood.</p> <table><tr><th colspan="2" rowspan="2">Risk</th><th colspan="3">Consequences</th></tr><tr><th>Major</th><th>Moderate</th><th>Minor</th></tr><tr><th rowspan="3">Likelihood</th><th>High</th><td>High</td><td>Moderate</td><td>Low</td></tr><tr><th>Medium</th><td>High</td><td>Moderate</td><td>Low</td></tr><tr><th>Low</th><td>Moderate</td><td>Low</td><td>Low</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Risk     |       | Consequences |  |  | Major | Moderate | Minor | Likelihood | High | High | Moderate | Low | Medium | High | Moderate | Low | Low | Moderate | Low | Low |
| Risk        |                                                                                                                                                                                                                                                                                                                             | Consequences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |       |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
|             |                                                                                                                                                                                                                                                                                                                             | Major                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Moderate | Minor |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
| Likelihood  | High                                                                                                                                                                                                                                                                                                                        | High                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Moderate | Low   |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
|             | Medium                                                                                                                                                                                                                                                                                                                      | High                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Moderate | Low   |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
|             | Low                                                                                                                                                                                                                                                                                                                         | Moderate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Low      | Low   |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
| Uncertainty | The natural variation in complex biophysical environments or the statistical variation in data sets and models that arises from the imperfection of unknown information. Where uncertainty is unable to be reduced, how it affects valued components needs to be described so that it can be considered in decision making. | <p><b>Low:</b> there is a good understanding of the cause-effect relationship between the project and the valued component, and sufficient data are available to support the assessment. The effectiveness of the selected mitigation measures is moderate to high. There is a low degree of uncertainty associated with data inputs and/or modelling techniques, and variation from the predicted effect is expected to be low.</p> <p><b>Moderate:</b> the cause-effect relationships between the project and a valued component are not fully understood (e.g., several unknown external variables or data for the project area are incomplete). The effectiveness of mitigation measures may be moderate or high. Modelling predictions are relatively confident.</p> <p><b>High:</b> the cause-effect relationships between the project and a valued component are poorly understood. There may be several unknown external variables and/or data for the project area that are incomplete. The effectiveness of the mitigation measures may not yet be proven. Modelling results may vary considerably given the data inputs. There is a high degree of uncertainty in the conclusions of the assessment.</p> <p>To consider when determining confidence: the reliability of data inputs and analytical methods used to predict project effects, the confidence regarding the effectiveness of mitigation measures, and the certainty of the predicted outcome.</p> |          |       |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
| Importance  | Have any issues been identified as an interest/priority by potentially affected First Nations, local governments, provincial and federal government agencies, or stakeholders.                                                                                                                                              | <p><b>Low:</b> previously identified by some individuals, but not by First Nations, community members, or government agencies.</p> <p><b>Moderate:</b> previously identified as an interest by First Nations, community members, the public, local governments, and/or provincial and federal government agencies, but not stated as a top interest.</p> <p><b>High:</b> identified repeatedly as a top interest by First Nations, community members, the public, local governments, and/or provincial or federal government agencies.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |       |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |

| Criteria                  | General Description                                | Assessment Definitions         |
|---------------------------|----------------------------------------------------|--------------------------------|
| Significance <sup>6</sup> | A determination of the limit of acceptable change. | Not Significant<br>Significant |

Table 11: Residual Effects Characterization Definitions for Effects on Indigenous Interests

| Characterization | General Description                                                                                                                                                                                               | Indigenous Interest Assessments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Context</b>   | How sensitive or resilient the Indigenous Interest is to the potential residual effect caused by the Project.                                                                                                     | <p><b>Low resilience:</b> the Indigenous Interest has low resilience to imposed stresses and will not easily adapt to the potential residual effect</p> <p><b>Medium resilience:</b> the Indigenous Interest has a neutral resilience to imposed stresses and may be able to respond and adapt to the potential residual effect</p> <p><b>High resilience:</b> the Indigenous Interest has high resilience to imposed stresses and can respond and adapt to the potential residual effect</p>                                                                                                                                                       |
| <b>Magnitude</b> | The intensity or severity of the anticipated change. Considers the amount the Indigenous Interest is affected (e.g., relative to natural annual variation in the magnitude of change to the Indigenous Interest). | <p><b>Negligible:</b> no detectable change from existing conditions</p> <p><b>Low:</b> the potential residual effect will slightly alter or change existing conditions but is within historic norms and within the system's capacity to respond</p> <p><b>Medium:</b> the potential residual effect will alter or change the nature, role, or function of existing conditions but is within historic norms and within the system's capacity to respond</p> <p><b>High:</b> the potential residual effect will substantially alter or change the nature, role, or function of existing conditions and is beyond the system's capacity to respond</p> |
| <b>Extent</b>    | The spatial scale over which the residual effect is expected to occur.                                                                                                                                            | <p><b>Site-specific</b> – the potential residual effect is restricted to the project area</p> <p><b>Local</b> – the residual effect will be within the local assessment area</p> <p><b>Regional:</b> the potential residual effect will be within the RAA</p> <p><b>Beyond Regional:</b> the potential residual effect will be beyond the RAA</p>                                                                                                                                                                                                                                                                                                   |
| <b>Duration</b>  | The period during which the potential effect persists and acts upon the Indigenous Interest. This may be longer than the duration of the physical work or activity that                                           | <p><b>Short-term:</b> the anticipated potential residual effect will be felt temporarily during the Construction or Decommissioning phases only. It also applies to any effect that will occur for less than two years in Operation</p> <p><b>Medium-term:</b> the anticipated potential residual effect will be felt for a limited period of time greater than two years, generally corresponding to Operation and Decommissioning</p> <p><b>Long-term:</b> the anticipated potential residual effect will be felt beyond Decommissioning</p>                                                                                                      |

Extent of significance for adverse effects within federal jurisdiction is defined in [Appendix 15](#).

| Characterization                   |        | General Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Indigenous Interest Assessments                                                                                                                                                                                                                                                                                                                                                               |       |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
|------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--|------|--|--------------|--|--|-------|----------|-------|------------|------|------|----------|-----|--------|------|----------|-----|-----|----------|-----|-----|
|                                    |        | produced the potential residual effect.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                               |       |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
| Frequency                          |        | How often or how many times the anticipated residual effect may occur.                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Single/Rare:</b> the residual effect is confined to one discrete event or rarely occurs<br><b>Frequent/Regular:</b> the residual effect occurs at consistent intervals<br><b>Irregular:</b> the residual effect occurs at sporadic intervals<br><b>Continuous:</b> the residual effect occurs constantly                                                                                   |       |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
| Reversibility                      |        | Whether or not the residual effect on the Indigenous Interest can be reversed once the physical work or the activity causing the effects stop or mitigation measures take effect to eliminate the effect.                                                                                                                                                                                                                                                                                   | <b>Fully Reversible:</b> the residual effect is fully reversible<br><b>Partially Reversible:</b> the residual effect is partially reversible<br><b>Irreversible:</b> the residual effect is irreversible                                                                                                                                                                                      |       |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
| Affected Populations               |        | The distribution of the effect amongst the population of affected First Nations.                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Even:</b> the potential effect is experienced by any or all sub-populations<br><b>Disproportionate:</b> the potential effect is experienced only by certain populations or experienced more acutely by certain sub-populations                                                                                                                                                             |       |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
| Risk (likelihood and consequences) |        | The likelihood (probability) of an event (incident) occurring and its consequences. Likelihood is whether a residual effect is likely to occur. It may be influenced by a variety of factors, such as the likelihood of a causal disturbance occurring or the likelihood of mitigation being successful. The consequences are the residual effect, positive or negative. The magnitude and extent of the residual effect provides information on the consequence, which in conjunction with | <u>Likelihood</u><br><b>Low:</b> less than 40 percent chance of effect occurring<br><b>Medium:</b> 40 to 80 percent chance of effect occurring<br><b>High:</b> more than 80 percent chance of effect occurring<br><u>Consequence</u><br>Can be assessed as minor, moderate or major based on the combination of magnitude and extent.<br><b>Risk</b> is consequence multiplied by likelihood. |       |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
|                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                               |       |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
|                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                               |       |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
|                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                               |       |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
|                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <table><tr><th colspan="2" rowspan="2">Risk</th><th colspan="3">Consequences</th></tr><tr><th>Major</th><th>Moderate</th><th>Minor</th></tr><tr><td rowspan="3">Likelihood</td><td>High</td><td>High</td><td>Moderate</td><td>Low</td></tr><tr><td>Medium</td><td>High</td><td>Moderate</td><td>Low</td></tr><tr><td>Low</td><td>Moderate</td><td>Low</td><td>Low</td></tr></table>           |       |  | Risk |  | Consequences |  |  | Major | Moderate | Minor | Likelihood | High | High | Moderate | Low | Medium | High | Moderate | Low | Low | Moderate | Low | Low |
| Risk                               |        | Consequences                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                               |       |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
|                                    |        | Major                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Moderate                                                                                                                                                                                                                                                                                                                                                                                      | Minor |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
| Likelihood                         | High   | High                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Moderate                                                                                                                                                                                                                                                                                                                                                                                      | Low   |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
|                                    | Medium | High                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Moderate                                                                                                                                                                                                                                                                                                                                                                                      | Low   |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |
|                                    | Low    | Moderate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Low                                                                                                                                                                                                                                                                                                                                                                                           | Low   |  |      |  |              |  |  |       |          |       |            |      |      |          |     |        |      |          |     |     |          |     |     |

| Characterization               | General Description                                                                                                                                                                                                               | Indigenous Interest Assessments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | likelihood, informs the understanding of risk.                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Potential Impact Rating</b> | The seriousness of the impact from Project residual effect(s) or cumulative effects on the Indigenous Interest from consideration of the context, magnitude, extent, duration, frequency, reversibility and affected populations. | <p><b>Negligible effect:</b> the Indigenous Interest would not be detectably impacted from current conditions.</p> <p><b>Negligible-to-minor:</b> the Indigenous Interest could experience some detectable change from current conditions.</p> <p><b>Minor effect:</b> the Indigenous Interest could be minimally disrupted from current conditions.</p> <p><b>Minor-to-moderate:</b> the Indigenous Interest could be more than minimally disrupted from current conditions.</p> <p><b>Moderate:</b> the Indigenous Interest could be diminished or disrupted from current conditions.</p> <p><b>Moderate-to-serious:</b> the Indigenous Interest could be more than moderately diminished from current conditions.</p> <p><b>Severe effect:</b> the Indigenous Interest could be significantly diminished from current conditions.</p>                                                                                                                                                                                                                                                                                                                                                        |
| <b>Uncertainty</b>             | Number of uncertainties remaining / confidence in conclusions of the assessment of potential impact to Indigenous Interest.                                                                                                       | <p><b>Low:</b> there is a good understanding of the cause-effect relationship between the project and the Indigenous Interest. Few or no unknown external influences for the project area that are incomplete). The effectiveness of mitigation measures expected to be high. High level of certainty in the conclusions of the assessment of potential impact to Indigenous Interest</p> <p><b>Moderate:</b> the cause-effect relationships between the project and a First Nation are not fully understood (e.g., a few unknown external influences for the project area that are incomplete). The effectiveness of mitigation measures may be moderate or high. Moderate level of certainty in the conclusions of the assessment of potential impact to Indigenous Interest</p> <p><b>High:</b> the cause-effect relationships between the project and an Indigenous Interest are poorly understood. There may be several unknown external influences for the project area that is incomplete. The effectiveness of the mitigation measures may not yet be proven. There is a high degree of uncertainty in the conclusions of the assessment of potential impact to Indigenous Interest</p> |

## 15.0 APPENDIX 4 LIST OF PARTIES ON THE TECHNICAL ADVISORY COMMITTEE

### PROVINCIAL GOVERNMENT, INCLUDING HEALTH AUTHORITIES

- BC Energy Regulator;
- Fraser Health Authority;
- Ministry of Agriculture and Food;
- Ministry of Energy and Climate Solutions;
- Ministry of Forests;
- Ministry of Housing and Municipal Affairs;
- Ministry of Indigenous Relations and Reconciliation;
- Ministry of Jobs and Economic Growth;
- Ministry of Post-Secondary Education and Future Skills;
- Ministry of Transportation and Transit;
- Ministry of Water, Land and Resource Stewardship; and,
- Vancouver Coastal Health Authority.

### FEDERAL GOVERNMENT

- Crown Indigenous Relations and Northern Affairs Canada;
- Employment and Social Development Canada;
- Environmental and Climate Change Canada;
- Fisheries and Ocean Canada;
- Health Canada;
- Indigenous Services Canada;
- Innovation, Science and Economic Development Canada;
- Natural Resources Canada;
- Transport Canada;
- Women and Gender Equality Canada; and,
- Public Safety Canada.

### LOCAL GOVERNMENTS AND PORT AUTHORITIES

- City of Delta;
- City of Richmond;
- City of Vancouver;
- Metro Vancouver; and,
- Vancouver Fraser Port Authority.

**FIRST NATIONS**

- Chawathil First Nation;
- Cheam First Nation;
- Katzie First Nation;
- Kwantlen First Nation;
- kʷikʷə́ləm (Kwkwetlem) First Nation;
- xʷməθkʷəyəm (Musqueam Indian Band);
- Quw'utsun Nation representing: Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe and Stz'uminus First Nation;
- Semiahmoo First Nation;
- S'ólh Téméxw Stewardship Alliance representing: Aitchelitz First Nation, Kwaw-kwaw-Apilt First Nation, Seabird Island Band, Semá:th (Sumas) First Nation, Shxwhá:y Village, Shxw'ōwhámél First Nation, Skowkale First Nation, Skwah First Nation, Soowahlie First Nation, Sq'éwá:lxw (Skawahlook) First Nation, Sq'éwlets (Scowlitz) First Nation, Squiala First Nation, Tzeachten First Nation, Yakweakwioose First Nation, and Yale First Nation;
- Snuneymuxw First Nation;
- SṪÁUTW (Tsawout) First Nation;
- Tsawwassen First Nation;
- Tsleil-Waututh Nation; and,
- Ts'uubaa-asatx.

**WASHINGTON STATE<sup>7</sup>**

- Washington State Department of Ecology

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<sup>7</sup> The Washington State Department of Ecology is invited to be part of the TAC consistent with the Memorandum of Understanding between the Washington State Department of Ecology and the EAO.



## 16.0 APPENDIX 5 DETAILED INDIGENOUS NATION ASSESSMENTS

### 16.1 Chawathil First Nation

#### 16.1.1 Community Profile

Chawathil First Nation (Chowéthel or Chawathil) is a Stó:lō First Nation and a signatory member of the STSA, a collective of 17 Stó:lō First Nations that work together to guide land and resource decision-making in S'ólh Téméxw. Chawathil's main community resides on the Chawathil 4 Reserve on the north side of the Fraser River, approximately 11 km west of Hope, B.C., with additional members living on Schkam 2 (3.6 km north of Hope) and in other areas across their traditional territory. As of April 2023, the Nation had 657 registered members, with 45.7% living on their own reserve, 12.8% on other reserves, and 41.6% off reserve; census data recorded 244 residents on Chawathil 4 and Schkam 2 in 2021, reflecting only the population physically living on those reserve parcels.

Chawathil's core interest area, including its inherent asserted Aboriginal title lands, is centered in and around present-day Hope and encompasses the Fraser River upstream and downstream of the community and the surrounding mountain ranges. As Stó:lō Peoples, Chawathil members also use the broader S'ólh Téméxw, the Stó:lō traditional territory, for hunting, fishing, gathering, and spiritual and ceremonial practices. This territory spans the Fraser Valley from the Hope area to the Pacific Ocean.

#### 16.1.2 Chawathil First Nation Involvement in the Environmental Assessment

During the Early Engagement phase, Chawathil confirmed its intent to be involved as a participating Indigenous nation. The nation informed the EAO that Tilbury Phase 2 is within S'ólh Téméxw, where Chawathil holds title and governance responsibilities, and raised concerns about impacts on stewardship, culture, fisheries, health, land rights, and socio-economic conditions. Early meetings focused on meaningful involvement, capacity funding, clarifying interests, identifying information needs for the DPD, and establishing consultation and decision-making expectations for the EA process.

During the Readiness Decision phase, in the development of the [Readiness Decision Report](#), Chawathil did not provide additional comments beyond those submitted during Early Engagement, where they emphasized concerns about Tilbury Phase 2's potential effects on their fishing rights and priority salmon species.

During the Process Planning phase, the EAO continued engagement with Chawathil to further understand these interests in relation to Tilbury Phase 2. Chawathil met with the EAO and the IAAC to express concerns about Tilbury Phase 2. They highlighted potential effects on salmon and other migratory fish, cumulative industrial pressures from the lower Fraser River to Hope, and impacts on harvesting, cultural practices, and access to traditional plants and medicines.

Participation funding was committed by the EAO and Impact Assessment Agency of Canada. The Proponent has engaged with Chawathil since 2020, and provided capacity funding for that engagement, as summarized in Table 11.16-6 of the Revised Application.

The EAO used the following sources in drafting the assessment of Tilbury Phase 2 effects on the Chawathil:

- FortisBC's (Proponent) Revised Application;
- Information submitted during the EA by the Proponent and Chawathil;
- Conclusions from the EAO's assessment of VCs; and
- [Section 11.02](#) of the Revised Application, along with the Proponent's [Indigenous Engagement Report](#), that provides a summary of the Proponent's engagement with Chawathil.

### 16.1.3 Assessment Boundaries

All Tilbury Phase 2 components are within Chawathil's traditional territory.

The spatial assessment boundaries for each Indigenous interest were based on the overlap between Chawathil traditional territory with the combined Local and Regional Assessment Areas (RAAs) identified for linked VCs. Refer to Figure 11-2-1 in Section 11 of the Revised Application (Indigenous Interests and Tilbury Phase 2 Location Figure). The LAA for each Indigenous interest reflects the combined LAAs of the VCs linked to that interest. The RAA is defined the same way, using the combined RAAs of the linked VCs. In general, the LAA is used to assess direct and indirect Tilbury Phase 2 effects, while the RAA supports the assessment of cumulative effects.

The assessment of potential effects related to Tilbury Phase 2 considered three distinct phases:

- Construction phase, with an estimated duration of three to six years;
- Operation phase, expected to last more than forty years; and
- Decommissioning phase, anticipated to take approximately two years.

### 16.1.4 Regional Context

Chawathil's core interest area centres on the Fraser River and surrounding mountain ranges near present-day Hope, with the main settlement located at Chawathil 4 Reserve approximately 11 km west of Hope and roughly 140 km upstream of Tilbury Phase 2. As river people, Chawathil's cultural and subsistence practices, fishing, hunting, plant gathering, travel, and ceremony, are inseparable from the Fraser River, which functions as an ecological and cultural corridor linking their community to the estuary and to other Stó:lō Nations throughout the watershed.

Although Tilbury Phase 2 is located far downstream on Tilbury Island, the Project area lies within S'ólh Téméxw and along the migration pathway of salmon and other culturally important species that travel from the Pacific Ocean past the Project site and upstream to Chawathil territory. The nation's regional context is further shaped by longstanding kinship networks among Coast Salish peoples across the Lower Mainland, Vancouver Island, Washington State, and Oregon, as well as by their participation in regional Stó:lō governance structures such as the Stó:lō Tribal Council.

As per the Revised Application and based on the information available during the time of writing the EAO's Report, it is the EAO's understanding that Chawathil members do not currently use the south arm of the lower Fraser River or the industrial lands adjacent to Tilbury Phase 2 to fish, hunt, gather plants, or access cultural sites or areas.

The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with very little to no habitat value for wildlife. The vegetation within Tilbury Phase 2 is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species. Public access to Tilbury Phase 2 is limited, although there is currently public use of the dike to the north of Tilbury Phase 2 along the Fraser River.

### 16.1.5 Indigenous Interests

The EAO engaged Chawathil during the Early Engagement phase in the development of the [Joint Summary of Issue and Engagement for the Tilbury Phase 2 LNG Expansion Project](#). The EAO summarized an initial understanding of Chawathil's interests to be:

- Impacts to governance and self-determination rights in the Project area;
- Impacts to rights to implement Indigenous laws, customs and protocols;
- Impacts to stewardship rights and responsibilities, including ongoing conservation efforts targeted at restoring important fish species and habitat;
- Impact to the lands and resources, and rights to clean air, waters and lands;

- Impacts to rights to determine and develop strategies for the development or use of our territory, and the water, lands and resources therein;
- Impacts to rights to fish for food, ceremonial, social and trade purposes, gathering rights and traditional medicine including the conservation of medicinal plants, animals and minerals;
- Impacts to cultural and spiritual rights, including protection and access areas of cultural and spiritual importance;
- Impacts to rights to revitalize, develop and transmit to future generations histories, oral traditions and place names relating to the Project area;
- Impacts to economic development and socio-economic rights and ability to improve current conditions; and,
- Impacts to passing on traditional knowledge to future generations.

During the Readiness Decision phase in the development of the [Readiness Decision Report](#), EAO engaged with Chawathil. It was also indicated that salmon are a priority species for Chawathil, who are currently working on restoration projects for salmon spawning habitat to bring salmon back to their community. This information was used in drafting the [Tilbury Phase 2- Schedule C – Application Information Requirements](#); see Proposed Preliminary List of Indigenous Interests (Table 6).

The Proponent has identified Chawathil's Indigenous interests to be assessed in the Revised Application through:

- Reviewing requirements and guidance from the EAO, including the AIR; and
- Conducting engagement efforts with Chawathil to gather information on their Indigenous interests, as outlined in Section 11.2.3 Summary of Engagement of the Chawathil section in the of the Revised Application.

The EAO attempted to engage with Chawathil during the development of this Report. As no comments were received on their section, the EAO relied on the preliminary list of Indigenous interests identified in the AIR, which include:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions;
- Indigenous health and well-being;
- Cultural continuation; and
- Indigenous governance systems.

The assessment of Chawathil's Indigenous interests in this section uses these categories. The EAO's assessment includes describing the Indigenous interest, the current context, potential effects, applicable mitigation, and the resulting effects analysis. If there is an adverse residual effect a characterization of effects and cumulative effects assessment is also completed. Indigenous governance systems and cultural continuation were not assessed as stand-alone interests, but were assessed as components of other Indigenous interests, with core analysis placed in the Cultural Use Sites and Areas section.

### 16.1.6 Harvesting and Subsistence Activities

#### Background

As Stó:lō Peoples, Chawathil members have harvested throughout S'ólh Téméxw since time immemorial, relying on the Fraser River and surrounding lands for food, medicine, trade, and cultural survival. Harvesting is governed by Indigenous laws, hereditary systems, and stewardship obligations that guide how resources are accessed, shared, and protected. These practices are integral to Chawathil governance, reinforcing responsibilities to uphold balance within the territory, safeguard culturally important species, and ensure the sustainable use of lands and waters for future generations.

The Fraser River remains foundational to Chawathil identity and harvesting rights. Salmon, sturgeon, eulachon, deer, elk, bear, waterfowl, and culturally important plant species are keystone resources that support food security, ceremonial obligations, and community well-being. Fishing techniques, seasonal knowledge, and river-based lifeways are embedded within Halq'eméylem, which includes extensive terminology, over 147 identified words, relating to fishing, processing, and stewardship practices. Through harvesting activities, this linguistic and cultural knowledge is actively transmitted, making harvesting a primary mechanism of cultural continuation.

Traditional governance overfishing sites and seasonal rounds continue to inform harvesting practices. Historically, Stó:lō Peoples travelled seasonally throughout the Fraser River system, using dip nets, gaff hooks, weirs, and drying racks to harvest and preserve salmon. These activities were conducted within governance systems that emphasized respect, reciprocity, and restraint, and were reinforced through ceremonies such as the First Salmon Ceremony, which affirms spiritual relationships with salmon and collective responsibilities for their care.

Plant gathering occurs throughout the year, with fall and winter being important periods for collecting berries, roots, and medicines for food, healing, and ceremonial use. Hunting for mountain goats, elk, deer, and bear provides nourishment as well as materials for tools, regalia, and cultural items. Seasonal movement between harvesting locations, and the teachings shared through these activities, support cultural identity, intergenerational knowledge transfer, and the continuity of Indigenous laws and resource governance systems.

Today, Chawathil's harvesting practices continue both within core areas near Hope and across broader areas of S'ólh Téméxw, shaped by ecological conditions, regulatory constraints, and the ongoing exercise of stewardship responsibilities. Harvesting remains a cornerstone of cultural continuity, governance authority, and community sustenance.

#### Current Context

Chawathil currently experiences reductions in the quality and availability of traditional resources due to industrial development, urban expansion, habitat loss, pollution, and regulatory restrictions. The Fraser River estuary supports 78 fish species, including salmon, white sturgeon, and several species at risk; however, declining fish stocks and habitat degradation have reduced opportunities for contemporary harvesting. Primary foods, social, and ceremonial fishing areas for salmon and eulachon are located between Mission, B.C., and Sawmill Creek, approximately 60 to 170 km east of the Project site.

Several traditional waterways used for fishing and travel have been lost or degraded due to diking, urbanization, and industrial activities, resulting in endangered or permanently altered habitats. Land-based harvesting continues for species such as mountain goat, elk, deer, bear, and culturally important plants used for food, medicine, and ceremonial purposes. Plant gathering remains focused especially during fall and winter for ceremonial use, though concerns persist regarding contamination and reliable access to intact areas.

Hunting continues to provide materials for tools, regalia, and ceremonial items, but existing development has fragmented habitats, reduced wildlife and plant availability, and limited harvesting opportunities within the harvesting and subsistence activities LAA. As part of their current governance practices, Chawathil maintains stewardship responsibilities and decision-making roles related to land, water, and resource management across S'ólh Téméxw. Reduced availability of traditional resources also affects cultural continuation, as contemporary salmon fishing, plant gathering, and participation in traditional harvesting activities are essential pathways for intergenerational knowledge transfer and cultural identity. Chawathil continues to undertake habitat restoration and conservation initiatives and remains committed to protecting fish, wildlife, and culturally important plants within their territory.

#### Potential Project Effects

The EAO identified the following pathways of effects, prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#), that may affect Chawathil's harvesting rights during the Construction, Operation, and Decommissioning Phases of Tilbury Phase 2:

- **Changes to the experience and preferences regarding the practice of harvesting rights and potential effects on the quality, quantity, and availability of resources** may occur where Tilbury Phase 2 activities result in loss or alteration of habitat that supports harvested wildlife, fish, bird, and plant species, including culturally and medicinally important species. Increased noise, vibration, odour, dust, emissions, and changes in the visual landscape (acoustic, air quality, soil, groundwater, and land and resource use VCs) may reduce the cultural acceptability or desirability of harvesting in nearby areas, influencing the experience of practicing harvesting rights. Changes to surface water quality or quantity, including turbidity and hydraulic alterations (surface water VC), may affect fish habitat and the quality, availability, and distribution of harvested aquatic species. Disturbance to vegetation communities and potential introduction or spread of invasive species (vegetation VC) may reduce plant availability and alter preferred gathering locations. Collectively, these interactions may influence the accessibility, predictability, and perceived safety of harvesting and may shift Chawathil's preferences or patterns of use within the broader Fraser River system;
- **Potential Effects on Chawathil First Nation's Rights to fish, harvest, and hunt for food, social and ceremonial (FSC) purposes** may occur where Project activities alter harvesting methods, timing, or seasonality, or where sensory disturbances (air quality and acoustic VCs) affect the predictability and success of harvesting. Changes to habitat relied on by fish, wildlife, birds, and medicinal plants (fish and fish habitat, wildlife and wildlife habitat, vegetation VCs) may influence the availability, distribution, and abundance of species harvested for FSC purposes. As migratory fish populations move from the Pacific Ocean past the Project site and upstream into Chawathil's core areas, changes in water quality, hydraulic conditions, or localized habitat fragmentation (surface water and groundwater VCs) may affect the quality and quantity of harvested species. Alterations to current use areas, access restrictions associated with the Project footprint, and perceived contamination risks (soil, surface water, and land and resource use VCs) may increase the time, effort, and cost required to harvest, and reduce opportunities for gathering plants, animals, and minerals relied upon for cultural, medicinal, and food security purposes. These changes may also influence harvesting-based livelihoods and reduce the frequency or success of FSC harvesting activities where sensory or ecological conditions make preferred areas less accessible, less productive, or less culturally acceptable for continued use;

- **Changes to the current use of lands and resources for traditional purposes:** Potential effects include changes to harvesting methods and practices, such as timing, seasonality, or preferred locations, as well as increased effort required to access or use traditional areas. These pathways may be influenced by changes in habitat quality and species availability, distribution, and abundance, along with sensory disturbances such as noise, air emissions, and vibration during Construction and Operation. Additional effects may include temporary restrictions on travelways or access to culturally important areas due to construction activities and surface water alterations (vegetation, wildlife and wildlife habitat, fish and fish habitat, acoustic, air quality, surface water, and land and resource use VCs); and
- **Potential effects to the accessibility and availability of traditional lands and resources** may occur where Project activities result in changes to the ability of Chawathil members to travel to or through current use areas, or where Construction and Operation introduce new access restrictions around the Project footprint. Expanded industrial infrastructure, including access roads, restricted zones, and operational facilities (land and resource use VC), may limit the availability of travelways historically used to reach harvesting, gathering, or cultural areas. Navigation along the Fraser River and adjacent marine environment may also be affected where Project-related activities alter travel patterns, increase vessel traffic, or introduce localized sensory disturbances (air quality, surface water, and acoustic VCs). These spatial and navigational changes may reduce the predictability and ease of accessing preferred areas, influence the timing or feasibility of traditional practices, and affect the broader availability of traditional lands and resources within the lower Fraser River system.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures that FortisBC has proposed in response to potential Tilbury Phase 2-related effects on harvesting and subsistence activities, as mentioned in the section above. A full table of Proponent Mitigations can be found in [Appendix A](#) of the Revised Application. Below is a summary of mitigation measures, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air-quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Chawathil's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during construction and operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Chawathil's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm-sewer system. These protections support water quality and fish habitat relied on to support Chawathil's harvesting and cultural practices;
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to Chawathil's harvesting and cultural practices;
- **Soil (Section 7.6)** Soil management measures—such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Chawathil for harvesting and cultural practices;



- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Chawathil for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Chawathil's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to Chawathil's FSC harvesting and cultural practices; and
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on Chawathil's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting rights [see also Section x of this Report]

- **Condition 10 (Community Feedback Process)** creates a clear way for Chawathil to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Chawathil's harvesting and cultural practices;
- **Condition 12 (CEMP):** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Chawathil's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Chawathil's harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emission-control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and overall ecosystem health, this plan helps protect the environmental conditions that support Chawathil's harvesting and cultural practices; and,
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project-related roads, which may lower potential impacts on salmon and other fish important to Chawathil's harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial conditions the EAO and Chawathil identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

**Federal Consideration for Migratory Bird Protections;** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Chawathil's harvesting practices and broader ecosystem conditions important to their way of life.

### The EAO's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Chawathil's harvesting rights and interests:

- Effects on Chawathil's Rights to fish, harvest, and hunt for FSC purposes; and,
- Changes to the current use of lands and resources for traditional purposes.

Chawathil and the EAO's characterization of the residual effects of Tilbury Phase 2 LNG Expansion on harvesting and subsistence Rights are summarized in the table below.

Table 12: Summary of residual effects and rationale on Chawathil First Nation and its harvesting and subsistence Rights

| Residual Effect                                                                                                                                                                                                                  | Assessment Rating                                                                                                                                                                                                                                                               | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <p>Harvesting and subsistence activities</p> <p>-Effects on Chawathil First Nation's Rights to fish, harvest, and hunt for FSC purposes.</p> <p>-Changes to the current use of lands and resources for traditional purposes.</p> | <p>Context (Resilience): Low</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Fully reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> The interest is rated as having low resilience due to longstanding cumulative pressures on in S'ólh Téméxw, including industrial development, habitat degradation, declining salmon stocks, and loss of traditional waterways throughout the lower Fraser River. While Chawathil continues harvesting in upstream areas, the Fraser River corridor near Tilbury is already environmentally stressed and less able to absorb additional change without influencing the quality, reliability, or cultural experience of harvesting.</p> <p><b>Magnitude:</b> The magnitude is considered negligible, as Project residual effects are not anticipated to detectably influence the availability, quality, of culturally important species. There is no evidence of Chawathil fishing or harvesting near the Project site, where impacts could be felt. Negligible to low magnitude residual effects for related VC's including; vegetation, wildlife, fish, and their habitat, as well as; surface water, air quality, acoustics, and land and resource use may affect the perceived quality of harvesting but are not expected to detectably limit access, opportunities, or resource availability for Chawathil.</p> <p><b>Extent:</b> Rated local as residual effects are primarily limited to the Tilbury Island area and the adjacent Fraser River corridor. Although localized, this area holds cultural meaning for Chawathil, and even geographically contained changes may carry disproportionate cultural significance.</p> <p><b>Duration:</b> Rated as medium-term, with construction-related disturbances being concentrated in early phases, while operational sensory effects (e.g., noise, air emissions) may persist through the operational life of the Project but are not expected to permanently alter long-term harvesting patterns upstream.</p> <p><b>Reversibility:</b> Is assessed as fully reversible, as residual sensory and environmental changes are expected to diminish following decommissioning or through ongoing mitigation, with no permanent limitations on the ability to exercise harvesting rights.</p> <p><b>Frequency:</b> Rated as continuous, with some effects occurring seasonally or periodically in alignment with harvesting and traditional land use activities, and during certain operational activities at Tilbury Phase 2, but some effects (noise, light disturbance) would occur continuously.</p> <p><b>Affected Populations:</b> Rated as disproportionate, since Chawathil members relying on the Fraser River system, especially Elders, food providers, and cultural knowledge holders, may be disproportionately affected mainly due to past and existing long-standing cumulative effects and limited remaining areas with intact ecological conditions.</p> |

| Residual Effect                                                                                                                          | Assessment Rating | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                                                                                                                                          |                   | <p><b>Risk:</b> The likelihood of residual effects occurring is low given the effectiveness of proposed mitigation measures, including the removal of waterborne deliveries, the absence of in-river works, and controls for air quality and acoustics. With a low magnitude, fully reversible effects, and impacts confined to a local extent, any consequences for harvesting experience or perceived resource availability are expected to be minor. Therefore, the risk is rated low.</p> <p><b>Uncertainty:</b> Rated as moderate due to limited site-specific information on contemporary Chawathil harvesting activities near the Project footprint and challenges in quantifying cultural and experiential impacts despite biophysical mitigation.</p> |
| <p>* Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a></p> |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

### Cumulative Effects

As described in the Background and Current Context section, the historical and ongoing environmental degradation and impacts due to climate change across S'ólh Téméxw has already affected Chawathil's ability to meaningfully practice harvesting and subsistence activities. Existing development pressures, such as urbanization, industrial activity, and restricted access, have reduced the availability and quality of plants, wildlife, and fish species traditionally harvested for food, social, and ceremonial purposes.

In addition to these historic pressures, the Revised Application identifies two reasonably foreseeable projects expected to proceed concurrently with or prior to Tilbury Phase 2 Construction: the T1B Expansion Project (T1B) and the Tilbury Marine Jetty Project (TMJ). Both are expected to increase LNG production and shipping along the Fraser River. These future developments are anticipated to contribute additional sensory disturbances (e.g., noise, light, and vibration), habitat fragmentation, and aquatic ecosystem degradation; further limiting the quality, confidence, and accessibility of culturally important harvesting areas relied on by Chawathil. The removal of vegetation and disturbance to the foreshore by these projects may also affect local wildlife and plant species of cultural importance, as well as migratory fish populations central to Chawathil's cultural and subsistence practices.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, FortisBC's proposed mitigation measures, EAO's Table of Conditions and the federal Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 would have negligible effects on Chawathil's harvesting and substance activities.

### 16.1.7 Cultural Use Sites and Areas

#### Background

Cultural use sites for Chawathil form a connected cultural landscape rather than isolated locations. The Fraser River is identified in the S'ólh Téméxw Use Plan as a Sensitive Waterway, supporting both ecological and spiritual relationships and home to sacred beings such as *stl'álegem* and *s'ó:lmexw*. Within the broader lower Fraser region, cultural areas, including the *stl'álegem* transformer site on Burnaby Island and the historic Qiqá:yt cranberry-picking camp, reflect longstanding Stó:lō occupation, seasonal movement, and cultural practice. These locations are tied to ceremonial life, intergenerational teaching, and the maintenance of identity and place-based knowledge.

Cultural landscapes also structure cultural continuation. Chawathil identifies cultural and land-based activities, such as travelling river corridors, preparing traditional foods, gathering plants, and participating in seasonal cycles, as essential to maintaining oral traditions, histories, place names, and Halq'eméylem language knowledge. Knowledge transmission is inseparable from being on the land and water: Elders and Knowledge Holders teach stories, law, and cultural protocols through practice in specific places. The Fraser River and adjoining cultural sites support oral histories such as *sxwōxwiyám* (ancient narratives) and *sqwélqwel* (true family histories), reinforcing connection to ancestors and shared identity.

The lower Fraser River is also a central cultural travelway linking communities, camps, and resource areas. Continued access to these areas supports community cohesion, cultural responsibilities, and governance practices rooted in stewardship and respect for S'ólh Téméxw. Chawathil emphasizes that Indigenous governance systems—including responsibilities of self-determination, stewardship, and the application of Indigenous laws and protocols—depend on maintaining relationships with the cultural landscape. These responsibilities are both legal and spiritual obligations carried forward for future generations.

#### Current Context

Chawathil continues to maintain deep cultural, spiritual, and ceremonial relationships with S'ólh Téméxw, particularly the Fraser River and its associated cultural landscapes. These areas support cultural practices such as preparing traditional foods, gathering medicines, conducting ceremonies, and transmitting stories and language tied to named places and ancestral teachings. Traditional travel corridors along the lower Fraser River, which overlap the Project Area adjacent to the south arm of the Fraser River, continue to play a role in cultural learning, movement, and community connection. Although Chawathil's main community at Chawathil 4 Reserve lies approximately 140 km upstream and the closest shared reserve, Pekw'xé:yles, is about 70 km upstream, these lower-river landscapes remain part of the cultural geography through which teachings, stories, and seasonal practices are understood.

Cumulative industrialization, land alienation, shoreline modification, and urban development in the lower Fraser have reduced access to cultural use areas and disrupted the continuity of cultural practices. Traditional gathering locations, travelways, and river-based cultural activities have been constrained by habitat degradation, infrastructure development, and loss of natural features. These changes have created barriers for intergenerational knowledge transfer, as opportunities to learn through land-based practice are increasingly limited.

Language continuity is similarly challenged. The near extinction of the Upriver Halq'eméylem dialect, including place names and culturally specific terms linked to land and water, heightens concern about the long-term preservation of cultural identity. The cumulative degradation of cultural landscapes, combined with reduced opportunities to gather resources for cultural and ceremonial purposes, has contributed to cultural stress within Chawathil community life.

## Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect Chawathil's cultural use sites and areas during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance:** Tilbury Phase 2 may interact with cultural heritage features linked to Chawathil, including storied places, historic habitation areas, named places, and archaeological sites along the South Arm of the Fraser River, Tilbury Island, and Lulu Island (archaeological and heritage resources VC). Although no cultural or archaeological sites were identified within the Project Footprint, Construction and ground disturbance still create a pathway for accidental discovery or alteration of previously undocumented materials. Project activities, such as clearing, excavation, and increased human presence, may alter cultural settings important for teachings, practices, and historical associations (culture VC). Sensory disturbances, including noise, vibration (acoustic VC), odour, dust, air emissions (air Quality VC), and changes to visual resources, may qualitatively affect the experience of being in culturally meaningful areas and influence participation in communal and ceremonial activities. Project works may also affect travelways and access routes traditionally used to move through the lower Fraser cultural landscape (Land and Resource Use VC). Changes to navigation, accessible pathways, or restricted areas may limit access to places connected to oral histories, Indigenous laws, and governance practices. Even without physical disturbance to known sites, sensory and experiential changes may influence how Chawathil members relate to cultural landscapes and exercise associated cultural practices;
- **Loss of access to, and disenfranchisement from cultural sites including access to cultural sites:** Tilbury Phase 2 activities may affect access to cultural sites and cultural landscapes by creating or modifying access restrictions, altering travel corridors, or influencing navigation on the lower Fraser River. Cultural use for Chawathil depends on movement along the river and adjacent areas, including travel to seasonal harvesting sites, communal gathering areas, and locations tied to oral histories, legal traditions, and the transmission of Halq'eméylem place-based knowledge (land and resource use VC). Project-related disturbances, such as noise, odour, dust, air emissions (air quality and acoustic VCs), and visual changes, may reduce the experiential quality of these locations and disrupt activities associated with cultural learning, stewardship responsibilities, and ceremonial practices (culture VC). While physical disturbance to known cultural sites is unlikely within the Project Footprint, changes to access and sensory conditions may still influence the ability of Knowledge Holders, Elders, and community members to meaningfully use culturally important areas. These effects may interact with longstanding travelway degradation, shoreline modification, and habitat loss throughout the lower Fraser region; and,
- **Effects on cultural and spiritual practices caused by changes to, or loss of access to, cultural sites and areas:** Tilbury Phase 2 activities may influence cultural and spiritual practices that depend on access to cultural sites and culturally meaningful areas along the lower Fraser River. Chawathil cultural identity, ceremonial life, and cultural learning rely on the ability to visit, use, and engage with these cultural landscapes, which support oral histories, cultural protocols, communal gatherings, and transmission of Halq'eméylem knowledge (culture, land and resource use, and archaeological and heritage resources VCs). While no cultural or archaeological sites were identified within the Project Footprint, changes to access routes, travelways, and navigation along the Fraser River may limit the ability of Elders, Knowledge Holders, and community members to reach culturally important areas. Sensory disturbances, including noise and vibration (acoustic VC), odour, dust, air emissions (air quality VC), and visual changes (culture VC), may alter the cultural setting in which ceremonies, teachings, harvesting-related cultural practices, and communal activities occur. Reduced experiential quality may affect the practice of cultural protocols, participation in

seasonal gatherings, and opportunities for intergenerational knowledge transfer tied to specific cultural sites and landscapes.

#### Mitigation Measures

The Revised Application summarizes relevant mitigation measures proposed by FortisBC to address potential Tilbury Phase 2 related effects on cultural use sites and areas, including:

- **Air Quality (Section 7.2)** The air-quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Chawathil's cultural practices;
- **Acoustics (Section 7.3)** Noise-reduction measures during Construction and Operation, including idle-reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by Chawathil;
- **Land and Resource Use (Section 7.11)** Traffic-management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support Chawathil's ability to safely access and continue cultural practices within their traditional territory;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance-find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support Chawathil's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory; and,
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Chawathil's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to Indigenous cultural use sites and areas:

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance;
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for Chawathil to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting Chawathil's continued access to and use of cultural sites during project Construction;



- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Chawathil;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emission-control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and overall ecosystem health, this plan helps protect the environmental conditions that support Chawathil's harvesting and cultural practices; and,
- **Condition 15 (Chance Find Protocol)** requires the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Chawathil historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### The EAO's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Chawathil's harvesting rights and interests:

- Loss of access to, and disenfranchisement from, cultural sites including access to cultural sites;
- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural value; and,
- Effects on cultural and spiritual practices caused by changes to, or loss of access to, cultural sites and areas.

The EAO's characterization of the residual effects of Tilbury Phase 2 on cultural use sites and areas are summarized in the table below.

Table 13: Summary of residual effects and rationale on Chawathil First Nation and its cultural use sites and areas

| Residual effect                                                                                                                                                                                                                                                                                                                                                                                   | Assessment Rating*                                                                                                                                                                                                                       | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cultural use sites and areas<br>-Loss of access to, and disenfranchisement from, cultural sites including access to cultural sites<br>-Effects on cultural and spiritual practices caused by changes to, or loss of access to, cultural sites and areas<br>- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural value | Context (resilience): Low<br>Magnitude: Negligible<br>Extent: Local<br>Duration: Medium-term<br>Reversibility: Fully reversible<br>Frequency: Continuous<br>Affected Populations: Disproportionate<br>Risk: Low<br>Uncertainty: Moderate | <p><b>Resilience:</b> Rated low because Chawathil's cultural use in the lower Fraser corridor already occurs within a heavily industrialized, fragmented landscape with longstanding access restrictions and habitat loss. These cumulative pressures reduce the territory's ability to absorb additional change without further constraining cultural renewal and use.</p> <p><b>Magnitude:</b> is rated as negligible as the project does not directly disturb known Chawathil cultural heritage sites and no sites were identified within the Project Footprint.</p> <p><b>Extent:</b> is rated local because residual effects are expected to be confined to the Project Footprint on Tilbury Island, immediately adjacent foreshore, and nearby portions of the South Arm of the Fraser River within the LAA. While Chawathil's cultural narratives and connections are regional, the measurable changes from Tilbury Phase 2 are geographically limited.</p> <p><b>Duration:</b> is rated as Medium-term, as most effects will occur during Construction and persist through Operation (&gt;2 years) but are expected to diminish or cease following Decommissioning and site restoration. No permanent alteration to known cultural sites is anticipated.</p> <p><b>Reversibility:</b> Rated fully reversible because the residual effects are primarily sensory and access-related within an already disturbed setting. If Tilbury Phase 2 were halted or decommissioned, associated</p> |

| Residual effect                                                                                                                   | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                                                                                                                                   |                    | <p>noise, light, traffic, and visual disturbances would cease, and no permanent constraints on access to known Chawathil cultural sites are expected.</p> <p><b>Frequency</b> rated as continuous, as effects are expected to occur regularly, associated with Construction periods, routine Operation, and ongoing industrial presence near the Project.</p> <p><b>Affected populations:</b> rated disproportionate because impacts would most affect those Chawathil members who remain actively engaged in cultural practices, ceremonial use, and intergenerational teaching linked to the Fraser River, including Elders, Knowledge Holders, and land-based practitioners. Members less directly involved in land-based practices are less likely to experience these effects.</p> <p><b>Risk:</b> the likelihood of residual effects is low given proposed mitigation, the absence of known cultural sites in the Project Footprint, and the already industrial character of the area. Consequences are expected to be minor, magnitude is expected to be low and largely qualitative (setting/experience), rather than involving direct damage to sacred or archaeological sites; therefore, the risk is rated low.</p> <p><b>Uncertainty:</b> rated moderate due to limited site-specific information on contemporary Chawathil cultural use in the immediate LAA and the inherently qualitative nature of changes to cultural setting, acceptability, and experience. Sensory pathways (noise, air, visual) are well understood technically, but their cultural implications are harder to quantify.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### Cumulative Effects

Cultural Use Sites and Areas within S'ólh Téméxw have already been heavily affected by urbanization, industrial expansion, railway development, logging, and shoreline modification along the lower Fraser River, resulting in reduced access, fragmented travel corridors, and fewer opportunities for intergenerational cultural teaching. Although Tilbury Phase 2 does not directly interact with known Chawathil cultural sites, it is located in an already industrialized area where cultural settings have been substantially altered. Project-related sensory disturbances, such as noise, vibration, air emissions, dust, and visual changes, may further influence the quality and experience of nearby cultural landscapes, while access limitations associated with the industrial site may reinforce existing constraints on cultural presence and movement along the lower Fraser corridor.

These potential contributions would occur alongside other existing and reasonably foreseeable industrial developments in the area, including the T1B and TMJ projects, which collectively increase industrial activity and sensory disturbance on Tilbury Island and adjacent river environments.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

## Conclusion

Considering the above analyses, including proposed proponent mitigations, EAO's conditions, and based on the Project specific effects of Tilbury Phase 2, the EAO concludes that the Project will have a negligible effect on Chawathil's cultural use sites and areas.

### 16.1.8 Social and Economic Conditions

#### Background

Chawathil, a member of the Stó:lō Nation, maintains longstanding social and economic ties to S'ólh Téméxw grounded in land stewardship, river-based livelihoods, and community governance. Traditional economic activities such as fishing, plant gathering, and intercommunity trade historically supported social cohesion, cultural continuity, and household economies. These practices continue to shape community values and governance priorities today, including decisions related to land use, resource management, and culturally aligned economic development.

Chawathil's governance systems emphasize stewardship, self-determination, and protection of culturally important areas and resources. Participation in broader Stó:lō governance structures and the Framework Agreement on First Nation Land Management has strengthened Chawathil's ability to exercise jurisdiction over reserve lands and pursue long-term economic strategies anchored in cultural values. Cultural continuation remains foundational to social and economic life, as land-based activities and language revitalization support intergenerational knowledge transfer and contribute to community resilience. The Project could provide positive contributions through employment, skills training, and procurement opportunities aligned with these goals. See sections on *Cultural Use Sites and Areas* and *Harvesting and Subsistence Activities* for additional context.

Historic land loss, regulatory barriers, and industrialization across the lower Fraser River region have reduced access to traditional economic resources and constrained economic autonomy. These long-term pressures form an important context for understanding Chawathil's current social and economic conditions and priorities.

#### Current Context

Chawathil's present social and economic conditions reflect both ongoing development pressures across S'ólh Téméxw and community-driven efforts to support self-determination and economic stability. The nation has approximately 657 members, with about 45.7% living on reserve and a notably young demographic profile—over 24% are under age 15. Limited housing availability and aging infrastructure pose challenges for community growth, with approximately 88% of on-reserve homes requiring repairs as of 2021.

Employment among Chawathil members spans service industries, education, trades, and construction, though average incomes remain below provincial levels. The nation continues to prioritize training, language revitalization, and workforce development to expand economic opportunities that align with cultural and community goals. Participation in the Framework Agreement on First Nation Land Management supports stronger local governance over land-based economic initiatives, providing a foundation for future development grounded in Chawathil values.

Chawathil has expressed concern that cumulative industrialization across the lower Fraser River corridor has constrained opportunities for culturally aligned economic activities, reduced access to land and resources important for community livelihoods and created barriers to long-term economic self-sufficiency. While Tilbury Phase 2 is not expected to directly affect Chawathil reserve lands or current economic development projects, Chawathil emphasizes that cumulative landscape change influences their ability to improve socio-economic conditions and pursue development consistent with their cultural and governance priorities.

#### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect Chawathil's social and economic conditions during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Changes to employment opportunities, Indigenous businesses, procurement opportunities, and Indigenous government revenue;** Tilbury Phase 2 may create short-term construction employment and procurement opportunities that Chawathil members and Indigenous businesses could access (employment and economy VC). Increased employment income and training opportunities may support skill development and labour force participation, particularly in trades and construction. Opportunities for Chawathil-owned businesses may arise through contracting, procurement, and participation in the Project's Indigenous employment strategy. However, participation depends on barriers such as certifications, training levels, and proximity to the Project site. While Project-related economic benefits could support Chawathil's goals for economic self-determination, effects remain positive, indirect, and temporary, with benefits diminishing once Construction ends. Relevant linkages include culture, infrastructure and services, land and resource use, fish and fish habitat, wildlife and wildlife habitat, and vegetation VCs, as these may shape access to training, employment, and culturally aligned economic initiatives;
- **Effects on Chawathil First Nation's future aspirations for sites or areas surrounding Tilbury Phase 2;** Tilbury Phase 2 is located in a highly industrialized part of S'ólh Téméxw where Chawathil does not currently pursue economic development or land-use initiatives. As such, the Project is not expected to directly interfere with Chawathil's future aspirations for the immediate area. The nation's long-term goals related to language revitalization, cultural renewal, land stewardship, and community economic development occur primarily near Hope and broader areas upstream along the Fraser River. Given the absence of overlapping land-use plans or development proposals in the Tilbury area, no interaction is expected between the Project and Chawathil's land-use or economic aspiration;
- **Effects on Chawathil First Nation's ability to improve social and economic conditions;** Although the Project will not occur near Chawathil's reserves or active economic development sites, changes to the cultural landscape or resource conditions in S'ólh Téméxw may indirectly influence Chawathil's ability to pursue culturally aligned economic development. Governance, land stewardship, and cultural continuity are central to Chawathil's socio-economic well-being, and potential Project-related effects on air quality, noise, vegetation, wildlife, or fisheries (air quality, acoustics, vegetation, wildlife and wildlife habitat, fish and fish habitat VCs) may influence broader territorial conditions under which economic self-determination is exercised. While no direct interference with ongoing economic initiatives is anticipated, perceived or incremental degradation of the lower Fraser may influence Chawathil's confidence in regional development processes and may affect long-term efforts to rebuild land-based economies. Enhancement measures under employment and economy, land and resource use, and culture VCs may support indirect positive effects by improving access to training, employment, and culturally aligned opportunities;
- **Effects on commercial and non-commercial fishing, hunting, trapping, gathering, and cultural or ceremonial activities;** No interaction has been identified for social and economic conditions. Chawathil's active harvesting for FSC purposes occurs 60–170 km upstream, outside the Tilbury LAA, and no Project activities will alter fish availability, access to harvesting sites, or the economic value of non-commercial harvest (fish and fish habitat, wildlife and wildlife habitat, vegetation VCs). The Project also does not affect travel routes used by Chawathil for harvesting or ceremonial purposes. As a result, no effects on harvesting effort, success, or trade in harvested materials are anticipated; and,
- **Effects on infrastructure and services;** No interaction has been identified. Tilbury Phase 2 will not affect access to or demand for healthcare, education, recreational facilities, emergency services, or transportation infrastructure used by Chawathil members (infrastructure and services VC). The Project is located far from Chawathil communities, will not contribute to local service capacity pressures, and does not alter infrastructure relied on by the nation. Therefore, no effects on infrastructure or service availability are expected.

## Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that Fortis has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions. These include the following:

- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, landscapes, and the conditions that support culturally based livelihoods and economic self-determination. These measures support Chawathil's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory;
- **Air Quality (Section 7.2):** The air quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat and the environmental conditions that support culturally based livelihoods and economic self-determination. They help protect salmon, wildlife, vegetation, and surface water that support Chawathil's cultural practices;
- **Acoustics (Section 7.3):** Noise reduction measures during Construction and Operation, including idle reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas, activities, and the conditions that support culturally based livelihoods and economic self-determination. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by Chawathil;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Chawathil's social and economic conditions;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Chawathil's cultural and social continuity, and nutritional well-being;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Chawathil's food security, cultural identity, by safeguarding salmon and other species essential to FSC harvesting;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Chawathil members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm-sewer system and maintain the environmental conditions that support culturally based livelihoods and economic self-determination. These protections support water quality and fish habitat relied on to support Chawathil's harvesting and cultural practices;
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat, vegetation, and the conditions that support culturally based livelihoods and economic self-determination relied on by Chawathil for harvesting and cultural practices;

- **Land and Resources VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Chawathil's long-term aspirations for land and water restoration and reducing stressors that can affect social and economic conditions;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socio-economic impacts on Chawathil and supporting social and economic interests and community stability;
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat, vegetation, and the conditions that support culturally based livelihoods and economic self-determination important to Chawathil's harvesting and cultural practices; and,
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Chawathil's social and economic interests.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on Chawathil social and economic conditions:

- **Condition 10 (Community Feedback Process)** provides Chawathil with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting ongoing social and economic interests;
- **Condition 12 (CEMP)** requires mitigation measures to manage dust, noise, traffic, spills, surface water, erosion, and wildlife interactions during Construction. These measures help minimize construction-related disturbances that could affect community and social well-being of Chawathil members;
- **Condition 13 (OEMP)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation. By limiting long-term environmental disturbances, this condition supports stable environmental conditions that protect Chawathil's social and economic interests;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality mitigates sensory disturbances, such as dust and odors, and prevents particulate deposition that may impact traditional resources. This supports the social and economic conditions of Chawathil by preserving the cultural acceptability and integrity of harvested species, ensuring harvesting does not become more difficult or costly to access;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Chawathil historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated social harm; and,
- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support the Chawathil First Nation's socio-economic well-being through increased access to jobs, skills development, and business opportunities associated with Tilbury Phase 2.

After applying the EAO's residual effects methodology and considering the mitigation measures, conditions and effect pathways described above, the EAO concludes that Tilbury Phase 2 is not expected to result in any adverse residual effects on Chawathil's social and economic conditions. No interactions were identified with reserve lands, housing, infrastructure, or current economic development areas, and the Project does not limit Chawathil's ability to pursue future economic opportunities. The Project is expected to result in positive residual effects, primarily through



short-term employment, training, and procurement opportunities during Construction. As no adverse residual effects were identified, a residual effects characterization is not required for this Indigenous interest.

### 16.1.9 Indigenous Health and Well-being

#### Background

Chawathil understands Indigenous health and well-being as holistic, rooted in shxwelí, the life force that connects all beings, and expressed through relationships with land, water, culture, and community. Well-being encompasses physical, mental, emotional, spiritual, and cultural dimensions, inseparable from stewardship responsibilities and the ability to practice Indigenous governance according to Chawathil laws and traditions.

The Fraser River is central to health and well-being, supporting access to country foods, cultural teachings, ceremonial practices, language, and intergenerational knowledge transfer. Cultural continuation, learning on the land, harvesting, engaging in ceremony, and transmitting oral histories, is integral to wellness. Disruptions to these relationships through environmental degradation, pollution, or development can affect both individual and collective well-being. Colonial impacts, including displacement and loss of access to traditional resources, continue to shape Chawathil's health determinants, reinforcing the nation's emphasis on clean air, water, land, and culturally grounded practices as essential components of well-being.

#### Current Context

Chawathil identifies Indigenous health and well-being as a core interest influenced by long-standing cumulative effects in S'ólh Téméxw. Industrial development, habitat degradation, and reduced access to traditional resources have limited opportunities to harvest country foods, gather medicinal plants, practice ceremony, and transmit cultural knowledge—all key determinants of well-being. These cumulative pressures contribute to cultural stress, reduced food security, and diminished opportunities for land-based healing and cultural learning.

Environmental degradation in the lower Fraser River has also affected ecosystem health, influencing confidence in the safety, quality, and availability of traditional foods and medicines. Sensory disturbances and industrial presence near culturally important landscapes may further disrupt spiritual practices, cultural continuity, and cultural identity, factors closely linked to holistic well-being.

Chawathil's health outcomes are further shaped by socio-economic determinants such as limited access to culturally safe health services, barriers to education and training, and the legacies of colonial policies. Although specific health data for Chawathil is limited, the nation continues to advance wellness initiatives, including stewardship, language revitalization, and youth cultural programming, as essential components of long-term well-being. While Project-related employment may offer some short-term benefits, Chawathil emphasizes that sustained well-being depends on protecting land, water, traditional food systems, and cultural practices for future generations.

#### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#) that may affect Chawathil health and well-being during the Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Effects on the quality, quantity, and availability of harvested country foods:** Tilbury Phase 2 activities may interact with environmental conditions that support traditional food systems relied upon by Chawathil, including plants, wildlife, fish, and medicines that contribute to holistic well-being (harvesting and subsistence activities, vegetation, wildlife and wildlife habitat, fish and fish habitat, surface water, and groundwater VCs). Although no in-river works are proposed, Construction and Operation could introduce air emissions, dust, noise, vibration, and vegetation disturbance that may subtly influence the perceived or actual quality of country foods or medicinal plants. Changes to visual resources and sensory conditions (air quality, acoustics, culture VCs) may also alter the experience of harvesting or land-based healing practices that are central to maintaining physical, cultural, and spiritual health. Indirect pathways such as altered confidence in resource safety, reduced access to gathering sites, or diminished sensory conditions may influence well-being even where biophysical changes are low;
- **Effects on air quality, noise, and water quality:** Tilbury Phase 2 may generate changes to air emissions, noise, and surface and groundwater conditions that intersect with Chawathil's rights to clean air, water, and land, key determinants of Indigenous health (air quality, acoustic, surface water, groundwater, and human health VCs). Project activities could introduce localized increases in Criteria Air Contaminants (CAC)s, odour, dust, or noise that influence comfort, cultural acceptability, and perceived safety when practicing land-based activities. Changes to water quality, while predicted to be negligible after mitigation, remain an important consideration for well-being because Chawathil's health practices, including ceremonial use and the preparation of traditional foods, depend on confidence in the integrity of the Fraser River system. These pathways represent potential interactions with both environmental and cultural determinants of health through impacts on sensory environments and resource conditions; and,
- **Effects on health and well-being from changes to traditional ways of life and cultural sites:** Tilbury Phase 2 activities may influence Chawathil's ability to practice cultural traditions, travel through S'ólh Téméxw, and maintain connections to culturally important areas—an essential foundation of Indigenous well-being (culture, land and resource use, archaeological and heritage resources, human health VCs). Sensory disturbances (noise, odour, dust, air emissions, vibration) and visual changes may alter the quality of cultural settings where ceremonies, teachings, and land-based healing occur. Project activities may also reinforce existing barriers to movement along the Fraser River corridor or limit access to culturally important areas through construction presence, safety restrictions, or navigation constraints. Disruptions to cultural practices, stewardship responsibilities, and intergenerational knowledge transfer can influence mental, spiritual, emotional, and social well-being even in the absence of direct physical disturbance. These pathways reflect the interdependence of health, culture, identity, and land-based practice for Chawathil.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on Indigenous health and well-being. These include the following:

- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting Chawathil's physical well-being and confidence in harvesting;
- **Acoustics (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting Chawathil's comfort, well-being, and connection to land and water;
- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting Chawathil's cultural and nutritional reliance on healthy salmon and aquatic ecosystems;

- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for Chawathil's subsistence and health;
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Chawathil health and well-being;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Chawathil's physical health;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Chawathil Alliance's nutritional well-being;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Chawathil's food security, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Land and Resources VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Chawathil's long-term aspirations for land and water restoration and reducing stressors that can affect well-being;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures and early notification to Indigenous nations, help protect culturally important sites and landscapes that support the spiritual and emotional well-being of Chawathil;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Chawathil's well-being; and,
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Chawathil members' physical, cultural, and mental health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides Chawathil with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with Chawathil to be developed by the Holder in consultation with the nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;

- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting Chawathil's physical health and overall well-being; and,
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Chawathil historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- Accidents and Malfunctions Reporting would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### The EAO's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Chawathil's Indigenous health and well-being:

- Effects on the quality, quantity, and availability of harvested country foods;
- Effects on air quality, noise, and water quality; and,
- Effects on health and well-being from changes to traditional ways of life and cultural sites.

The EAO's characterization of the residual effects of Tilbury Phase 2 on Indigenous health and well-being are summarized in the table below.

Table 14: Summary of residual effects and rationale on Chawathil First Nation and its Indigenous health and well-being

| Indigenous Interest                                                                                                                                                                                                                                                        | Assessment Rating*                                                                                                                                                                                                                                                                            | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (Indigenous health and well-being)<br>-Effects on the quality, quantity, and availability of harvested country foods<br>-Effects on air quality, noise, and water quality<br>-Effects on health and well-being from changes to traditional ways of life and cultural sites | <b>Context (resilience):</b> Medium<br><b>Magnitude:</b> Negligible<br><b>Extent:</b> Local<br><b>Duration:</b> Medium-term<br><b>Reversibility:</b> Fully reversible<br><b>Frequency:</b> Irregular<br><b>Affected Populations:</b> Even<br><b>Risk:</b> Low<br><b>Uncertainty:</b> Moderate | <b>Context:</b> rated as medium, as Chawathil maintains strong cultural resilience through stewardship and spiritual practice, but cumulative effects have reduced the ecological and territorial supports essential for holistic well-being.<br><b>Magnitude:</b> assessed as low. Tilbury Phase 2 activities have a negligible to low magnitude effect on air quality, water quality, with no impact to traditional foods. Remaining sensory effects (noise, odour, visual change) are not expected to detectably influence cultural experience, for those close to the sight, and are not anticipated to cause significant physical or holistic well-being outcomes.<br><b>Extent:</b> rated as local, as most measurable impacts are confined to areas near the Project site, though emotional and cultural connections to those areas may extend further. Any sensory or experiential changes would occur only near Tilbury Island within a limited portion of the lower Fraser River and not across Chawathil's broader territory.<br><b>Duration:</b> rated as medium-term duration, with the Construction phase effects potentially persisting into early Operation, especially for emotional or cultural impacts tied to disrupted access or practices. Construction effects are short- |

| Indigenous Interest                                                                                                               | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | <p>term; operational effects are irregular and limited. No long-term changes to health determinants are expected.</p> <p><b>Reversibility:</b> impacts are fully reversible since sensory effects end when Construction ceases or Operation stops; no persistent changes to environmental health determinants or cultural-health practices are anticipated.</p> <p><b>Frequency:</b> rated as irregular because the anticipated effects—such as dust, odour, noise, and vibration—are expected to occur primarily during active Construction periods, specific operational activities, or discrete Tilbury Phase 2 phases. These effects will not be constant but will arise at intervals tied to Tilbury Phase 2 schedules, site preparation, equipment use, or traffic increases. As such, while noticeable when present, they are not expected to persist continuously across the Tilbury Phase 2's lifespan.</p> <p><b>Affected Populations:</b> rated as even since any minor experiential effects would be experienced evenly by community members who travel through or use areas near Tilbury Island; no disproportionate impact on specific groups is expected.</p> <p><b>Risk:</b> is assessed as low, because residual effects on Indigenous health and well-being are unlikely to persist after mitigation is applied, resulting in a low likelihood of occurrence. Related effects are negligible to low in magnitude and local in extent, meaning any consequences would not result in measurable, lasting, or population-level impacts on health, access to traditional foods, or holistic well-being, resulting in a minor consequence rating.</p> <p><b>Uncertainty:</b> is rated as moderate, due to gaps in disaggregated health data and challenges in predicting spiritual and emotional responses to cumulative or perceptual changes.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

### Cumulative Effects

Chawathil's Indigenous health and well-being is influenced by long-standing cumulative effects across S'ólh Téméxw, including industrialization, urban expansion, habitat alteration, and reduced access to cultural practices and traditional resources. These regional conditions have eroded opportunities for land-based learning, spiritual practice, and harvesting activities that contribute to holistic well-being and cultural renewal.

Tilbury Phase 2 is not expected to directly affect country foods, surface water, fish, or medicinal plant availability, and mitigation measures for air quality, noise, water protection, and cultural values limit potential health-related pathways. Residual effects from Tilbury Phase 2 are assessed as negligible, with sensory changes remaining localized within an already industrial setting. While these sensory effects may contribute incrementally to regional pressures experienced by Chawathil members, their magnitude and spatial extent mean they will not materially influence overarching health and well-being outcomes. Other reasonably foreseeable projects—such as the T1B and the TMJ—may add further industrial activity in the region. Both TMJ and T1B have the potential to add to cumulative effects associated with decreased air quality and associated health impacts.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

#### Conclusion

Considering the above analyses, FortisBC's proposed mitigation measures, and EAO's Table of Conditions, the EAO concludes that Tilbury Phase 2 would have negligible effects on Chawathil's health and well-being interests.

#### 16.1.10 Positive Effects of Tilbury Phase 2

According to the Revised Application, Tilbury Phase 2 Project is anticipated to generate several positive residual effects for Chawathil, primarily within social and economic conditions during the Construction phase. These include increased employment opportunities for Chawathil members—particularly those with trades skills or certifications—and expanded Indigenous business and procurement opportunities for nation-owned or affiliated enterprises. The Project may also contribute positively to Chawathil government revenue and enhance the community's capacity to improve social and economic conditions through increased income and related quality-of-life benefits. These positive effects are expected to be most meaningful during the 3-to-6-year Construction phase, when labour demand is highest. FortisBC anticipates that these benefits may also strengthen socio-economic determinants of health, such as employment, education, and income, thereby indirectly supporting improvements in overall community well-being.

#### 16.1.11 Conclusions

Considering the above analyses, the EAO's and FortisBC's engagement with Chawathil, FortisBC's commitments in Appendix A of the Revised Application, and the EAO's table of provincial conditions, identifying and where applicable recommending Key Mitigation Measures to inform federal conditions under the IAA 2019, the EAO concludes that Tilbury Phase 2 is anticipated to have the following impacts on Chawathil's Indigenous interests:

- Negligible residual effects to Chawathil First Nation's harvesting and subsistence activities;
- Negligible residual effects to Chawathil First Nation's cultural use sites and areas; and
- Negligible residual effects to Chawathil First Nation's Indigenous health and well-being.

Considering the above analyses, the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on Chawathil's interests has been adequately avoided, minimized, or otherwise accommodated. Based on the engagement undertaken with Chawathil on Tilbury Phase 2, as outlined above in Section 16.1.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Chawathil.

## 16.2 Cheam First Nation

### 16.2.1 Community Profile

Cheam First Nation (Cheam)(Xwchíyò:m) are Stó:lō People who have lived in the Rosedale area of the Upper Fraser Valley in B.C. for thousands of years. Their name means "wild strawberry place," reflecting the local growth of wild strawberries. The traditional language of Cheam is Halq'eméylem, spoken by Upriver Stó:lō communities (Cheam First Nation n.d.). Halq'eméylem is part of the Coast Salish language group. They are a self-governing community with strong cultural, linguistic, and genetic ties to other Coast Salish Peoples, particularly the Pélhoxwlh (Pilalt) Tribe.

Cheam is a member of the Stó:lō Tribal Council and the STSA. The Stó:lō Tribal Council negotiates land and resource agreements outside the B.C. treaty process, while the STSA supports Stó:lō First Nation members in making stewardship decisions. However, Cheam has chosen to participate in the environmental assessment for Tilbury Phase 2 independent of the S'ólh Téméxw Stewardship Association.

Cheam's primary reserves (Cheam 1 and Tseatah 2) are located near Rosedale, B.C., in the Upper Fraser Valley, approximately 100 km east of the Tilbury LNG facility on Tilbury Island in Delta upstream along the Fraser River.



Cheam also shares the Pekw'xé:yles reserve, located in Mission, B.C. (Mission), with 21 other Stó:lō communities. This site is approximately 60 km east of the site. While the reserves are not in the immediate vicinity of Tilbury Phase 2, the Fraser River, which connects all these locations, is of central cultural, economic, and spiritual importance to Cheam, and the river itself is a key conduit for migratory salmon and traditional practices that link these areas.

### 16.2.2 Cheam First Nation Involvement in the Environmental Assessment

During the Early Engagement Phase, Cheam identified as a participating Indigenous nation for the Tilbury Phase 2 EA. The [Assessment Plan](#) outlines consultation expectations with potentially affected Indigenous nations. Cheam identified several key issues requiring focussed analysis, including potential effects on salmon relied on for FSC purposes, and impacts to their Aboriginal rights associated with salmon fisheries.

Cheam actively participated in the Process Planning Phase by reviewing the [Process Order](#), [Assessment Plan](#), and [Tilbury Phase 2- Schedule C – Application Information Requirements](#) materials, providing updated secondary-source information, and emphasizing that cumulative industrial and climate impacts on the Fraser River must be assessed holistically through a Stó:lō worldview. The EAO and the IAAC provided funding to support Cheam engagement in the environmental assessment process. The EAO provided documents, project updates, the draft Initial Project Description and DPD, and Process Planning documents for review.

Through discussions with Cheam during the Process Planning and Application Development and Review phases, it was initially agreed that the EAO would assess Tilbury Phase 2 effects on Cheam's Indigenous interests with input and iterative review from Cheam. However, in July 2025, Cheam communicated to the EAO that capacity constraints limited their ability to engage further on the assessment of Tilbury Phase 2. As a result, the EAO conducted the assessment of Tilbury Phase 2 effects on Cheam's Indigenous rights and interests and sought consensus on this Report with the nation during Effects Assessment.

The EAO used the following sources in drafting the assessment of Tilbury Phase 2 effects on Cheam Indigenous rights and interests:

- FortisBC's (Proponent) Revised Application;
- Information submitted during the environmental assessment by the Proponent and Cheam;
- Conclusions from the EAO's assessment of VCs; and,
- [Section 11.03](#) of the Revised Application, along with the Proponent's [Indigenous Engagement Report](#), provides a summary of the Proponent's engagement with Cheam.

### 16.2.3 Assessment Boundaries

All Tilbury Phase 2 components are within Stó:lō traditional territory.

The spatial assessment boundaries for each Indigenous interest are based on the overlap between Stó:lō traditional territory and the combined LAAs and RAAs for specific Value Components (VCs). Refer to Figure 11.3-1 in Section 11.03 of the Revised Application (Cheam Territory, and Reserve Site Figure). The LAA for each Indigenous interest reflects the combined LAAs of the VCs linked to that interest. The RAA is defined the same way, using the combined RAAs of the linked VCs. In general, the LAA is used to assess direct and indirect Tilbury Phase 2 effects, while the RAA supports the assessment of cumulative effects.

The assessment of potential effects related to Tilbury Phase 2 considered three distinct Phases:

- Construction phase, with an estimated duration of three to six years;
- Operation phase, expected to last more than forty years; and,
- Decommissioning phase, anticipated to take approximately two years.

#### 16.2.4 Regional Context

Tilbury Phase 2 intersects with Stó:lō traditional territory, known as S'ólh Téméxw, which means “our world” or “our land” in Halq'eméylem (STSA 2018). Cheam asserts inherent Aboriginal title and rights within S'ólh Téméxw. Members of the STSA have highlighted that in their worldview, Lets'emó:t means “one mind,” reflecting the unity between the human and natural worlds. Additionally, Shxwelí, the life force of all things, is a crucial aspect of the Stó:lō People's worldview, forming the basis of their connection to the natural environment. The Stó:lō People have emphasized that their spiritual connection, Aboriginal rights, and land use practices related to the river do not diminish with distance from individual reserves. They maintain a relational connection with the entire Fraser River (STSA 2022).

The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with very little to no habitat value for wildlife. The vegetation within Tilbury Phase 2 is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species. Public access to Tilbury Phase 2 site is limited, although there is currently public use of the dike to the north of Tilbury Phase 2 site along the Fraser River.

#### 16.2.5 Indigenous Interests

The EAO engaged Cheam during the Early Engagement phase in the development of the [Joint Summary of Issue and Engagement for the Tilbury Phase 2 LNG Expansion Project](#). The EAO summarized an initial understanding of Cheam's interests including:

- Potential effects to salmon and their habitat;
- Potential effects to Cheam's way of life; and,
- Potential effects to Aboriginal Rights in the Fraser River.

The Proponent has identified Cheam's Indigenous interests to be assessed in the Revised Application through:

- Reviewing requirements and guidance from the EAO, including the AIR; and
- Conducting engagement efforts with Cheam to gather information on their Indigenous interests, as outlined in [Section 11.8.3](#) of the Revised Application - Summary of Engagement of Cheam section.

The EAO engaged with Cheam during all phases of the EA for Tilbury Phase 2, including during the development of the Report. Through these discussions and based on the preliminary list of Indigenous interests identified in the AIR, the following interests were considered:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions; and,
- Indigenous health and well-being.

The assessment of Cheam's Indigenous interests in this section uses these categories. The EAO's assessment includes describing the Indigenous interest, the current context, potential effects, applicable mitigation, and the resulting effects analysis. If there is an adverse residual effect, a characterization of effects and cumulative effects assessment is also completed. Indigenous governance systems were not assessed as stand-alone interests, but were assessed as components of other Indigenous interests, with core analysis placed in the cultural use sites and areas sections.

## 16.2.6 Harvesting and Subsistence Activities

### *Background*

Cheam, as part of the larger Stó:lō People, has a deep-rooted and enduring relationship with the lower Fraser River and its surrounding landscapes. For thousands of years, the Fraser River has formed the foundation of Cheam's food systems, spirituality, culture, and economy. Traditional harvesting activities have included fishing for salmon, sturgeon, trout, and eulachon, as well as gathering plants for food, medicines, and ceremonial purposes. Hunting in the forests, valleys, and subalpine regions of S'ólh Téméxw, particularly in identified use zones like the Canyon Heritage Area<sup>8</sup> provided additional sustenance and materials, with deer, elk, waterfowl, and marine mammals forming a crucial part of the traditional diet. A wide variety of traditional methods such as dip netting, torch lighting, and dry-rack fishing, used especially in the Fraser Canyon, reflect the specialized knowledge passed through generations.

For Cheam, fishing is not merely a source of subsistence but a core expression of identity, spirituality, and intergenerational knowledge transfer. The salmon cycle aligns with traditional rhythms of life, and ceremonies such as the First Salmon Ceremony highlight the sacred connection to the river. The land and water have long supported cultural practices, including the seasonal round that connected winter villages with harvesting and trade camps through a complex network of travel corridors. Spiritual practices, such as the placement of regalia, cleansing rituals, and oral histories tied to place, are deeply intertwined with specific landscapes and waterways. Cultural use sites across the region include sacred landscapes, ceremonial areas, archaeological features, and locations tied to traditional place names. While some of these sites are documented through archaeological records, others are preserved through oral tradition and remain vital to Cheam's cultural continuity, even without physical evidence.

Despite the continued importance of these practices, Cheam faces ongoing challenges to their ability to harvest and maintain cultural connections due to industrial development, habitat loss, pollution. Members have raised concerns about declining fish stocks, increasingly narrow fishing windows, and the broader cultural erosion that comes from reduced access to traditional lands and waters. Nevertheless, Cheam remains committed to its role as caretaker of the land and water, emphasizing the importance of stewardship, knowledge transmission, and the protection of plant and fish resources for future generations. This commitment reflects the enduring relationship between Cheam, the Fraser River, and the natural world, and is a relationship that remains central to the nation's cultural survival and identity.

### *Current Context*

Tilbury Phase 2 is situated on Tilbury Island in Delta, B.C., within a highly disturbed industrial site along the south arm of the Fraser River. The area has been extensively altered from its natural state having been cleared of native forest, stripped of natural soils, and largely covered in gravel or pavement. Vegetation is minimal and dominated by invasive species, providing little ecological or wildlife value. While the land is zoned for industrial and commercial use, it lies within S'ólh Téméxw, the traditional territory of the Cheam and other Stó:lō Peoples. Despite its degraded condition and distance from their reserves, the area remains part of a broader cultural and spiritual landscape to which Cheam maintains a strong connection and relational responsibility to protect its health and flow.

Although the Revised Application states that Cheam has not identified any current subsistence or cultural use, such as fishing, hunting, or plant gathering, within the immediate Project area, the nation emphasizes that this absence does not negate the importance of the site or the potential for impacts. Cheam pointed out that salmon are a migratory species and travel through the lower Fraser River past the Tilbury site before reaching Cheam fishing areas upstream. Cheam has expressed concern that limiting the assessment to active use within Tilbury Phase 2 fails to capture the cumulative and migratory impacts on salmon populations and, by extension, on their fishing rights.

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<sup>8</sup> The Canyon Heritage Area is a designated cultural landscape within the S'ólh Téméxw Use Plan developed by the S'ólh Téméxw Stewardship Alliance. This area supports traditional activities such as hunting, plant gathering and spiritual practices, however, is outside the Project's RAA.

Spiritual and ceremonial practices, such as fasting, bathing, and the First Salmon Ceremony, require healthy, private natural settings and continue to be practiced today. These cultural activities remain vital to Cheam's identity and rely on the integrity of the broader Fraser River ecosystem.

Past and ongoing industrial development, including urban expansion, port growth, rail infrastructure, and pollution, has steadily eroded Cheam's access to traditional lands and resources. Even when cultural use sites are no longer actively used or have been physically altered, they continue to hold cultural, historical, and spiritual value. Cheam members have raised concerns about the cumulative effects of development, including Tilbury Phase 2, which they believe further limit their ability to exercise Aboriginal rights and uphold stewardship responsibilities. Despite these challenges, Cheam continues to assert its role as caretaker of the Fraser River and its surroundings, advocating for the protection of cultural practices and the regeneration of access to land and water central to their way of life.

#### *Potential Project Effects*

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#), that may affect Cheam's harvesting activities and interests during the Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources** from loss or alteration of habitat supporting harvested wildlife, fish, bird, or plant species of cultural or medicinal importance (wildlife, fish and fish habitat and vegetation VCs). Changes to salmon and salmon habitat (fish and fish habitat VC) correlated with impacts to Cheam way of life, and surface water quality and quantity and effects from increased sensory disturbances such as dust, noise, odour, visual landscape (air quality, acoustics, land and resource use VCs);
- **Effects to Cheam First Nation Rights to fish for food, social and ceremonial (FCS) purposes** from habitat loss, (wildlife, fish and fish habitat, vegetation VCs), increased mortality risks to fish, birds, and marine mammals (fish and fish habitat, wildlife and wildlife habitat VCs), and changes in their behavior, including migration patterns, due to sensory disturbances (acoustics, air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water, groundwater VCs) may further impact traditional harvesting and cultural practices; and,
- **Effects on the accessibility and availability of traditional lands and resources** may occur as a result of altered land or water based travel routes, access restrictions, or safety considerations, including changes to navigability and the usability of established travel corridors (land and resource use and surface water VCs), as well as indirect effects from sensory disturbances such as noise, dust, lighting, or visual changes that may discourage travel through otherwise accessible areas (air quality, acoustics, and land and resource use VCs).

#### *Mitigation Measures*

The Revised Application includes a summary of relevant mitigation measures that the Proponent has proposed in response to potential Tilbury Phase 2-related effects on harvesting and subsistence activities, as mentioned in the section above. A full table of Proponent mitigations can be found in [Appendix A](#) of the Revised Application. Below is a summary of mitigation measures, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Cheam's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during construction and operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and

nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Cheam's harvesting and cultural practices;

- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm-sewer system. These protections support water quality and fish habitat relied on to support Cheam's harvesting and cultural practices;
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Cheam for harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Cheam for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife-protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Cheam's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill-prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to Cheam's FSC harvesting and cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices; and,
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to Cheam's harvesting and cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on Cheam's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting activities (see [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for Cheam to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Cheam's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Cheam's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Cheam's harvesting and cultural practices;

- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions-control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and overall ecosystem health, this plan helps protect the environmental conditions that support Cheam's harvesting and cultural practices; and,
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project-related roads, which may lower potential impacts on salmon and other fish important to Cheam's harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial conditions the EAO identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Cheam's harvesting practices and broader ecosystem conditions important to their way of life.

#### *The EAO's Analysis and Conclusions*

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Cheam's harvesting practices and interests:

- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources;
- Effects to Cheam First Nation Aboriginal rights to fish for FSC purposes; and,
- Effects on the accessibility and availability of traditional lands and resources.

The EAO's characterization of the residual effects of Tilbury Phase 2 on harvesting and subsistence activities are summarized in the table below.

*Table 15: Summary of residual effects and rationale on Cheam First Nation and its harvesting and subsistence activities*

| Residual Effects                                                                                                                                                                                                                                                                                                                               | Assessment Rating*                                                                                                                                                                                                                 | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Harvesting and subsistence activities<br>- Changes to the experiences and preferences around the practice of harvesting rights and effects on the quality, quantity and availability of resources<br>- Effects to Cheam's right to fish for FSC purposes<br>- Effects on the accessibility and availability of traditional lands and resources | Context (resilience): moderate<br>Magnitude: Negligible<br>Extent: local<br>Duration: medium-term<br>Reversibility: reversible<br>Frequency: continuous<br>Affected Populations: disproportionate<br>Risk: low<br>Uncertainty: low | <p><b>Context:</b> Broadly speaking this interest is considered moderately resilient, meaning it is understood to generally withstand some imposed stresses. However, due to the already industrialized state of the area, this resilience may drop to low, as the interest may not easily adapt to further potential effects. It is understood that Cheam would have traditionally used the area for a variety of harvesting and subsistence activities, but that urbanization, pollution and restricted access has eroded Cheam's ability to practice their rights in the area.</p> <p><b>Magnitude</b> of impact is considered negligible. Project activities are not expected to cause detectable indirect effects on salmon or other fish migrating past the Project site to Cheam's upstream fishing areas in the Fraser River. Sensory disturbances associated with the Project (i.e. noise, light and air quality) are negligible to low in magnitude and are not expected to extend to area where Cheam harvests or fishes. No active harvesting occurs in the project area and residual effects on valued components such as surface water quality, fish and fish habitat are assessed as negligible in magnitude.</p> <p><b>Extent:</b> These effects are rated local in extent, since the spatial scale of residual effects to applicable VC's is limited, the impact on harvesting is expected to remain local, primarily within the immediate project area.</p> |



| Residual Effects                                                                                                                  | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | <p><b>Duration:</b> is considered medium-term, as effects to harvesting activities persist only while the facility is operational.</p> <p><b>Reversibility:</b> Most effects, particularly sensory disturbances like noise and light, are fully reversible upon decommissioning.</p> <p><b>Frequency:</b> Rated as continuous as effects would be most prominent during construction, but some effects (noise, light disturbance) would occur continuously.</p> <p><b>Affected Populations:</b> Tilbury Phase 2's impacts will primarily affect Cheam members who actively harvest, though indirect effects may also be felt by those who refrain from harvesting due to perceived environmental degradation in the highly developed area.</p> <p><b>Risk:</b> The likelihood of these effects occurring is low given effectiveness of mitigation measures, with negligible magnitude and limited extent, the overall consequences are expected to be minor. Therefore, the risk is rated as low.</p> <p><b>Uncertainty:</b> With reasonably well-understood pathways and expectation of effective mitigation measures, the level of uncertainty is low, supporting the conclusion of negligible impact.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

### Cumulative Effects

As described in the Background and Current Context section, the lower Fraser River and Tilbury Island area have undergone longstanding industrial development, as well as impacts due to climate change, resulting in existing pressures on environmental conditions and on Cheam's harvesting and subsistence activities.

The Revised Application identifies several reasonably foreseeable projects that may affect Cheam's harvesting and subsistence interests. These include T1B, which would increase LNG production, and the TMJ Project, which would introduce additional vessel traffic in the Fraser River and further development of the foreshore area. Both T1B and TMJ could contribute additional sensory disturbances (noise, light, vibration) and impact air quality in areas used by Cheam for harvesting. TMJ could further alter fish habitat and water quality in areas where Cheam assert harvesting and subsistence rights.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, including FortisBC's proposed mitigation measures, EAO's Table of Conditions and KMMs, the EAO concludes that Tilbury Phase 2 would have a negligible effect on Cheam's harvesting and substance activities.

## 16.2.7 Cultural Use Sites and Areas

### *Background*

Cheam, part of the Stó:lō People and Coast Salish cultural group, has deep ancestral ties to S'ólh Téméxw ("our land"), with the Fraser River central to its cultural identity, spiritual practices, and stewardship responsibilities. Fishing, especially salmon harvesting, has shaped Cheam's traditions, ceremonies such as the First Salmon Ceremony, and intergenerational knowledge transfer. Historically, cultural use areas included fishing sites, plant gathering locations, and sacred landmarks linked by river travel corridors. Today, industrialization and cumulative effects have reduced access to these areas, impacting cultural continuity and plant medicine practices.

### *Current Context*

Cheam continues to maintain cultural connections to the Fraser River and surrounding landscapes despite extensive industrialization in the lower Fraser region. Traditional cultural use areas historically supported fishing, plant gathering, and spiritual practices; however, access to these areas has been increasingly constrained by development, habitat loss, and regulatory restrictions. While Tilbury Phase 2 is located within an industrialized zone and Cheam has not identified specific cultural sites in or adjacent to the site, the nation emphasizes the importance of safeguarding salmon passage and river health to sustain cultural practices and spiritual relationships tied to the Fraser River. These concerns reflect broader challenges to cultural continuity and intergenerational knowledge transfer within S'ólh Téméxw.

### *Potential Project Effects*

The EAO has identified the following pathway of effects, prior to the application of mitigation measures, along with associated VCs outlined in [Appendix 6](#), which may affect Cheam's cultural use sites and areas during Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Loss of access to and disenfranchisement from cultural sites;** While Tilbury Phase 2 is not currently accessible for cultural activities like hunting or plant gathering and will remain restricted, Cheam has emphasized the vital importance of travelways in connecting cultural sites and areas throughout S'ólh Téméxw, particularly along the lower Fraser River and would likely use Tilbury Phase 2 site if there was the opportunity.  
Specific cultural use sites have not been identified to date within Project Footprint or the LAA; however, an absence of physical evidence does not equate to a lack of use or significance of the area for the Stó:lō Peoples. Sensory disturbances (noise, air quality, visual landscape) are predicted to affect the quality of experience for people engaged in activities on surrounding lands and waters and therefore could alter the experience of Cheam members using traditional travelways or cultural areas in the (acoustic, air quality, culture, land and resource use VCs); and,
- **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas;** The predicted levels of visual and sensory disturbance may impact and deter Cheam members from engaging in their cultural and spiritual practices (Culture VC) at their preferred locations close to Tilbury Phase 2 site. Risks to fish habitat (See Harvesting and Subsistence section above) from contamination in the Tilbury Slough or changes in fish distribution or behaviour from sensory disruptions could impact traditional cultural practices related to salmon.

### *Mitigation Measures*

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed to potential Tilbury Phase 2 related effects on cultural use sites and areas. These include the following:

- **Acoustics (Section 7.3)** Noise reduction measures during construction and operation, including idle-reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by Cheam;
- **Soil (Section 7.6)** Soil management measures, including erosion control, spill-prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Cheam;
- **Land and Resource Use (Section 7.11)** Traffic management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support Cheam's ability to safely access and continue cultural practices within their traditional territory;
- **Infrastructure and Services (Section 7.12)** Measures to manage traffic, workforce accommodation, emergency response, and waste help limit indirect pressures on local lands, waters, and access routes. By managing congestion and pressures on community services, these measures help maintain safe access to culturally important areas and manage disturbance to cultural landscapes relied on by Cheam;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support Cheam's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory; and,
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Cheam's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions conditions that would mitigate potential effects to Indigenous cultural use sites and areas (see also [Section 8](#) of this report):

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance;
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for Cheam to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting Cheam's continued access to and use of cultural sites during project Construction;

- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Cheam;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by Cheam; and,
- **Condition 15 (Chance Find Protocol)** requires the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Cheam historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

### *The EAO's Analysis and Conclusions*

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Cheam's cultural use sites and areas rights and interests:

- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance;
- Effects of various Tilbury Phase 2 activities on cultural values and spiritual activities; and, Loss of access to or disenfranchisement from cultural sites.

The EAO's characterization of the residual effects of Tilbury Phase 2 on Cultural Use Sites and Areas are summarized in the table below.

Table 16: Summary of residual effects and rationale on Cheam First Nation and its cultural use sites and areas

| Residual Effects                                                                                                                                                                                                         | Assessment Rating*                                                                                                                                                                                                                                                          | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| Cultural use sites and areas<br><br>-Loss of access to and disenfranchisement from cultural sites<br><br>-Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas | Context (resilience): Low Resiliency<br><br>Magnitude: Negligible<br><br>Extent: Local<br><br>Duration: Medium-term<br><br>Reversibility: Partially Reversible<br><br>Frequency: Continuous<br><br>Affected Populations: Even<br><br>Risk: Low<br><br>Uncertainty: Moderate | <p><b>Context:</b> rated as having low resiliency. Although Cheam has demonstrated cultural resilience in the face of historical and ongoing challenges the persistence of cumulative disturbances in the Fraser River corridor, including habitat alteration, sensory impacts, and reduced access to key cultural areas, has likely diminished overall capacity to absorb additional adverse effects. This rating reflects a balanced assessment acknowledging both cultural resilience and the challenges posed by the highly modified setting.</p> <p><b>Magnitude:</b> Tilbury Phase 2 could have negligible magnitude effect to Cheam's Cultural Use Sites and Areas. Tilbury Phase 2 may cause a negligible to low magnitude sensory disturbance (acoustic, air quality, visual) that could be detected by Cheam members taking part in cultural practices; however, no cultural sites were identified close to the Project site.</p> <p><b>Extent:</b> rated as local, as the anticipated residual effects are geographically confined to Tilbury Phase 2 vicinity and immediate surrounding areas. While Cheam members continue to maintain connections across the lower Fraser, the predicted effects are unlikely to extend far Project site.</p> <p><b>Duration:</b> is rated as medium-term as residual effects related to Tilbury Phase 2 will likely cease after decommissioning phases.</p> <p><b>Reversibility:</b> while the potential for cultural impacts is recognized—particularly in relation to continuous frequency for sensory disturbances and the loss of access to culturally important sites—these are largely</p> |

| Residual Effects                                                                                                                  | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | <p>reversible post-decommissioning, except for disruptions to traditional practices, which may be irreversible.</p> <p><b>Frequency:</b> rated as <b>continuous</b> for restrictions on access to Tilbury Phase 2, which is an ongoing condition. Sensory disturbances (e.g., noise, odour, visual changes) may be continuous during Operation but variable during Construction depending on activity type.</p> <p><b>Affected Populations:</b> Direct impacts would disproportionately affect any Cheam members actively practicing cultural activities close to the Project site.</p> <p><b>Risk:</b> the likelihood of some negative cultural impacts occurring is rated low, given the limited use of the area by Cheam and therefore limit causal link to members, consequence is expected to be minor due to the negligible to low magnitude of Tilbury Phase 2-related effects, application of mitigation measures and regional extent. Therefore, risk is characterized as low.</p> <p><b>Uncertainty:</b> is rated moderate to acknowledge the inherent complexity in assessing cultural impacts, which are often subjective and deeply personal, and difficult to predict with certainty. EAO is also not aware of any specific cultural sites in the area.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

### Cumulative Effects

The historical context of environmental degradation and land-use changes has already affected Cheam's cultural use sites and areas, as detailed in the background and Current Context section above. These effects have steadily reduced the availability, quality, and accessibility of sites central to Cheam's cultural identity, spirituality, and traditional practices. Settlement expansion, railway development, pollution, and the growth of infrastructure, particularly around the Fraser River and the Salish Sea, have contributed to the fragmentation of important landscapes and travelways that connect cultural use areas. Many of these sites, deeply rooted in oral traditions and generational knowledge, are not always represented in physical or archaeological records, making them especially vulnerable to being overlooked in environmental assessments and land planning.

As stated in the Revised Application, FortisBC notes that two foreseeable projects, T1B and TMJ, are expected to modify the Tilbury Island foreshore prior to construction of Tilbury Phase 2. TMJ would also introduce additional vessel traffic in the Fraser River. These developments are expected to introduce additional sensory disturbance (noise, light, vibration) affecting nearby cultural site access and use. T1B could remove vegetation, impacting culturally important plants and wildlife habitat, while TMJ shipping activities may increase aquatic disturbance, with potential effects on fish populations and cultural connections to the Fraser River.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

*Conclusion*

Considering the above analyses, including proposed proponent mitigations, EAO's conditions, KMMs, and based on the Project specific effects of Tilbury Phase 2, the EAO concludes that the Project will have a negligible effect on the cultural use sites and areas of Cheam.

**16.2.8 Social and Economic Conditions and Indigenous Health and Well-being***Background*

Historically, the social and economic foundations of Cheam and other Stó:lō communities in the Lower Fraser River region have been deeply tied to a land-based economy centered on salmon fishing. The Fraser River has long served as a vital source of food, trade, and cultural expression. Fishing, especially for salmon, was not only a subsistence activity but also shaped spiritual traditions, social systems, and stewardship responsibilities. Seasonal cycles of harvesting, gathering, and trading formed the backbone of a sustainable and interconnected economy that linked communities across S'ólh Téméxw through kinship networks and shared responsibilities.

Cheam's traditional economy extended beyond fishing to include the gathering of plants for food, medicine, teas, and cultural purposes, as well as the use of travel corridors to reach seasonal camps and regional trade routes. Access to clean water, healthy ecosystems, and abundant natural resources were essential to community well-being. However, colonial land policies, environmental degradation, and restrictive government regulations have disrupted these traditional systems. These changes have limited access to key resources and undermined the self-sustaining nature of Cheam's land-based economy. Despite these challenges, Cheam continues to uphold cultural and economic practices such as food-social-ceremonial fisheries and knowledge sharing, while also pursuing new opportunities through self-governance, partnerships, and economic development initiatives.

Traditionally, Cheam maintained a holistic and place-based system of health and well-being, rooted in their reciprocal relationship with the land and waters of S'ólh Téméxw. Physical, mental, and spiritual wellness was supported by seasonal harvesting, salmon fishing, the use of traditional medicines, and a way of life grounded in intergenerational knowledge, ceremony, fasting, and storytelling. Strong kinship ties and active engagement with the land fostered a resilient and balanced community, where well-being was not seen simply as the absence of illness, but as harmony between individuals, the collective, and the natural world. Although modern pressures have impacted access to land and resources, Cheam continues to prioritize community wellness by strengthening cultural identity, stewarding traditional knowledge, and advocating for the protection of their ancestral territory.

*Current Context*

The current social and economic conditions of Cheam have been shaped by the impacts of colonial policies, environmental degradation, and industrial development in the Lower Fraser River region. These historic and ongoing pressures have affected the exercise of Section 35 Rights and traditional land-based practices, while also influencing key socio-economic indicators such as housing, infrastructure, education, and employment. Cheam has a relatively young and growing population, with members residing both on- and off-reserve near the Fraser River. The local economy remains closely tied to traditional activities such as salmon fishing and gathering, while also incorporating efforts to diversify through workforce training, procurement, and business development associated with regional industrial projects. Balancing the continuation of traditional economic activities with participation in the modern economy remains a key challenge, particularly in the context of ongoing development pressures in S'ólh Téméxw.

In response to increasing demand for consultation and resource management oversight, Cheam established a Lands Department in October 2024. This department is now the main point of contact for project engagement and manages referrals related to land use and environmental assessments. It plays a central role in ensuring that proposed projects are assessed in alignment with Cheam's cultural values, environmental stewardship responsibilities, and governance objectives.



While industrial development has already impacted Cheam's ability to meaningfully exercise their rights and maintain cultural practices, Cheam has identified potential for positive economic outcomes if Tilbury Phase 2 can offer equitable employment, contracting, and procurement opportunities. However, Cheam has also noted potential barriers, including limited capacity among smaller Indigenous businesses and competition for skilled labour, which could limit the realization of these benefits.

Community health and well-being within Cheam continue to be affected by the loss of access to traditional lands and the degradation of local ecosystems. The Revised Application recognizes that historic land dispossession and environmental impacts, such as pollution and habitat loss, have disrupted access to traditional foods, medicines, and clean water, all of which are foundational to Cheam's health, culture, and identity. These disruptions have contributed to ongoing health disparities between Indigenous and non-Indigenous populations, including higher rates of chronic illness, addiction, and reduced life expectancy. These outcomes are compounded by systemic issues such as intergenerational trauma, racism, poverty, and limited access to culturally appropriate healthcare services. Despite these challenges, Cheam continues to prioritize wellness by delivering health programs on-reserve and working in collaboration with regional Stó:lō organizations and the First Nations Health Authority to provide comprehensive medical, dental, and community-based health services.

Traditional land and water-based practices, such as salmon fishing, plant harvesting, and ceremonial use of the land, remain integral to Cheam's vision of health and well-being. However, the cumulative effects of industrial activity have made the practice of these traditions increasingly difficult. Cheam has expressed concern that ongoing development in the Lower Fraser region further constrains their ability to maintain cultural health practices and fulfill stewardship responsibilities. The nation continues to advocate for the protection and restoration of culturally important lands and waters, emphasizing their importance not only for cultural continuity, but also for improving community health outcomes for present and future generations.

#### *Potential Project Effects*

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with the associated VCs in [Appendix 6](#), that may affect Cheam's social and economic conditions and Indigenous health and well-being during Construction, Operation and Decommissioning Phases of Tilbury Phase 2:

- **Effects to Cheam First Nation's employment opportunities, Indigenous businesses, procurement opportunities, and Cheam First Nation revenue:** Tilbury Phase 2 could positively affect Cheam's employment and business opportunities, depending on member participation and access to contracts (employment and economy VC). Indigenous workers are also more likely to be in construction-related jobs. However, smaller Indigenous businesses, including those linked to Cheam, may face challenges competing for workers or meeting Tilbury Phase 2 demands;
- **Effects to Cheam First Nation's future aspirations for sites or areas surrounding Tilbury Phase 2:** Potential residual effects both real and perceived from Tilbury Phase 2 could affect Cheam's aspirations for land and water restoration in the lower Fraser region (land and resource use VC);
- **Effects to Cheam First Nation's ability to improve social and economic conditions:** Tilbury Phase 2 may support Cheam's efforts to improve social and economic conditions by creating employment, training, and business opportunities. Increased demand for skilled workers could also boost interest in trades training (employment and economy VC);
- **Effects on the quality, quantity, and availability of harvested country foods:** This potential effect relates directly to the VCs of vegetation, wildlife and wildlife habitat, and fish and fish habitat. Cheam members currently maintain salmon fisheries upstream from Tilbury Phase 2. As per EAO's assessment report, there is expected to be a negligible interaction between Tilbury Phase 2 activities and Cheam harvesting and subsistence activities related to the quality, quantity, and availability of resources;
- **Effects on the value and perceived quality of country foods:** This potential effect pertains to Human Health and various VCs linked to contamination: air quality, acoustic, surface water, groundwater, and soil. The EAO

predicts negligible impacts on the quality, quantity, or availability of plants, wildlife, or fish, and notes that while residual effects are negligible, they are not entirely avoidable. Recognizing that perceptions can affect harvesting, the EAO anticipates minimal interaction between Tilbury Phase 2 and perceived impacts on country food quality, citing minimal biophysical effects, the area's existing industrial nature, and the cessation of waterborne deliveries;

- **Effects on air quality, noise and water quality:** These effects are directly linked to the VCs of air quality, acoustic, surface water, and groundwater. EAO predicts that some Cheam members could be minimally affected by Tilbury Phase 2's land-based activities, including construction, increased truck traffic and links to air quality and noise. Air quality effects are expected to be negligible, with low magnitude SO<sub>2</sub> emissions not anticipated to noticeably impact Indigenous interests. Noise effects are also predicted to be low in magnitude and only detectable to people near the site; and,
- **Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites:** This overarching effect relates to human health, culture, harvesting and subsistence activities, and cultural use sites and areas. EAO acknowledges Cheam's view that practicing traditions supports health and well-being and concludes that Tilbury Phase 2 will have negligible (but not non-existent) interaction with traditional activities or access to cultural sites. As such, minimal effects on health and well-being tied to traditional practices are anticipated. EAO also notes potential positive effects on socio-economic health determinants through increased employment and economic opportunities for Cheam members.

#### *Mitigation Measures*

The Revised Application includes a summary of relevant mitigation measures identified that FortisBC has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions and Indigenous health and well-being. These include the following:

- **Land and Resource Use VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Cheam's long-term aspirations for land and water restoration and reducing stressors that can affect well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Cheam members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socio-economic impacts on Cheam and supporting health and community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Cheam's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Cheam's cultural continuity and nutritional well-being;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Cheam's physical health and cultural practices;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Cheam's well-being;

- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for Cheam's subsistence and health;
- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting Cheam's cultural and nutritional reliance on healthy salmon and aquatic ecosystems;
- **Acoustics (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting Cheam's comfort, well-being, and connection to land and water;
- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting Cheam's physical well-being and confidence in harvesting; and,
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Cheam members' physical, cultural, and mental health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on social and economic conditions and Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides Cheam with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with Cheam to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting Cheam's physical health and overall well-being;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Cheam historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being;
- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support Cheam First Nation's socio-economic well-being through increased access to jobs, skills development, and business opportunities associated with Tilbury Phase 2; and,
- **Condition 17 (Dry Street Sweeping Report)** requires FortisBC to submit a Report on the effectiveness Dry Street Sweeping to mitigate the effects of 6-PPDQ on fish within eighteen months of a Certificate being issued. By informing measures to protect downstream aquatic environments, this condition supports Cheam's health and well-being by helping maintain confidence in environmental quality and minimizing potential concerns related to contamination of culturally important fish and waterways.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- Accidents and Malfunctions Reporting would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### *The EAO's Analysis and Conclusions*

After considering the EAO's conclusions on the linked VCs, and proposed mitigation measures, the EAO concludes that Tilbury Phase 2 is not expected to result in residual adverse effects on Cheam's social and economic conditions. While the nation has encountered systemic challenges directly impacting access to housing, infrastructure, employment and culturally important lands, these are primarily the result of the ongoing legacy of regional industrial development, and not directly attributable to Tilbury Phase 2. Although there may be interactions with Cheam's aspirations for stewardship and regional restoration, there is also the potential for positive social and economic outcomes, such as direct or indirect employment, and contracts or procurement opportunities, which may strengthen the nation's economic conditions. These potential positive effects combined with the proposed mitigation measures, are expected to result in some offset of any negative impacts with a reasonable degree of certainty. After applying proposed mitigation measures and EAO conditions, the EAO concludes that Tilbury Phase 2 is not expected to result in residual adverse effects on Social and Economic Conditions; therefore, no effects characterization or cumulative effects assessment was conducted.

In contrast, the EAO determined that the Project could result in the following residual adverse effects on Cheam's Indigenous health and well-being:

- Effects on the quality, quantity, and availability of harvested country foods;
- Effects on the value and perceived quality of country foods;
- Effects on air quality, noise and water quality; and
- Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites.

The EAO's characterization of the residual effects of Tilbury Phase 2 on Indigenous health and well-being are summarized in the table below.

*Table 17: Summary of residual effects and rationale on Cheam First Nation and its Indigenous health and well-being*

| Residual Effects                                                                                                                                                                                                                                                                                                                                                         | Assessment Rating*                                                                                                                                                                                                                           | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Indigenous Health and Well-being<br><br>-Effects on the quality, quantity, and availability of harvested country foods<br><br>-Effects on the value and perceived quality of country foods<br><br>-Effects on air quality, noise and water quality<br><br>-Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites | Context (resilience): medium<br>Magnitude: low<br>Extent: Local<br>Duration: medium-term<br>Reversibility: Partially<br>Frequency: Continuous/Intermittent<br>Affected Populations: disproportionately<br>Risk: Low<br>Uncertainty: moderate | <p><b>Context:</b> while Cheam has faced environmental and social challenges that have reduced overall resilience, recent improvements in health services and cultural revitalization efforts suggest a medium capacity for adaptation.</p> <p><b>Magnitude:</b> is considered low given Tilbury Phase 2 is expected to have negligible to low magnitude effects on key health-related factors such as air and water quality. Residual effects to fish and fish habitat VC is rated as negligible in magnitude, and noise and air quality predicted to be negligible to low in magnitude after mitigation and concentrated around the Project site. Country food availability is not anticipated to be impacted by the Project.</p> <p><b>Extent:</b> Potential effects are Local. While some economic linkages (e.g., fish species or harvesting practices) connect to broader networks, measurable socio-economic effects would be concentrated near Tilbury Phase 2.</p> <p><b>Reversibility:</b> although some effects—particularly sensory disturbances and perceived environmental degradation—may persist throughout Tilbury Phase 2's entire Operational Phase, these are largely reversible post-decommissioning resulting in a partially reversible rating.</p> |

| Residual Effects                                                                                                                  | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | <p><b>Frequency:</b> some stressors may be continuous, others will be intermittent, and the perception of environmental change may contribute to ongoing impacts on well-being.</p> <p><b>Affected Populations:</b> Cheam members engaged in traditional practices near the Project site or those with existing health vulnerabilities may be disproportionately affected.</p> <p><b>Risk:</b> the overall likelihood of risk is considered low due to the low likelihood of significant adverse outcomes with mitigation measures in place and the presence of offsetting benefits. Consequences of residual effect occurring are minor, due to mitigations and conditions, and low to negligible residual effects from the Project that could impact cultural sites, or practices.</p> <p><b>Uncertainty:</b> a moderate level of uncertainty remains, given the challenges in quantifying cultural and perceptual impacts on health, but this does not alter the conclusion of a negligible overall effect.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

### Cumulative Effects

Tilbury Phase 2 is located within an area that has been subject to extensive historical and ongoing industrial development, and Cheam's health and well-being have already been affected by cumulative impacts associated with pollution, habitat degradation, and reduced access to traditional lands and resources.

Furthermore, the Revised Application identifies other reasonably foreseeable projects in the vicinity that could contribute to cumulative effects: T1B and the TMJ Project, expected to introduce sensory disturbances and result in impacts to plant and wildlife habitat as well as aquatic life and habitat from shipping activities. Both TMJ and T1B have the potential to add to cumulative effects associated with decreased air quality and associated health impacts. The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project-specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, FortisBC's proposed mitigation measures, and EAO's Table of Conditions, the EAO concludes that Tilbury Phase 2 would have negligible effects on Cheam's health and well-being interests.

### 16.2.9 Positive Effects of Tilbury Phase 2

According to the Revised Application, Tilbury Phase 2 is anticipated to generate employment opportunities, particularly during construction, create potential benefits for Indigenous businesses through contracting and procurement, and support long-term skills development for First Nations, including Cheam members. These opportunities may also contribute to improved social and economic conditions for the community.

The anticipated positive effects of Tilbury Phase 2 will depend on the degree of participation and access that Cheam members and businesses have to the opportunities created. Based on the current information, direct benefits to Cheam interests are expected to be limited relative to existing conditions.

### 16.2.10 Conclusions

Considering the above analyses and the EAO's engagement with Cheam, Cheam's engagement with FortisBC, mitigation measures, cumulative effects, the EAO's recommended Table of Conditions and identified Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is anticipated to have the following impacts on Cheam's Indigenous interests:

- Negligible residual effects on harvesting and subsistence activities;
- Negligible residual effects on cultural use sites and areas; and
- Negligible residual effect on Indigenous health and well-being.

Considering the above analysis, the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on the Indigenous interests of Cheam has been adequately avoided, minimized, or otherwise accommodated. Based on the engagement undertaken with Cheam on Tilbury Phase 2, as outlined above in Section 16.2.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Cheam.

## 16.3 Katzie First Nation

### 16.3.1 Community Profile

Katzie First Nation (Katzie) have lived and thrived in their territory for thousands of years. To this day Katzie maintain deep connections to our lands and the rivers, sloughs, creeks, and wetlands that run like veins through the heart of their territory. At the centre of Katzie territory is sḡáyčəyaʔł̓ ḡacaʔ (The lake of the Katzie) now known as Pitt Lake.

Though now called Pitt Meadows, Maple Ridge, City of Surrey (Surrey), City of Langley (Langley) and Delta, Katzie have ancient names for the many places where their ancestors lived and worked, and places where powerful transformations occurred. These names live on and Katzie are working to ensure that the names continue to be spoken by present and future generations.

Katzie territory also encompasses what the government has allocated as wilderness and parklands including portions of Pinecone Burke, Golden Ears, and Garibaldi Provincial Parks. Katzie are working hard to ensure that these areas are managed according to Katzie principles so that they remain healthy.

Katzie has a community of approximately 648 members. While around half reside off reserve, many continue to live within Katzie's traditional territory, maintaining strong cultural and community ties.

### 16.3.2 Katzie First Nation Involvement in the Environmental Assessment

Katzie has had minimal involvement in the environmental assessment for Tilbury Phase 2 Liquid Natural Gas (LNG) Expansion Project (Tilbury Phase 2 or The Project). Katzie was offered capacity funding to take part in the Application Review and Effects Assessment Phases of the EA for Tilbury Phase 2 but has not accepted these funds.

The EAO has attempted to include Katzie in all phases of the EA for Tilbury Phase 2, with some input provided during process planning phase and then nothing during the remaining two phases. During the Application Review phase, Katzie was invited to attend TAC meetings and provide comment on the Revised Application.

The EAO used the following sources in drafting the assessment of Tilbury Phase 2 effects on their Indigenous interests:

- FortisBC's (Proponent) Revised Application;
- Information submitted during the EA by the Proponent and Katzie;
- Conclusions from the EAO's assessment of VCs; and
- A summary of the Proponent's engagement with Katzie is provided in [Section 11.05](#) of the Revised Application and the Proponent's [Indigenous Engagement Report](#).



### 16.3.3 Assessment Boundaries

All Tilbury Phase 2 components are within Katzie's traditional territory.

The spatial assessment boundaries for each Indigenous interest were based on the overlap between Katzie's traditional territory with the combined Local and RAAs identified for linked VCs. Refer to Figure 11.5-1 in Section 11.05 of the Revised Application (Indigenous Interests and Tilbury Phase 2's Location). The LAA for each Indigenous interest reflects the combined LAAs of the VCs linked to that interest. The RAA is defined the same way, using the combined RAAs of the linked VCs. In general, the LAA is used to assess direct and indirect Tilbury Phase 2 effects, while the RAA supports the assessment of cumulative effects.

The assessment of potential effects related to Tilbury Phase 2 considered three distinct phases:

- Construction phase, with an estimated duration of three to six years;
- Operation phase, expected to last 40 plus years; and
- Decommissioning phase, anticipated to take approximately two years.

### 16.3.4 Regional Context

Areas impacted by Tilbury Phase 2 have been important sources of Katzie's rights since time before contact with Europeans and continue to be relied upon by Katzie members for the exercise of rights, including self-governance and knowledge transmission to new generations. Katzie has faced, and is facing, extensive industrial development in the lands and waters of its traditional territory. The cumulative effects of existing and proposed industrial developments on the environment are impacting the ability of where and how Katzie members practice their rights.

It is the Proponent's understanding from information available at the time of writing the Revised Application that Katzie does not currently use the south arm of the lower Fraser River adjacent to Tilbury Phase 2 to fish, gather plants, hunt, or access cultural sites or areas.

Katzie is committed to protecting their waters, fish, and sacred sites. The impacts of European contact and industrialization, including contamination, have extensively affected their traditional harvesting areas. Their cultural and historical ties to this region remain strong, shaping their ongoing relationship with the land and waters.

The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with very little to no habitat value for wildlife. The vegetation within Tilbury Phase 2 is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species. Public access to Tilbury Phase 2 is limited, although there is currently public use of the dike to the north of Tilbury Phase 2 along the Fraser River.

### 16.3.5 Indigenous Interests

The EAO engaged Katzie during the Early Engagement phase in the development of the [Joint Summary of Issue and Engagement for the Tilbury Phase 2 LNG Expansion Project](#), where EAO summarized an initial understanding of Katzie's interests to be:

- Cultural and environmental stewardship, including protection of archaeological sites, cultural values, and aquatic habitats;
- Continued access to and use of the Fraser River for navigation and fishing; and
- Respect for Aboriginal rights, title and knowledge. Interest in economic development and capacity building, and a meaningful assessment of cumulative effects on environmental and cultural resources.

During the Readiness Decision phase in the development of the [Readiness Decision Report](#), the EAO engaged with Katzie who indicated that their primary concerns regarding Tilbury Phase 2 include: cumulative effects, marine use of the Fraser River during Construction, accidents and malfunctions impacting the Fraser River, and GHG emissions.

This information was used in drafting the [Tilbury Phase 2- Schedule C – Application Information Requirements](#); see Proposed Preliminary List of Indigenous Interests (Table 6).

The Proponent's identified Katzie Indigenous interests to be assessed in the Revised Application through:

- Reviewing requirements and guidance from the EAO and AIR; and
- Conducting engagement efforts with Katzie to gather information on their Indigenous interests, as outlined in [Section 11.5.3](#) of the Revised Application - Summary of Engagement of the Katzie section.

The EAO attempted to engage with Katzie during the development of this Report. As no comments were received on their section, the EAO relied on the preliminary list of Indigenous interests identified in the AIR, which include:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions;
- Indigenous health and well-being; and
- Indigenous governance systems.

The assessment of Katzie's Indigenous interests in this section uses these categories. The EAO's assessment includes describing the Indigenous interest, the current context, potential effects, applicable mitigation, and the resulting effects analysis. If there is an adverse residual effect a characterization of effects and cumulative effects assessment is also completed. Indigenous governance systems were not assessed as a stand-alone interest, but were assessed as components of other Indigenous interests, with core analysis placed in the Cultural Use Sites and Areas section.

### 16.3.6 Harvesting and Subsistence Activities

#### *Background*

Katzie peoples lived in and travelled through their traditional territory since time immemorial, maintaining deep connections to their lands, rivers, sloughs, creeks, and wetlands. They traditionally travelled through their territory on a seasonal round which means that they used the lower Fraser River area during the winter dance season and remained there until after the spring eulachon run. As water levels in the lower Fraser River rose, they would move deeper into their territory to fish for sturgeon. In late summer and mid-fall, they would return to the lower Fraser River to harvest berries, dig wapato (a semi-aquatic plant with edible tubers), and catch late-run salmon. The lower Fraser River, its tributaries, and foreshore have historically provided, and continue to provide cultural, social, economic, and spiritual resources.

Fishing has always been foundational to Katzie members, influencing their stewardship and protection of land, and marine resources. They have stated that they used the lower Fraser River, its tributaries, and shores for their resources for thousands of years, and continue to do so. Key fish resources included salmon (spring, chum, sockeye, Chinook, and coho), trout, steelhead, white sturgeon, eulachon, amphibians, and marine mammals. Fish camps were common along the lower Fraser River, from its mouth to the Fraser Canyon, during summer and fall salmon runs. Important historical fishing locations included villages and camps along the lower Fraser River, and areas near Pitt Lake, Sturgeon Slough, the Alouette River, and Widgeon Creek.

According to the Revised Application, Katzie people hunted along the foreshore and lower Fraser River where wildlife was abundant. Species hunted included deer, elk, black bear, small fur-bearing animals (such as beaver, rabbits, and marmots), and water mammals (like seals).

#### *Current Context*

FortisBC's Revised Application noted that Katzie did not provide specific current use site information near Tilbury Phase 2, leading FortisBC to understand that Katzie does not currently use the adjacent lower Fraser River south arm for fishing, gathering, hunting, or accessing cultural sites. However, fishing remains critical as a spiritual, ceremonial,

and subsistence practice passed down for millennia, despite the historically important land disturbance and development that has cumulatively impacted Katzie's traditional territory, people, culture, and lifeways.

Katzie members are licensed to fish for salmon (Chinook, sockeye, chum) and eulachon for food, social, and ceremonial (FSC) purposes upstream of the Port Mann Bridge (approximately 20 km upriver from Tilbury Phase 2), and often up to and including Kanaka Creek/Derby Reach. This includes traditional fishing locations around Barnston Island (approximately 25 km upstream from Tilbury Phase 2) and chum salmon specifically in the Pitt River, all within the harvesting and subsistence activities RAA.

Katzie has identified white sturgeon rearing areas along the Tilbury Island shoreline and Tilbury Slough, and active eulachon spawning grounds in the lower Fraser River, as well as potential amphibian presence in Tilbury Slough, as areas of concern related to environmental stewardship, although they have not indicated current use of these specific areas for FSC purposes.

Access to fishing areas in the lower Fraser River has been restricted for Katzie members due to extensive land development and water resource degradation. Fishery closures for salmon conservation and limited openings severely restrict access to fish resources. Declines in coho, Chinook, and sockeye salmon, as well as steelhead trout populations, have occurred due to past and existing industrial development. Indigenous groups, including Katzie, have noted declining salmon spawning populations and smaller fish, increasing fishing effort and making adequate harvests during limited openings critical for their FSC and commercial fisheries.

Katzie members continue to gather a variety of plants seasonally for sustenance, medicinal, and ceremonial uses within the harvesting and subsistence activities RAA. However, Tilbury Phase 2 is primarily industrial land, heavily disturbed, and supports little plant life, mostly non-native and invasive species. FortisBC has no information indicating current Katzie use of public areas within Tilbury Phase 2 or the harvesting and subsistence activities LAA for plant gathering.

Katzie's governance system is rooted in cultural traditions and stewardship responsibilities that guide the sustainable use of lands and waters. Governance interests related to harvesting and subsistence activities include the authority to manage and protect fish and wildlife resources with their traditional territory. Hunting opportunities are now limited to a few remaining safe areas within Katzie traditional territory due to development. The majority of wildlife habitat in Tilbury Phase 2 wildlife and wildlife habitat LAA has been altered by industrial development. The area is more suitable for species tolerant of urban environments, such as coyotes, raccoons, rabbits, and waterfowl. Culturally important species like green-winged teal, lesser scaup, Canada goose, mallard, bald eagle, and beaver have been observed. FortisBC notes that firearms cannot be discharged in or adjacent to Tilbury Phase 2 in Delta, B.C.

#### *Potential Project Effects*

The EAO identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect Katzie's harvesting rights during the Construction, Operation, and Decommissioning Phases of the Tilbury Phase 2:

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources;** Increased noise, light, and air pollution (acoustics, air quality, soil, groundwater, land and resource use VCs) may deter Katzie members from accessing preferred harvesting areas near Tilbury Phase 2 site. Changes in fish distribution and abundance (fish and fish habitat VC) and the introduction of invasive plant species (vegetation VC) may further reduce the experience and preference of the practicing of harvesting rights. While Katzie does not currently fish or harvest close to Tilbury Phase 2, they have historically and could in the future if the site was decommissioned to a more natural state;

- **Effects to Katzie Rights to fish for food social and ceremonial (FSC) purposes;** from habitat loss, (wildlife, fish, vegetation VCs), increased mortality risks to fish, -birds, and wildlife (wildlife and wildlife habitat VCs), and changes in their behavior due to sensory disturbances (acoustics, air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water VC) and Fraser River downstream, as well as contamination accidents (soil VC) that could impact important plant species, may further impact traditional harvesting and cultural practices; and
- **Effects on the accessibility and availability of traditional lands and resources** may occur as a result of altered land or water based travel routes, access restrictions, or safety considerations, including changes to navigability and the usability of established travel corridors (land and resource use and surface water VCs), as well as indirect effects from sensory disturbances such as noise, dust, lighting, or visual changes that may discourage travel through otherwise accessible areas (air quality, acoustics, and land and resource use VCs).

### *Mitigation Measures*

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on harvesting and subsistence activities, as mentioned in the section above. A full table of Proponent mitigations can be found in Section XX of the Revised Application. Below is a summary of mitigation measures, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air-quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Katzie's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Katzie's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment-control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm-sewer system. These protections support water quality and fish habitat relied on to support Katzie's harvesting and cultural practices;
- **Soil (Section 7.6)** Soil-management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Katzie for harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Katzie for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife-protection measures, such as timing Construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Katzie's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill-prevention measures help protect fish habitat and water quality used by salmon migrating through the

lower Fraser. These actions support the health and availability of salmon and other fish species central to Katzie's FSC harvesting and cultural practices;

- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices; and
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to Katzie's harvesting and cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on Katzie's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting rights (see [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for Katzie to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Katzie's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Katzie's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Katzie's harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions-control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support Katzie's harvesting and cultural practices; and
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project-related roads, which may lower potential impacts on salmon and other fish important to Katzie's harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial conditions the EAO identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

**Federal Consideration for Migratory Bird Protections:** The EAO recommends that the IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Katzie's harvesting practices and broader ecosystem conditions important to their way of life.

#### *The EAO's Analysis and Conclusions*

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Katzie's harvesting rights and interests:

- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources;
- Effects to Katzie Aboriginal rights to fish for FSC purposes; and
- Effects on the accessibility and availability of traditional lands and resources.

The EAO's characterization of the residual effects of Tilbury Phase 2 on harvesting and subsistence activities are summarized in the table below.

Table 18: Summary of residual effects rationale on Katzie and its harvesting and subsistence activities

| Residual Effect                                                                                                                                                                                                                                                                                                                                                                                                             | Assessment Rating*                                                                                                                                                                                                                                                                 | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <p>Harvesting and subsistence activities</p> <ul style="list-style-type: none"> <li>- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources</li> <li>- Effects to Katzie Aboriginal rights to fish for FSC purposes</li> <li>- Effects on the accessibility and availability of traditional lands and resources</li> </ul> | <p>Context (resilience): Medium</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Fully reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> The interests is rated as having a medium resiliency. Katzie harvesters historically frequented Tilbury Phase 2 site and surrounding areas for traditional harvesting before extensive industrial development. While current activity is reduced due to existing development pressures, the community remains reasonably resilient to additional environmental stresses. If barriers were reduced, harvesting activity would likely increase.</p> <p><b>Magnitude:</b> Based on the negligible magnitude residual effects on fish, fish habitat, and surface water after mitigation, the magnitude is assessed as negligible. Other key potential residual effects are rated as negligible to low. Historically, fishing and harvesting activities near Tilbury Phase 2 have been limited, with no current fishing activity reported. The only known ongoing harvesting may be minimal plant gathering along the site's edge.</p> <p><b>Extent:</b> Rated as local, since the spatial scale of residual effects to applicable VC's is limited, the impact on harvesting is expected to remain local, primarily within the immediate Tilbury Phase 2 area.</p> <p><b>Duration:</b> The effects on harvesting will persist for as long as the Tilbury Phase 2 facility remains operational, making them medium-term.</p> <p><b>Reversibility:</b> Most effects, particularly those related to sensory disturbances such as noise and light, would cease if Tilbury Phase 2 were halted or upon Decommissioning, making them fully reversible.</p> <p><b>Frequency:</b> Rated as continuous as effects would be most prominent during Construction, but some effects (noise, light, changes to experiences and preferences) would occur continuously.</p> <p><b>Affected Populations:</b> Tilbury Phase 2's effects will primarily affect Katzie members who actively harvest, though indirect effects may also be felt by those who refrain from harvesting due to perceived environmental degradation in the highly developed area.</p> <p><b>Risk:</b> The likelihood of these effects occurring is low given effectiveness of mitigation measures, including removal of in-river works, environmental management plans, and air and acoustic controls. With negligible magnitude and limited extent of effects, the overall consequences are expected to be minor. Therefore, the risk is rated as low.</p> <p><b>Uncertainty:</b> The pathways of effects—such as noise, light, vibration, and impacts on harvesters—are well understood. While mitigation is expected to be moderately to highly effective, some uncertainty remains regarding its ability to fully address harvesters' experiences and perceptions. Therefore, the level of uncertainty is rated as moderate.</p> |
| <p>* Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a></p>                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



### *Cumulative Effects*

As described in the Background and Current Context sections, Katzie's harvesting and subsistence activities have already been affected by historical environmental degradation, as well as impacts due to climate change. The FortisBC Revised Application identifies several reasonably foreseeable projects, T1B and TMJ projects. The projects are expected to introduce additional vessel traffic in the Fraser River and further development of the Tilbury Island foreshore prior to Construction of Tilbury Phase 2. Both T1B and TMJ could contribute additional sensory disturbances (noise, light, vibration), degrade habitat and water quality, and impact culturally important plant and wildlife resources.

The EAO notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### *Conclusion*

FortisBC's proposed mitigation measures, EAO's Table of Conditions and the federal Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 would have a negligible effect on Katzie's harvesting and substance activities.

## **16.3.7 Cultural Use Sites and Areas**

### *Background*

Katzie peoples maintained deep connections to their lands, rivers, sloughs, creeks, and wetlands, which they describe as running like veins through the heart of the traditional territory. The lower Fraser River, its tributaries, and foreshore have historically provided cultural, social, economic, and spiritual resources to Katzie.

The Coast Salish Peoples, including the Katzie, share a sacred duty to protect and care for their water, land, air, and resources for future generations, fulfilling their stewardship responsibilities. They possess clear concepts of water, land, and resource ownership, governance, and stewardship by birthright. The landscape is considered sacred and filled with meaning that informs Katzie members identity and relationships to cultural landscapes and sense of place. Wetland environments along the Fraser River shoreline and the complex aquatic food chain have sustained their way of life since time immemorial. The Lower Fraser Fisheries Alliance (LFFA), of which Katzie is a member, states that their members build spiritual strength and knowledge from the water and land, engaging with supernatural beings called *st'áleqem/sx'álélaqam*. They believe that transformed ancestors are present in the landscape, such as in stones and mountains, and that all beings in the lower Fraser River possess a life force (*shweli/sx'wəli*), connecting LFFA members to their ancestors and cultural keystone species.

Katzie members used the lower Fraser Valley for spiritual ceremonies and rituals, including the masked dance, salmon ceremony, funeral rites, naming ceremonies, and puberty ceremonies. The Fraser River is also seen as a water body where supernatural fish, "sekwoiam," live.

### *Current Context*

The arrival of Europeans in the region, including the Simon Fraser expedition in 1808, led to the exploitation of resources and the establishment of settlements like Fort Langley in 1827. This period was marked by devastating smallpox epidemics, which facilitated large-scale land expropriation and the forcing of Indigenous nations onto reserves, leading to overcrowded housing and inadequate sanitation. The expansion of agricultural areas through diking and draining further encroached on Indigenous lands.

These historical and ongoing resource and industrial developments have had profound and far-reaching effects on Indigenous peoples, with the loss of land being a primary factor contributing to cultural stress and environmental dispossession. Katzie states that its traditional territory has been subject to extensive land disturbance and development activities, cumulatively impacting their people, culture, and lifeways.

Katzie's governance systems incorporate cultural laws and protocols that regulate access to and protection of cultural sites. The nation's governance systems maintain the authority to safeguard archeological and heritage resources within their traditional territory and work to maintain their cultural continuity to ensure opportunities for ceremonies and knowledge transmission continue for years to come. Katzie raised concerns regarding cultural stewardship and potential impacts on archeological and cultural resources within their traditional territory. They further identified several cultural sites of concern that have been used historically for plant gathering. However, FortisBC stated in the Revised Application that there is no current information indicating that the cultural sites within the RAA and LAA are currently utilized by Katzie.

#### *Potential Project Effects*

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with associated VCs outlined in [Appendix 6](#), that may affect Katzie's cultural use sites and areas during Construction, Operation and Decommissioning phases of the Tilbury Phase 2:

- **Effects to cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance;** Tilbury Phase 2 could affect cultural use sites and areas through Construction activities that disturb culturally important places, such as archeological sites, due to ground disturbances, accidental spills of deleterious substances, or other construction-related interaction (culture, soil, and archaeological and heritage resources VC's);
- **Loss of access to and disenfranchisement from cultural sites;** Katzie harvesters could experience direct adverse effects to cultural and spiritual practices if access to cultural sites is altered or lost due to closure or modification of trails, parking areas, or access points between Tilbury Phase 2 and the Fraser River for safety or construction purposes (land and resource use VC). Changes in sensory effects (acoustic, air quality, culture, and land and resource use VC's) could change the experience of Katzie members using cultural sites, such as harvesting areas along the south arm of the Fraser River and Burns Bog; and
- **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas;** Access to cultural sites could be affected (land and resource use VC) by Tilbury Phase 2. Adverse effects to culture (culture VC) which are connected to potential effects on wildlife, habitat, and vegetation (See Harvesting and Subsistence section above) could influence the ability or desire to access these sites.

#### *Mitigation Measures*

The Revised Application summarizes relevant mitigation measures proposed by the Proponent to address potential Tilbury Phase 2 related effects on cultural use sites and areas, including:

- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Katzie's cultural practices;
- **Acoustics (Section 7.3)** Noise reduction measures during Construction and Operation, including idle-reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by Katzie;

- **Soil (Section 7.6)** Soil management measures, including erosion control, spill-prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Katzie;
- **Land and Resource Use (Section 7.11)** Traffic-management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support Katzie's ability to safely access and continue cultural practices within their traditional territory;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance-find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support Katzie's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory; and
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Katzie's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on cultural use sites and areas (see also [Section 8](#) of this Report):

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance.
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for Katzie to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting Katzie's continued access to and use of cultural sites during project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Katzie;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions-control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by Katzie; and

- **Condition 15 (Chance Find Protocol)** requires the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Katzie historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### *The EAO's Analysis and Conclusions*

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Katzie's cultural use sites and areas:

- Loss of access to and disenfranchisement from cultural sites; and
- Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas.

The EAO's characterization of the residual effects of Tilbury Phase 2 on cultural use sites and areas are summarized in the table below.

Table 19: Summary of residual effects and rationale on Katzie First Nation and its cultural use sites and areas.

| Residual Effect                                                                                                                                                                                                            | Assessment Rating*                                                                                                                                                                                                                                                           | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| Cultural use sites and areas<br><br>- Loss of access to and disenfranchisement from cultural sites<br><br>- Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas | Context (resilience): Low<br><br>Magnitude: Negligible<br><br>Extent: Local<br><br>Duration: Medium-term<br><br>Reversibility: Partially reversible<br><br>Frequency: Continuous<br><br>Affected Populations: Disproportionate<br><br>Risk: Low<br><br>Uncertainty: Moderate | <p><b>Context:</b> Rated as having low resiliency, acknowledging that while the nation has shown cultural resilience in the face of historical impacts, it is difficult to quantify the community's capacity to absorb additional adverse effects. Cultural strength may have been greater in the absence of cumulative disturbances, and potential links between cultural impacts and community health further complicate assessment. Given these historical and ongoing challenges, this rating reflects a conservative estimate.</p> <p><b>Magnitude</b> is assessed as negligible, based on the negligible magnitude impact to on fish, fish habitat, and surface water. Other connected VC potential residual effects are rated as negligible to low magnitude and are of local extent. Tilbury Phase 2 site is located on fee simple land, with no public access.</p> <p><b>Extent:</b> Rated as local, as most impacts to cultural use will be confined to the Tilbury Phase 2 site and immediately surrounding area. While Katzie Members reside throughout the Lower Mainland, it is unlikely that cultural effects will extend beyond the immediate Tilbury Phase 2 area.</p> <p><b>Duration:</b> Rated as medium-term, as residual effects will likely cease after the Decommissioning Phase.</p> <p><b>Frequency:</b> Rated as continuous, particularly for loss of site use for cultural purposes, which is an ongoing effect. Sensory disturbances (e.g., noise, light) may be either continuous or irregular, depending on Tilbury Phase 2 activities and phases.</p> <p><b>Reversibility:</b> Most sensory-related disturbances (e.g., noise, light) would be fully reversible following Tilbury Phase 2 Decommissioning. However, cultural impacts linked to the loss of access or disruption to traditional practices may be irreversible.</p> <p><b>Affected Populations:</b> Direct impacts would disproportionately affect those actively practicing or seeking to practice their culture; however, indirect effects could extend to all members due to the interconnected nature of Katzie cultural identity.</p> <p><b>Risk:</b> The likelihood of negative cultural impacts occurring is low as Katzie members are not known to frequent the LAA and the overall consequence is expected to be minor, given the negligible to low magnitude of direct Tilbury Phase 2-related effects and the application of mitigation measures. Risk is therefore rated as low.</p> <p><b>Uncertainty:</b> Rated as moderate, as cultural effects are inherently challenging to quantify and may be subject to individual and community-specific experiences that are difficult to predict with certainty.</p> |

\* Note: Criteria and assessment ratings are defined in [Appendix 3 - Residual Effects Characterization Definitions](#)

### *Cumulative Effects*

The Katzie's cultural use sites have already been extensively impacted by historical environmental degradation and land-use changes, as outlined in the Existing Conditions section. These impacts have limited the nation's ability to use culturally important areas and have disrupted the transmission of Indigenous Knowledge.

As stated in the Revised Application, FortisBC notes that two foreseeable projects, T1B and TMJ, are expected to modify the Tilbury Island foreshore prior to construction of Tilbury Phase 2. TMJ would also introduce additional vessel traffic in the Fraser River. These developments are expected to introduce additional sensory disturbance (noise, light, vibration) affecting nearby cultural site access and use. T1B could remove vegetation, impacting culturally important plants and wildlife habitat, while TMJ shipping activities may increase aquatic disturbance, with potential effects on fish populations and cultural connections to the Fraser River.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### *Conclusion*

Considering the above analyses, including proposed proponent mitigations, EAO's conditions, and KMMs, and based on the Project specific effects of Tilbury Phase 2, the EAO concludes that the Project will have a negligible effect on the cultural use sites and areas of Katzie

## **16.3.8 Social and Economic Conditions**

### *Background*

Katzie has experienced, and continues to experience, the severe and detrimental effects of colonialism, which has profoundly affected their social and economic well-being, as well as their health. This includes a system that has discriminated against and oppressed them, leading to pervasive and persistent adverse social and economic conditions relative to non-Indigenous Canadians. These systemic disparities contribute to shorter life expectancies, higher rates of chronic disease and communicable illness, higher rates of addiction, higher infant mortality rates than non-Indigenous Canadians. As such, health inequalities are due to physical and geographic barriers, racial discrimination, negligence, and cultural insensitivity within the healthcare system.

There is a general lack of equal employment opportunities which severely impacts physical and mental health due to its association with household income, access to healthcare, and resources necessary for health, such as housing and nutrition. Indigenous peoples, particularly on reserve, consistently face lower employment rates compared to non-Indigenous Canadians.

### *Current Context*

Ongoing development, industrialization, and environmental degradation have extensively affected Katzie's access to culturally and economically important areas, including those around Tilbury Island. This has disrupted traditional fishing and harvesting activities and contributed to declines in community health, limited housing options, and barriers to education and employment. Many members now live off-reserve and rely on off-reserve economic partnerships. Despite these systemic challenges, members continue to seek opportunities for education, employment, and cultural revitalization.

Katzie's governance systems related to social and economic conditions include their authority to pursue economic development opportunities that are consistent with Katzie's land use plan and cultural values so that there is equitable access to employment and procurement opportunities.

See Cultural Use Sites and Areas and Harvesting and Subsistence Activities sections for additional context.

#### *Potential Project Effects*

The EAO identified the following pathway of effects, along with the associated VCs in [Appendix 6](#), that may affect Katzie's social and economic conditions during Construction, Operation and Decommissioning Phases of the Tilbury Phase 2:

- **Effects on infrastructure and services:** Tilbury Phase 2 may add pressure on services if out-of-region workers are used, but according to the Revised Application effects are expected to be limited and not distinguishable from existing conditions (land and resource use, employment and economy, infrastructure services VC's);
- **Effects to Katzie First Nation's employment opportunities, Indigenous businesses, procurement opportunities, and Katzie First Nation revenue:** Tilbury Phase 2 could positively affect Katzie's employment and business opportunities, depending on member participation and access to contracts (employment and economy VC). Indigenous workers are also more likely to be in construction-related jobs. However, smaller Indigenous businesses, including those linked to Katzie, may face challenges competing for workers or meeting Tilbury Phase 2 demands (culture VC);
- **Effects to Katzie First Nation's future aspirations for sites or areas surrounding the Tilbury Phase 2:** Potential residual effects from Tilbury Phase 2 could affect Katzie's aspirations for land and water restoration, and their continued use of the Fraser River amid growing regional development (fish and fish habitat, wildlife and wildlife habitat, vegetation VC and see Cultural Use Sites and Areas and Harvesting and Subsistence Activities sections);
- **Effects to Katzie First Nation's ability to improve social and economic conditions:** Tilbury Phase 2 may support Katzie's efforts to improve social and economic conditions by creating employment, training, and business opportunities. Increased demand for skilled workers could also boost interest in trades training. (infrastructure and services, and employment and economy VCs); and
- **Effects to Katzie First Nation's commercial and non-commercial fishing, gathering, and cultural or ceremonial activities and practices:** Potential residual effects from Tilbury Phase 2 could affect Katzie's ability to benefit from commercial and non-commercial fishing and gathering due to the collapse of salmon supply, whereby the loss of traditional economy. Furthermore, there is a loss to their ability to practice their cultural or ceremonial activities in Tilbury Phase 2 area (fish and fish habitat, wildlife and wildlife habitat, vegetation VCs and see Cultural Use Sites and Areas, and Harvesting and Subsistence Activities sections).

#### *Mitigation Measures*

The Revised Application includes a summary of relevant mitigation measures identified that FortisBC has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions. These include the following:

- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Katzie members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Land and Resource Use VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Katzie's long-term aspirations for land and water restoration and reducing stressors that can impact economic development and community well-being;



- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socio-economic impacts on Katzie and supporting economic development and community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Katzie's food security, cultural identity, and local economy by safeguarding salmon and other species essential to FSC harvesting;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Katzie's cultural continuity, social cohesion, and ongoing participation in land-based economic and stewardship activities;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods, help sustain traditional harvesting practices, protect culturally significant resources, and support the social and economic activities tied to Indigenous knowledge, land use, and stewardship; and
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Katzie's social and economic interests.

In addition to the Proponent's mitigation measures the EAO has developed further conditions that would mitigate potential effects to social and economic conditions:

- **Condition 10 (Community Feedback Process)** provides Katzie with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting ongoing social and economic conditions;
- **Condition 12 (CEMP)** requires mitigation measures to manage dust, noise, traffic, spills, surface water, erosion, and wildlife interactions during Construction. These measures help minimize construction-related disturbances that could affect community and social well-being of members;
- **Condition 13 (OEMP)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation. By limiting long-term environmental disturbances, this condition supports stable environmental conditions that protect Katzie's social and economic interests;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality mitigates environmental degradation that could impact aquatic and terrestrial ecosystems, supporting Katzie First Nation's social and economic conditions by protecting the traditional economy and advancing long-term aspirations for land and water restoration within the Fraser River corridor;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Katzie historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated social harm; and
- **Condition 16 (First Nations and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support Katzie First Nation's socio-economic well-being through increased access to jobs, skills development, and business opportunities associated with Tilbury Phase 2.

*The EAO's Analysis and Conclusions*

After consideration of the EAO's conclusions on the linked VCs, and proposed mitigation measures, the EAO concludes that Tilbury Phase 2 is not expected to result in residual adverse effects on Katzie's social and economic conditions.

While the nation continues to experience extensive systemic challenges - including limited access to housing, employment, and culturally important lands - these are primarily the result of historic and ongoing regional industrial development, and not directly attributable to Tilbury Phase 2.

Tilbury Phase 2 is situated in an already industrialized area with limited current access or use by Katzie members, and any additional demands on local services are expected to be negligible compared to existing pressures.

Although Tilbury Phase 2 may interact with aspirations for land and water restoration, or for re-establishing cultural practices in the area, the potential for employment, training, and contracting benefits may also support the nation's efforts to strengthen their economic conditions. On balance, the potential for positive effects, alongside the lack of material new barriers introduced by Tilbury Phase 2, supports the EAO's conclusion of no residual effect on social and economic conditions and therefore no characterization of effects or cumulative effects assessment was undertaken.

### 16.3.9 Indigenous Health and Well-being

*Background*

The Katzie's concept of health and well-being is holistic, deeply tied to their land, resources, and cultural traditions. It extends beyond physical health to include mental, spiritual, and emotional well-being.

*Current Context*

Katzie experience shorter life expectancies, higher rates of chronic diseases, communicable illnesses, addiction, and infant mortality rates compared to non-Indigenous Canadians. These disparities are largely attributed to pervasive and persistent adverse social and economic conditions that serve as social determinants of health, which include the enduring effects of intergenerational trauma and racism, challenges related to lone-parent households and childcare responsibilities, and limited education with high rates of poverty, which create barriers to educational and employment opportunities.

Katzie understand Indigenous governance through their authority to protect environmental determinants of health, such as water quality, fish habitat, and air quality. Therefore, Katzie maintains an active role in participating in decisions that affect their traditional lifeways, including access to cultural sites and harvesting areas. Their stewardship responsibilities for maintaining ecological integrity are a foundational step for community health and well-being by integrating cultural values and practices into health planning and environmental management.

An important factor is the lack of employment opportunities, directly impacting household income, access to healthcare, housing, and nutrition. Within the healthcare system itself, Indigenous peoples, including the Katzie, face physical and geographic barriers, racial discrimination, negligence, and cultural insensitivities.

*Potential Project Effects*

The EAO identified the following pathway of effects, along with associated VCs outlined in [Appendix 6](#), that may affect Katzie's Indigenous health and well-being during Construction, Operation and Decommissioning phases of the Tilbury Phase 2:

- **Effects on the quality, quantity, and availability of harvested country foods;** Land, water or air-based contamination from Tilbury Phase 2 could adversely affect country foods such as fish and traditional plants. See Harvesting and Subsistence section above;

- **Effects on the value and perceived quality of country foods;** Quality, quantity or availability of plants or wildlife could be impacted from Tilbury Phase 2. Country foods could become contaminated. (See list of potential project effects above). Community perceptions with respect to the quality of country foods have the potential to interact with Katzie members' participation in harvesting and subsistence activities and cultural and spiritual practices even in the absence of adverse effects (land and resource use and culture VCs);
- **Effects on air quality, noise and water quality;** Tilbury Phase 2 activities have the potential to contribute contaminants of concern to air and water, and increased noise levels in proximity to the facility property line (air quality, acoustics, surface water, land and resource use, health VCs); and
- **Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites;** Tilbury Phase 2 may interact with Katzie's health and well-being through changes to traditional practices, access to cultural sites, and socio-economic factors. Katzie has identified the loss of traditional food sources and harvesting access as contributing to chronic health issues and limiting intergenerational knowledge transfer. Effects on traditional ways of life due may still influence health outcomes indirectly. Positive effects may include increased income and employment opportunities for members, while potential adverse effects relate to shift work and family stress.

#### *Mitigation Measures*

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on Indigenous health and well-being. These include the following:

- **Land and Resource Use VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Katzie's long-term aspirations for land and water restoration and reducing stressors that can affect well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Katzie members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socio-economic impacts on Katzie and supporting health and community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Katzie's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Katzie's cultural continuity and nutritional well-being;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Katzie's physical health and cultural practices;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Katzie's well-being;
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for Katzie's subsistence and health;

- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting Katzie's cultural and nutritional reliance on healthy salmon and aquatic ecosystems;
- **Acoustics (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting Katzie's comfort, well-being, and connection to land and water;
- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting Katzie's physical well-being and confidence in harvesting; and
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Katzie members' physical, cultural, and mental health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides Katzie with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)**, requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with Katzie to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting Katzie's physical health and overall well-being;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Katzie historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being; and
- **Condition 17 (Dry Street Sweeping Report)** requires FortisBC to submit a report on the effectiveness of Dry Street Sweeping to mitigate the effects of 6-PPDQ on fish within eighteen months of a Certificate being issued. By informing measures to protect downstream aquatic environments, this condition supports Katzie's health and well-being by helping maintain confidence in environmental quality and minimizing potential concerns related to contamination of culturally important fish and waterways.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- **Accidents and Malfunctions Reporting** would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### *The EAO's Analysis and Conclusions*

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Katzie's Indigenous health and well-being:

- Effects on the quality, quantity, and availability of harvested country foods;
- Effects on the value and perceived quality of country foods;
- Effects on air quality, noise and water quality; and
- Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites.

The EAO's characterization of the residual effects of Tilbury Phase 2 on Indigenous health and well-being are summarized in the table below.

Table 20: Summary of residual effects and rationale on Katzie First Nation and its Indigenous health and well-being.

| Residual Effect                                                                                                                                                                                                                                                                                                                                                                                                                      | Assessment Rating*                                                                                                                                                                                                                                                                               | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <p>Indigenous health and well-being</p> <ul style="list-style-type: none"> <li>- Effects on the quality, quantity, and availability of harvested country foods</li> <li>- Effects on the value and perceived quality of country foods</li> <li>- Effects on air quality, noise and water quality</li> <li>- Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites</li> </ul> | <p>Context (resilience): Medium</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Partially reversible</p> <p>Frequency: Continuous/Irregular</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> The Katzie First Nation has experienced extensive environmental and social challenges, reducing their resilience to further adverse effects. However, their efforts to maintain cultural connections and recent improvements, such as gaining access to clean drinking water, indicate a medium capacity for resiliency.</p> <p><b>Magnitude:</b> Rated as negligible because as anticipated changes to health and well-being, such as minor sensory disturbances or temporary uncertainty about country food safety, are not expected to result in a measurable change to Indigenous health outcomes. Tilbury Phase 2 may have negligible to low magnitude effects on key health and well-being VC's, such as air quality, human health and surface water quality. Katzie members are not known to frequent the Project site, where impacts, while negligible to low, will be felt the strongest. Additionally, Tilbury Phase 2 has the potential to positively impact socio-economic determinants of health by increasing employment and economic opportunities.</p> <p><b>Extent:</b> The residual effects are expected to occur at a local scale. Direct impacts, such as noise and air quality disturbances, will be primarily localized near Tilbury Phase 2. Indirect effects on well-being are unlikely to extend beyond the local Project area.</p> <p><b>Duration:</b> Potential effects, including environmental changes and perceptual impacts, are expected to persist throughout the Tilbury Phase 2's 40 plus years of operation, making them medium-term. While sensory disturbances may end after Decommissioning, impacts on cultural well-being could have lasting effects.</p> <p><b>Frequency:</b> The frequency of effects is both continuous and irregular. Some stressors, such as noise and visual changes, may be continuous throughout the Operation phase, while others, particularly those during Construction, may be irregular. Additionally, the perception of environmental degradation could result in continuous effects on well-being.</p> <p><b>Reversibility:</b> The effects are considered partially reversible. Sensory disturbances, such as noise and light, are expected to be fully reversible after Decommissioning. However, impacts on human health and cultural well-being, including loss of connection to traditional practices and perceived environmental degradation, may be irreversible or require a long time to recover.</p> <p><b>Affected Populations:</b> While positive economic effects may benefit a broad range of Katzie members, those engaged in traditional harvesting and cultural practices or with pre-existing health vulnerabilities could be disproportionately impacted by negative environmental changes or perceived risks.</p> <p><b>Risk:</b> The likelihood of a negative effect occurring is low as members are not known to frequent the area and the consequences are minor due to</p> |

|                                                                                                                                   |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                                                                                                                                   |  | negligible to low magnitude impacts to associated VCs and potential for some positive effects and mitigations measures, therefore the risk is low.<br><br><b>Uncertainty:</b> The assessment of potential effects on the Katzie's Indigenous health and well-being carries a moderate degree of uncertainty primarily due to the inherent challenges in quantifying cultural effects and their subsequent impacts on well-being. These impacts can vary extensively based on individual and community-specific experiences, making precise predictions difficult. |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### *Cumulative Effects*

Tilbury Phase 2 is located within an area that has been subject to extensive historical and ongoing industrial development.

The Revised Application identifies other reasonably foreseeable projects in the vicinity that could contribute to cumulative effects: T1B and the TMJ Project, expected to introduce sensory disturbances and result in impacts to plant and wildlife habitat as well as aquatic life and habitat from shipping activities. Both TMJ and T1B have the potential to add to cumulative effects associated with decreased air quality and associated health impacts. The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project-specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### *Conclusion*

Considering the above analyses, FortisBC's proposed mitigation measures, and EAO's Table of Conditions, the EAO concludes that Tilbury Phase 2 would have negligible effects on Katzie's health and well-being interests.

#### **16.3.10 Positive Effects of Tilbury Phase 2**

According to the Revised Application, Tilbury Phase 2 is expected to create job opportunities, particularly in Construction, benefit Indigenous businesses through contracting and procurement, and potentially increase revenue for the Katzie, while improving social and economic conditions, and providing long-term skills training opportunities for Katzie members.

The positive effects of Tilbury Phase 2 depend on the level of participation and access Katzie members and businesses have to the opportunities generated. Based on current information, direct positive effects on Katzie interests are expected to be limited relative to existing conditions.

#### **16.3.11 Conclusions**

Considering the above analyses, EAO's engagement with Katzie, their comments, the Proponent's proposed mitigation measures, provincial conditions, and Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is anticipated to have the following impacts on Katzie Indigenous interests:

- Negligible residual effects to harvesting and subsistence activities;
- Negligible residual effects to cultural use sites and areas;
- Negligible residual effects to Indigenous health and well-being; and
- Negligible residual effects to Indigenous governance systems.



Considering the above analyses the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on Katzie interests has been adequately avoided, minimized or otherwise accommodated. Based on engagement undertaken with Katzie on Tilbury Phase 2, as outlined above in Section 16.3.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Katzie.

## 16.4 ǵʷa:ńłǵǵ (Kwantlen) First Nation

This section of the Report was co-drafted by the EAO and Kwantlen First Nation (Kwantlen).

### 16.4.1 Community Profile



ǵʷa:ńłǵǵ (Kwantlen) First Nation is part of the Halq'eméylem-speaking Peoples who have occupied the lower Fraser Valley region since time immemorial. Kwantlen's traditional territory extends westward to New Westminster, B.C., southward to Tsawwassen, B.C., eastward to Mission, B.C., and northward to Stave

Lake, B.C (see Revised Application, Figure 11.6-1). Kwantlen has stated that the Fraser River has been, and continues to be, important for Kwantlen due to the location of traditional village sites, as well as for travel and trade between Kwantlen and other Stó:lō communities, and for harvesting resources for FSC purposes. Kwantlen has stated that fishing and the Fraser River are very important to their culture<sup>9</sup>.

Of the seven Kwantlen reserves, McMillan Island 6 is the largest, as well as their main residential reserve and current administrative centre. Historically, Kwantlen had two reserves Indian Reserve 7 and Indian Reserve 8 in Surrey that were expropriated in the mid 1900s. The Project footprint is downstream from former Kwantlen ancestral villages sǵʷeyəmǵ and qiqéyt, as well as the former expropriated Indian Reserves in New Westminster and Surrey. As of April 2025, Kwantlen had a total registered population of 417 members<sup>10</sup>.

### 16.4.2 Kwantlen involvement in the environmental assessment

On August 12, 2020, Kwantlen's Lands Resources and Stewardship identified Kwantlen as a participating Indigenous nation,<sup>11</sup> which afforded Kwantlen certain procedural rights under the Act, as outlined in [Section 5.3](#) of this Report. As a member of the TAC, Kwantlen participated in technical meetings throughout the EA for Tilbury Phase 2. Kwantlen and the EAO collaborated closely, engaging in joint work planning, consensus-seeking, and co-authoring this section of the EAO's Assessment Report. The EAO and IAAC provided funding to support Kwantlen's involvement in the EA process.

As described in Section 1.6.3.2 of the Revised Application, Kwantlen expressed preliminary concerns about potential effects from the Project to its Indigenous interests through its notice of intent to participate under Section 14(1) of the Act.<sup>11</sup> Kwantlen also shared feedback on the DPD and identified several issues pertaining to Tilbury Phase 2's potential effects on Kwantlen's Indigenous interests, including concerns pertaining to the temporal boundary and scope of assessment by FortisBC. FortisBC responded by updating the draft DPD to include Kwantlen's feedback, sharing updated information, and committing to ongoing engagement with Kwantlen through the assessment processes. Table 11.6-8 of the Revised Application summarizes the key issues raised by Kwantlen during Application Development and FortisBC's response.

The Revised Application noted that FortisBC and Kwantlen have signed a capacity funding agreement to support Kwantlen's participation and that FortisBC sought input from Kwantlen on information to understand Kwantlen's use of the Project Footprint, LAAs, and RAAs. However, as FortisBC did not receive information, the Revised Application

<sup>9</sup> Kwantlen First Nation. 2014. "Written Argument of Kwantlen First Nation." National Energy Board. <https://docs2.cer-rec.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450825/2904982/C198-19-1 - Written Argument of Kwantlen First Nation - A4X4H7.pdf?nodeid=2904983&vernum=-2>

<sup>10</sup> Government of Canada. 2025. First Nation Profiles: Kwantlen First Nation Registered Population. [accessed May 21, 2025]. [https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNRegPopulation.aspx?BAND\\_NUMBER=564&lang=eng](https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNRegPopulation.aspx?BAND_NUMBER=564&lang=eng).

<sup>11</sup> Kwantlen Lands, Resources, and Stewardship. Notice of intent to participate under Section 14(1) of the Act as an Indigenous nation for the Tilbury Phase 2 environmental assessment. August 12, 2020. <https://www.projects.eao.gov.bc.ca/api/public/document/627c0e3cf395580022ccc72d/download/Fortis%20LNG%20Expansion%20Letter%20signed.pdf>

relied on secondary data and sources external to Kwantlen. Kwantlen has stated, through engagement on the Project, that “the Indigenous Knowledge that FortisBC has is nothing compared to the Indigenous Knowledge that used to exist due to loss of elders, loss of language, etc.” Kwantlen Indigenous Knowledge may therefore not be fully represented in this subsection.

[Section 11.06](#) of the Revised Application includes a summary of FortisBC’s engagement with Kwantlen, who have been involved in the process since July 2019. That subsection was co-developed with Kwantlen through regular meetings and joint drafting. The Revised Application also includes tables summarizing engagement activities with Kwantlen, which are further detailed in the [Indigenous Engagement Report](#).

The EAO and Kwantlen used the following sources in drafting the assessment of Tilbury Phase 2 effects on their Indigenous interests:

- The Proponent’s Revised Application;
- Information submitted during the EA by the Proponent and Kwantlen; and
- Conclusions from the EAO’s assessment of VCs (see [Appendix 6](#)).

### 16.4.3 Assessment Boundaries

The boundaries of the Indigenous interests assessment have been based on the potential for Tilbury Phase 2 to interact with, and result in, an effect on the Indigenous interests of Kwantlen. The spatial assessment boundaries for each Indigenous interest were identified based on the overlap of LAAs and the combined RAAs identified for linked VCs, see Figure 11.6-1 in the Revised Application. The LAA of each Indigenous interest consists of the combined LAAs of VCs that are linked to the Indigenous interest, whereas the RAA of each Indigenous interest consists of the combined RAAs of VCs that are linked to the Indigenous interest.

FortisBC noted that its assessment of potential effects of Tilbury Phase 2 on Indigenous interests applies to all members of Kwantlen First Nation living, working, or exercising Indigenous interests within the LAA of the Indigenous interests. Also, for the purpose of population demographics FortisBC used McMillan Island 6 Census data as standalone data, as information pertaining to Kwantlen reserves is inconsistent or lacking information, thereby limiting the ability to aggregate information or to provide statistics for Kwantlen reserves other than McMillan Island 6. According to the Revised Application, the data provided in Table 11.6-3 represented enumerated totals and do not reflect the registered population<sup>12</sup> or the population of the total membership of Kwantlen First Nation, many of whom live off McMillan Island 6 reserve.

While the temporal boundaries applied by FortisBC in [Section 11.6.5](#) of the Revised Application included Construction (3-6 years), Operation (40 plus years) and Decommissioning (2 years) phases, the EAO heard from Kwantlen consideration of the multi-generational effects of the projects up to seven generations is important to understanding potential long-term outcomes to the nation.

### 16.4.4 Regional Context

The Project is located within Kwantlen traditional territory, and in an area where Kwantlen assert Rights and Title<sup>11</sup> based on oral histories<sup>14</sup>, ethnographic works, and the extensive archaeological record of the area. Kwantlen has stated that it has a deep gratitude for, and spiritual connection to, the lands of their Traditional Territory<sup>9</sup> and that

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<sup>12</sup> Statistics Canada. 2023. “Profile Table, Census Profile, 2021 Census of Population – McMillan Island 6, Indian Reserve (IRI) [Census Subdivision], British Columbia.” Published 2023. Accessed by FortisBC May 10, 2022. <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?%20Lang=E&SearchText=McMillan%20Island%206%2C%20&DGUIDlist=2021A00055915816&GENDERlist=1,2,3&STATISTIClist=1,4&HEADERlist=0>

they used the Lower Fraser River as a travelway and as a resource located within the heart of their Territory<sup>13,14</sup>. Kwantlen has also stated that the Lower Fraser River and its tributaries were so critical to the culture of Kwantlen that many of the villages were situated along them<sup>9</sup>.

According to the Revised Application, the Project area has been heavily disturbed by prior industrial activities, resulting in limited native soils and altered riparian zones. The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with very little to no habitat value for wildlife. The vegetation within the Project Footprint is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species. Public access to the site is limited, although there is some use of a nearby dike to the north of the Project site along the Fraser River.

Kwantlen First Nation has stated that ongoing development and resulting cumulative effects throughout Delta, B.C., Metro Vancouver, and along the Lower Fraser River have greatly affected their ability to exercise Aboriginal Rights and Title to the extent that was historically feasible<sup>9,15</sup>. As described in [Section 11.6.5.2](#) of the Revised Application, industrial development and urbanization of Kwantlen's Traditional Territory has been further exacerbated by laws and policies implemented by the Crown, which according to Kwantlen have had a negative effect on their ability to govern resources and implement stewardship and cultural values and teachings in relation to the environment<sup>9</sup>.

#### 16.4.5 Indigenous Interests

The EAO engaged Kwantlen during the Early Engagement Phase in the development of the Joint Summary of Issues and Engagement for the Tilbury Phase 2 LNG Expansion Project, in which the EAO summarized an initial understanding of Kwantlen's interests including Aboriginal rights to Tilbury Island and surrounding area and general impacts to this area.

FortisBC identified Indigenous interests to be assessed in the Revised Application through:

- Reviewing guidance from the EAO, as well as requirements set out in the AIR Schedule C, including Table 6; and
- Conducting engagement efforts with Kwantlen to gather information on their Indigenous interests, including an opportunity to review the draft Revised Application Section 11.6, as outlined in [Section 11.6.3](#) of the Revised Application - Summary of Engagement with Kwantlen.

Based on the Revised Application, the assessment scope for Kwantlen outlined in Table 4 of Schedule B, Assessment Plan for Tilbury Phase 2<sup>16</sup> and information shared by Kwantlen, the following Indigenous interests have been identified as having the potential to be affected by Tilbury Phase 2:

- Harvesting and subsistence activities;
- Cultural use sites and areas;

<sup>13</sup> Carlson, Keith Thor. 2010. "The Power of Place, the Problem of Time: Aboriginal Identity and Historical Consciousness in the Cauldron of Colonialism." Toronto: University of Toronto Press. <https://docs2.cer-rec.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450825/2784857/C198-11-4 - Evidence of Chief Marilyn Gabriel - Vol. 4 - A4L8J8.pdf?nodeid=2785525&vernum=-2>.

<sup>14</sup> Neary, Kevin. 2011. "Cultural Heritage Sites Literature Review – Kwantlen Territory Knowledge Project." <https://docs2.cer-rec.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450825/2784857/C198%2D11%2D5 %2D Evidence of Chief Marilyn Gabriel %2D Vol. 5 %2D A4L8J9.pdf?nodeid=2785211&vernum=-2>

<sup>15</sup> B.C. Environmental Assessment Office. April 29, 2024. Assessment Report for the TMJ (TMJ) Project. <https://www.projects.eao.gov.bc.ca/api/public/document/66426b8fe3197900228448b7/download/Assessment%20Report%20-%20Tilbury%20Marine%20Jetty%20-%2020221007.pdf>

<sup>16</sup> B.C. Environmental Assessment Office. June 13, 2022 (re-issued: May 5, 2025). Schedule B, Assessment Plan – Tilbury Phase 2 LNG Expansion. <https://www.projects.eao.gov.bc.ca/api/public/document/6818dedc886bd00022e563b0/download/250505 TP2-Assessment%20Plan-BINAL.pdf>

- Social and economic conditions;
- Indigenous health and well-being;
- Cultural continuation; and
- Indigenous governance systems

The assessment of Kwantlen's Indigenous interests in this section of the Report uses the following categories:

- 1) harvesting and subsistence activities (Section 16.4.5);
- 2) cultural use sites and areas (Section 16.6.6); and
- 3) social and economic conditions, Indigenous health and well-being, and cultural continuation under "Kwantlen's other Indigenous Interests" (Section 16.6.7 of this section) and Indigenous governance systems (Section 16.6.8).

The EAO's and Kwantlen's assessment of Kwantlen's Indigenous interests includes describing each interest as well as the relevant background, current context, potential effects, mitigation, and effects analysis. If there is an adverse residual effect to an Indigenous interest, then a characterization of effects and cumulative effects assessment is also conducted.

### 16.4.6 Harvesting and Subsistence Activities

#### Background

Kwantlen historically used the lands and waters throughout their Traditional Territory for a variety of cultural purposes since time immemorial, including harvesting and subsistence activities (plant-gathering, trapping, hunting, and fishing), transportation and travel, trade (furs, salmon, and plants), spiritual/ceremonial activities, and self-governance<sup>9</sup>. The waterways throughout Kwantlen's Traditional Territory, especially the Lower Fraser River, but also the Pitt and Salmon rivers, were the key resources within the territory, sustaining Kwantlen Peoples with salmon, sturgeon, and other fish. Furthermore, these rivers not only provided Kwantlen Peoples with food, but also allowed them to trade with other communities<sup>9</sup>. The ability to access these once abundant resources provided Kwantlen the opportunity to have an elevated and sustainable quality of life.

According to the EAO's Assessment Report for Tilbury Marine Jetty (TMJ), Kwantlen is a community that relies on salmon, eulachon, and other species that historically have been abundant in the Fraser River and local tributaries. Kwantlen has extreme concerns about the loss of any habitat on the Fraser River given the state of biodiversity loss, climate change, and the ever-declining abundance of Fraser River salmon. With several flora and fauna on the *Species at Risk Act* (SARA), and several more listed as 'Endangered', Kwantlen is frustrated by the continued expansion of fossil fuel industries that destroy habitat not only along the Fraser River, but along the entire supply chain including northeastern B.C. where the gas is extracted<sup>15</sup>. See also [Appendix 12](#) of this Report regarding scoping of upstream GHG emissions and climate change for Tilbury Phase 2 LNG.

The Project area is within part of the traditional hunting, trapping, and gathering areas of Kwantlen<sup>1314</sup> noting that historically, hunting by Kwantlen within Metro Vancouver, including the Project Area on Tilbury Island, involved harvesting deer, elk, duck, goose, grouse, beaver, and marten<sup>14</sup>. According to Section 11.6.5.2 of the Revised Application, the South Arm of the Fraser River and the estuary are known as important areas for waterfowl habitat, and waterfowl, such as geese and ducks, which were harvested by First Nations. Kwantlen also historically harvested a variety of plants, such as wapato, berries, and medicines, along the Lower Fraser River and its shoreline, and throughout their Traditional Territory. Refer to [Section 11.1.13](#), Indigenous Interests Assessment Methods, and [Section 7.7](#) Vegetation of the Revised Application, for information on culturally important plants relevant to Kwantlen in the Vegetation VC LAA and RAA for Tilbury Phase 2.

### Current Context

The Project Footprint is located on private property owned by FortisBC (the Property). The Property is within an existing Tilbury LNG facility on Tilbury Island, in the Tilbury Industrial Park, adjacent to the Fraser River in Delta, B.C., which has been zoned for industrial use. Also, the adjacent areas along the South Arm of the Fraser River in Delta, and across the river in Richmond, are regionally designated for light and heavy industrial and commercial uses. According to Table 11.6-5 of the Revised Application, Kwantlen has stated through engagement that Tilbury Phase 2 may create changes to ecosystem health particularly for medicinal plants.

Kwantlen previously reported that hunting and trapping activities took place throughout the Lower Mainland and Fraser Valley, which were a main source of sustenance for their ancestors and current members of Kwantlen<sup>15</sup>. Kwantlen has also stated that unfortunately, the abundance of birds and game that used to exist in abundance locally have been wiped out due to rapid urban expansion that eliminated this practice.

Given the importance of the Lower Fraser River watershed and the history of Kwantlen in the Delta, B.C., and Metro Vancouver area, Kwantlen is working to enhance and re-establish traditional harvesting within the Fraser River, as well as increase resource harvesting activities, including plant and waterfowl harvesting, and food, social, and ceremonial (FSC) fishing opportunities throughout their Traditional Territory<sup>15</sup>. Kwantlen has stated that industrial development, urbanization, government laws, and policies have affected wildlife and wildlife habitat and have reduced opportunities for Kwantlen to participate in hunting on its Traditional Territory<sup>14</sup>.

The EAO understands that Kwantlen's Right to fish is heavily regulated and restricted by Department of Fisheries and Oceans (DFO). Kwantlen members continue to harvest salmon (for FSC purposes) for an approximately 42 km stretch of the Fraser River, starting from about 6 km upstream of the Pattullo Bridge up towards Mission<sup>15</sup>. Traditionally fishing practices were strong within the Lower Fraser River but due to strict DFO regulations, Kwantlen can no longer access these areas within the LAA.

### Potential Project Effects

The EAO and Kwantlen have identified the following pathway of effects, prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#), that may affect Kwantlen's harvesting rights and subsistence activities during Construction, Operation, and Decommissioning phases of the Tilbury Phase 2 project. See also Table 11.1-4 of the Revised Application, which summarizes identified linkage between potential effects on the air quality, acoustic, surface water, groundwater, soil, vegetation, wildlife and wildlife habitat, fish and fish habitat, and land and resources VCs, and Indigenous interests.

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources** from increased noise, light, and air pollution (acoustics, air quality, soil, groundwater, land and resource VCs), which may deter Kwantlen members from accessing preferred harvesting areas near the Tilbury Phase 2 Footprint. Changes in fish distribution and abundance (fish and fish habitat VC) and the introduction of invasive plant species (vegetation VC) may further reduce the experience and preference of practicing of harvesting rights. While Kwantlen does not currently fish or harvest close to the project site, they have historically and could in the future if the site was decommissioned to a more natural state;
- **Effects to Kwantlen Rights to fish, harvest and hunt for FSC purposes** from habitat loss (wildlife and wildlife habitat, fish and fish habitat, and vegetation VCs), increased mortality risks to fish, birds, and wildlife (wildlife and wildlife habitat VCs), and changes in their behavior due to sensory disturbances (acoustics and air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water VC) and Fraser River downstream, as well as contaminated soil (soil VC) could impact important plant species, which may further impact traditional harvesting and cultural practices; and



- **Effects on the accessibility and availability of traditional lands and resources** may occur as a result of altered land or water based travel routes, access restrictions, or safety considerations, including changes to navigability and the usability of established travel corridors (land and resource use and surface water VCs), as well as indirect effects from sensory disturbances such as noise, dust, lighting, or visual changes that may discourage travel through otherwise accessible areas (air quality, acoustics, and land and resource use VCs). While the area is an industrially zoned privately-owned site with restricted access, Kwantlen considers that their harvesting rights continue from a pre-contact baseline.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures that the Proponent has proposed in response to potential Tilbury Phase 2-related effects on harvesting and subsistence activities, as mentioned in the section above. A full table of Proponent mitigations can be found in [Appendix A](#) of the Revised Application. Below is a summary of mitigation measures, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Kwantlen's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Kwantlen's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm-sewer system. These protections support water quality and fish habitat relied on to support Kwantlen's harvesting and cultural practices;
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to Kwantlen's harvesting and cultural practices.
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Kwantlen for harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Kwantlen for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Kwantlen's harvesting and cultural practices;

- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to Kwantlen's FSC harvesting and cultural practices; and
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices.

In addition to the Proponent's mitigation measures, the EAO and Kwantlen identified the following Project-specific proposed provincial conditions that would mitigate potential effects to Indigenous harvesting and subsistence activities interests (see also [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for Kwantlen to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Kwantlen's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Kwantlen's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Kwantlen's harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions-control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and overall ecosystem health, this plan helps protect the environmental conditions that support Kwantlen's harvesting and cultural practices; and
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on Project-related roads, which may lower potential impacts on salmon and other fish important to Kwantlen's harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial conditions, the EAO and Kwantlen identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections;** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Kwantlen's harvesting practices and broader ecosystem conditions important to their way of life.

#### Kwantlen's and the EAO's Analysis and Conclusions

This section presents the EAO's and Kwantlen's analysis and conclusions on the residual adverse effects of Tilbury Phase 2 on Kwantlen's harvesting and subsistence activities, which includes fishing, hunting, and gathering rights recognized and affirmed under Section 35 of the *Constitution Act, 1982*. After consideration of the potential effects and proposed mitigation measures described above, the EAO and Kwantlen identified the following residual effects on Kwantlen's harvesting and subsistence activities:

- Changes to the experience and preferences around the practice of harvesting rights; and

- Changes to the quality, quantity, and availability of resources for Kwantlen's harvesting, hunting, and fishing rights.

The EAO's and Kwantlen's characterization of the residual effects of Tilbury Phase 2 on Kwantlen's harvesting and subsistence activities are summarized in the table below.

Table 21: Summary of residual effects and rationale on Kwantlen's harvesting and subsistence activities.

| Residual Effect                                                                                                                                                                                                                                                                                                        | Assessment Rating*                                                                                                                                                                                                                                                                                                                                             | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Harvesting and subsistence activities:</p> <ul style="list-style-type: none"> <li>- Changes to the experience and preferences around the practice of harvesting rights</li> <li>- Changes to the quality, quantity, and availability of resources for Kwantlen's harvesting, hunting, and fishing rights</li> </ul> | <p>Context (resilience): Low</p> <p>Magnitude: Negligible-to-minor</p> <p>Extent: Local</p> <p>Duration: Medium-term (40 plus years operation)</p> <p>Reversibility: Fully reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate (Elders, knowledge holders, and harvesters)</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> Despite Kwantlen's strong stewardship values, resilience is low due to cumulative degradation of species and habitat, loss of access, and weakened intergenerational transmission of harvesting knowledge. It is understood that Kwantlen would have traditionally used the area for a variety of harvesting and subsistence activities, but that urbanization, pollution and restricted access has eroded Kwantlen's ability to practice their rights in the area.</p> <p><b>Magnitude:</b> impact is considered negligible, as Project activities are not anticipated to result in detectable indirect effects on salmon or other important fish species that may pass the Project site on route to Kwantlen fishing areas located upstream of the Project. Sensory disturbances associated with the Project (i.e. noise, light and air quality) are negligible to low in magnitude and are not expected to extend to area where Kwantlen harvests or fishes. No active harvesting occurs in the project area and residual effects on VCs such as surface water quality, fish and fish habitat are assessed as negligible in magnitude.</p> <p><b>Extent:</b> Rated as local, since the spatial scale of the residual effects to applicable VCs is limited, the impact on harvesting is expected to remain local, primarily within the immediate Project area.</p> <p><b>Duration:</b> The effects on harvesting will persist for as long as the Tilbury Phase 2 facility remains operational, making them medium-term (40 plus years of operation).</p> <p><b>Reversibility:</b> Effects would be fully reversible since small, short-term changes, such as localized sensory disturbances, would cease once project activities stopped or upon decommissioning, and no permanent impacts to harvesting practices or resources would be anticipated.</p> <p><b>Frequency:</b> Rated as continuous as while certain effects would be most prominent during Construction, some effects (noise, light disturbances) would occur continuously.</p> <p><b>Affected Populations:</b> Disproportionately affected populations would be those community members who actively engage in harvesting and subsistence practices, including Elders, knowledge holders, and harvesters reliant on traditional resources or teaching practices.</p> <p><b>Risk:</b> The risk rating is low because the likelihood of direct impacts would be low, and the consequences of indirect or perceived effects on harvesting practices would be low due to the minimal nature of sensory impacts.</p> <p><b>Uncertainty:</b> The uncertainty rating is moderate due to gaps in site-specific Indigenous Knowledge.</p> |
| <p>* Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a></p>                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### *Cumulative Effects*

As described in the Background and Current Context section, the Lower Fraser River and Tilbury Island area have experienced decades of industrial activity. These existing pressures have already affected environmental conditions and in turn Kwantlen's harvesting and subsistence interests by reducing availability of culturally important resources and altering how members access and use the area.

The Revised Application identifies several foreseeable projects that may adversely affect Kwantlen's harvesting and subsistence interests. These include T1B, which would increase LNG production, and the Tilbury Marine Jetty (TMJ) project, which would introduce additional vessel traffic on the Fraser River and further modify the foreshore next to the Project site. After mitigation and conditions have been implemented, the residual effects would be minimally disrupted from current conditions. Both T1B and TMJ could contribute additional sensory disturbances (noise, light, vibration), and impact air quality in areas used by Kwantlen for harvesting. TMJ could further alter fish and fish habitat, vegetation and vegetation habitat as well as water quality in areas used by Kwantlen for harvesting. Climate change is also expected to continue influencing vegetation, wildlife, and fish resources relied upon by Kwantlen.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

### **Conclusion**

Considering the above analyses, including FortisBC's proposed mitigation measures, EAO's Table of Conditions, and federal Key Mitigation Measures, and based on the Project specific effects of Tilbury Phase 2, the EAO and Kwantlen concludes that the Project will have a minor effect on Kwantlen's harvesting and subsistence activities

The EAO and Kwantlen acknowledge uncertainty around the precise degree to which the overall seriousness of impacts on an Indigenous interest is increased from cumulative effects due to the complexities in understanding conditions needed for meaningful practice of rights and availability of resources for Kwantlen. See Section 16.4.3 on assessment boundaries above, the EAO does not conduct territory-wide assessments for EAs, so the EAO and Kwantlen are not concluding on the current conditions or degree of cumulative effects throughout Kwantlen's entire Territory or how Tilbury Phase 2 might interact with these, nor does the EAO require comprehensive regional cumulative effects assessment on all the various existing constraints and pathways of impact, which is considered beyond the reasonable scope of a project-specific EA.

## **16.4.7 Cultural Use Sites and Areas**

### **Background**

Kwantlen's cultural sites and use within the region include village sites, trade, named places, archaeological sites, and spiritual use areas. Kwantlen continues to use areas within Delta B.C., and the Metro Vancouver area for cultural purposes and has done so since time immemorial<sup>13,14,15,17</sup>. Such practices include cultural and spiritual ceremonies, as well as gathering of traditional medicines from the land<sup>9</sup>.

Kwantlen identify the South Arm of the Fraser River, including the historic Indigenous village site<sup>18</sup> at Lulu Island and Tilbury Island, as an area of cultural importance. In addition to one valued cultural site on Lulu Island (located 4.5 km

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<sup>17</sup> Brown, Jack. n.d. "Surrey History – Kwantlen of the Coast Salish: A Halkomelem Tribe." Accessed by FortisBC September 16, 2020. <https://surreyhistory.ca/kwantlen.html>. (site discontinued).

See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site

east of the Project Footprint), the Revised Application identified two Kwantlen ancestral village sites that are recorded as archaeological sites, *sx̣ẉeyəm̓əl* (DhRr-74) and *q̓iq̓éyt* (DhRr-2) located approximately 12 km east of the Project Footprint, which are also within the cultural use sites and areas LAA.

#### Current Context

As previously noted, the Project Footprint would be located on the property within a pre-existing LNG facility in the Tilbury Island industrial area. The EAO is not aware of the presence of any specific Kwantlen cultural use sites and areas located within the Project Footprint<sup>11,14,15</sup>, noting that the Revised Application stated that Kwantlen did not identify any known cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance within the Project Footprint. Kwantlen expressed the following:

The intentional colonial policies of the Federal and Provincial government that perpetuated cultural genocide made a significant impact on Kwantlen's ability to retain and share traditional knowledge, especially with the Potlach Ban and Residential School System imposed under the *Indian Act* of Canada. Kwantlen is not confident that historical information provided or referenced are meaningfully captured due to these systematic colonial practices. Kwantlen does not share Traditional or Cultural knowledge willingly especially for past experience of our own knowledge being used against our Rights and Title.

We are also frustrated by previous decisions that disregarded the impact to Kwantlen's Rights and Title based on limited understanding of Kwantlen's history, land-use and occupancy in order to approve projects, for example, TMJ.

Kwantlen has identified disenfranchisement from specific areas within their Territory as a result of existing development, including the historic Indigenous village site<sup>19</sup> at Lulu Island, the South Arm of the Fraser River and other important areas identified by Kwantlen within the cultural use sites and areas LAA<sup>14</sup>. Also Kwantlen has stated that its members must travel a greater distance to gather traditional medicines due to development in their Territory, as these practices require pristine (isolated and uncontaminated) lands and environmental conditions<sup>9</sup>.

FortisBC reported that, during the time of writing the Revised Application, that Kwantlen does not currently use the South Arm of the Lower Fraser River adjacent to the Project Footprint, including cultural sites or areas<sup>11</sup>. However, Kwantlen's lack of current use of the South Arm of the Fraser River by community members is more accurately a reflection of the restrictions in place by federal DFO regulations that inhibit Kwantlen's ability to exercise their inherent rights to fish, hunt, harvest or participate in cultural or traditional practices.

#### Potential Project Effects

The EAO and Kwantlen identified the following pathways of effects, prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#), that may affect Kwantlen's cultural use sites and areas during the Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Effects to cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance;** Tilbury Phase 2 could affect cultural use of areas and sites through activities that disturb culturally significant places, such as archaeological sites, due to ground disturbance, accidental spills, or other construction-related interactions (culture, soil, archaeological and heritage resources VCs);
- **Loss of access to and disenfranchisement from cultural sites;** Kwantlen community members could experience direct adverse effects to cultural and spiritual practices if access to cultural sites is altered or lost due to closure or modification of trails, parking areas, or access points between the project site and the Fraser River for safety or construction purposes (land and resource VC). Temporary changes in sensory effects (acoustic, air quality, culture, land and resource VC) could alter the experience of Kwantlen members

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See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site

using cultural sites such as a historic fishing village and harvesting areas along the South Arm of the Fraser River or near Burns Bog. See also Cultural Continuation section below; and

- **Effects to cultural and spiritual practices caused by changes to, or loss of, access to cultural sites and areas;** Adverse effects to Indigenous cultural practices (culture VC), which are connected to fish, wildlife, habitat, and vegetation (see harvesting and subsistence activities section above) could influence the ability or desire to access these sites (land and resource use VC). See also Indigenous Health and Well-being and Cultural Continuation sections below.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures that the Proponent has proposed in response to potential Tilbury Phase 2-related effects on Kwantlen's cultural use sites and areas. These include the following:

- **Land and Resource VC (Section 7.11)** Traffic management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support Kwantlen's ability to safely access and continue cultural practices within their traditional territory;
- **Culture VC (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Kwantlen's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water;
- **Soil VC (Section 7.6)** Soil management measures, including erosion control, spill prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Kwantlen;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of knowledge by Kwantlen;
- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Kwantlen's harvesting and cultural practices; and
- **Archaeological and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials—including chance-find procedures, site protection, and early notification to Indigenous nations—help protect culturally important sites, features, and landscapes. These measures support Kwantlen's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory.

In addition to the Proponent's mitigation measures, the EAO developed further conditions that would mitigate potential effects to Indigenous cultural use sites and areas (see [Section 8](#) of this Report):



- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance;
- **Condition 10 (Community Feedback Process)** to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, light, or disturbances near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP):** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of the culturally important landscapes and areas, supporting Kwantlen's continued access to and use of cultural sites during project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Kwantlen;
- **Condition 14 (Air Quality Management Plan)** ensures that selection and implementation of effective emissions control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan maintains conditions suitable for access to, and use of culturally important areas and sites used by Kwantlen; and
- **Condition 15 (Chance Find Protocol)** requiring the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If the Kwantlen historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

In addition to the Proponent's mitigation measures and provincial conditions, the EAO and Kwantlen also identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to cultural use sites and areas:

- **Federal Consideration for Migratory Bird Protections;** The EAO recommends that the IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Kwantlen's harvesting practices and broader ecosystem conditions important to their way of life.

#### The EAO and Kwantlen's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO and Kwantlen concludes that Tilbury Phase 2 could result in the following residual effects to Kwantlen's cultural use sites and areas:

- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural value;
- Changes to the experience and preferences around the cultural use of sites and areas; and
- Potential for continued or future disenfranchisement from harvesting and cultural use sites in the area (Tilbury Island and Lulu Island).

The EAO's and Kwantlen's characterization of the residual effects of Tilbury Phase 2 on Kwantlen's cultural use sites and areas are summarized in the table below.

Table 22: Summary of residual effects and rationale on Kwantlen's cultural use of sites and areas.

| Residual Effect                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Assessment Rating*                                                                                                                                                                                                                                                                                                                                             | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <p>Cultural use sites and areas</p> <ul style="list-style-type: none"> <li>- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural value.</li> <li>- Changes to the experience and preferences around the cultural use of sites and areas</li> <li>- Potential for continued or future disenfranchisement from cultural sites in the area (Tilbury Island and Lulu Island).</li> </ul> | <p>Context (resilience): Low</p> <p>Magnitude: Negligible-to-minor</p> <p>Extent: Local</p> <p>Duration: Medium-term (40 plus years Operation)</p> <p>Reversibility: Fully reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate - Elders, knowledge holders, and harvesters</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> The Interest is rated as having low resilience due to cumulative impacts from colonization, industrialization, and restricted land and water access. Cultural practices are highly sensitive to disturbance and already disrupted.</p> <p><b>Magnitude:</b> The magnitude of impact is rated as negligible based on the Project's negligible magnitude residual effects on fish, fish habitat, surface water VC's, which underpin many cultural activities. Other connected VC residual effects, including those to wildlife, vegetation, air quality, acoustics, and land and resource use, are expected to be negligible to low in magnitude and of local extent. The Tilbury Phase 2 sites are located on fee simple industrial land, where access to cultural use is already restricted.</p> <p><b>Extent:</b> Rated as local, as the anticipated residual effects are geographically confined to Tilbury Phase 2 vicinity and immediate surrounding areas. Kwantlen's access to the Fraser River and cultural use sites and areas would not be expected to change because of Tilbury Phase 2. While incremental changes may be detectable, these are unlikely to alter cultural site access or have negative effects on cultural practices.</p> <p><b>Duration:</b> The effects on cultural use sites and areas are rated as medium-term. The residual effects, particularly sensory disturbances and restricted access, would persist throughout Construction and Operation but are expected to cease following Decommissioning.</p> <p><b>Reversibility:</b> Effects would be fully reversible since small, short-term changes, such as localized sensory disturbances, would cease once project activities stopped or upon decommissioning, and no permanent impacts to harvesting practices or resources would be anticipated.</p> <p><b>Frequency:</b> Sensory disturbances such as noise, vibration, and air emissions would occur with regular consistency throughout construction and operation. While sensory impacts like noise and visual changes would occur predictably during operation, these effects would not necessarily be at maximum levels continuously. Access restrictions would be effectively continuous, but do not represent a new barrier compared to existing conditions.</p> <p><b>Affected Populations:</b> Disproportionately affected populations would be those community members who actively engage in traditional and cultural practices, including Elders, knowledge holders, and harvesters reliant on traditional resources or teaching practices.</p> <p><b>Risk:</b> The risk rating is low because the likelihood of direct project-related disturbances within known Kwantlen cultural use sites and areas would be low and the consequences of indirect effects, such as noise, vibration, and visual disturbance would be minor due to the minimal nature of sensory impacts. Therefore, overall risk is rated at low.</p> <p><b>Uncertainty:</b> The uncertainty rating is moderate due to limited site-specific data and incomplete understanding of how cumulative sensory impacts affect cultural experience. While general effects are known, reliance on secondary sources and gaps in localized input reduce confidence in the assessment.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a>                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

### Cumulative Effects

The historical context of environmental degradation and land-use changes has already affected Kwantlen's cultural use sites and areas, as detailed in the Background and Current Context section above. Kwantlen experiences limited access and altered ecological conditions along the Fraser River, and the degraded state of sites like Tilbury Island due to industrial development. The past and present impacts have reduced the ability of Kwantlen members to fully utilize culturally important locations and have hindered the transmission of Indigenous knowledge.

As stated in the Revised Application, FortisBC notes two reasonably foreseeable projects, T1B and TMJ, are expected to modify the Tilbury Island foreshore prior to Construction of Tilbury Phase 2. These developments are expected to introduce additional sensory disturbances (noise, light, vibration) affecting nearby cultural site access and use. T1B could remove vegetation, impacting culturally important plants and wildlife habitat, while TMJ shipping activities may increase disturbances, with potential effects on fish populations and cultural connections to the Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

### Conclusion

Considering the above analyses, including FortisBC's proposed mitigations, EAO's Table of Conditions, and based on the Project specific effects of Tilbury Phase 2, the EAO concludes that the Project will have a minor effect on Kwantlen's cultural use sites and areas.

The EAO and Kwantlen acknowledge uncertainty around the precise degree to which the overall seriousness of impacts on an Indigenous interest is increased from cumulative effects due to the complexities in understanding conditions needed for meaningful practice of rights and cultural use, and the availability of cultural use areas and resources for Kwantlen. See Section 16.4.3 on assessment boundaries above, the EAO does not conduct territory-wide assessments for EAs, so the EAO and Kwantlen are not concluding on the current conditions or degree of cumulative effects throughout Kwantlen's entire Territory or how Tilbury Phase 2 might interact with these, nor does the EAO require comprehensive regional cumulative effects assessment on all the various existing constraints and pathways of impact, which is considered beyond the reasonable scope of a project-specific EA.

### 16.4.8 Kwantlen's other Indigenous Interests

#### Background

The Revised Application identified that the health and well-being of Kwantlen Peoples may be affected by potential effects on socio-economic determinants of health, including employment, education, income, socio-economic status, and other indicators. In addition to socio-economic conditions, FortisBC also assessed potential effects to Kwantlen's Indigenous health and well-being, noting that Kwantlen had previously identified issues related to Indigenous health and well-being relevant to Tilbury Phase 2, including quality of water discharges, increased GHG emissions, and potential cumulative effects from infrastructure development.

Kwantlen expressed concern about increased GHG emissions in our microclimate within the Lower Mainland or provincially from extraction sites in northeastern B.C. can lead to increased variability in regional weather systems and climate trends that significantly impact air quality, water levels, water temperature, surface temperature, and intensity of storms that cause destruction to the natural and built environment. Kwantlen also stated they are extremely vulnerable due to their federally designated reservations that are situated along the Fraser and Stave River, including their primary residential reserve on McMillan Island that is in the middle of the Fraser River. Changes

to our weather systems and regional climate have generational effects on the plants and animals within our traditional territory and their ability to survive.

Through ongoing engagement of and submissions to other project EAs in the South Arm of the Fraser River, Kwantlen has identified cultural continuation as an interest<sup>9</sup>. Specifically, Kwantlen stated a concern that changes to Kwantlen knowledge translation may result from adverse effects to fish populations in the Fraser River. The EAO is aware that cultural continuation is a key goal of Kwantlen, and although it is distinct from fishing, harvesting, and the biophysical environment, these elements are inherently connected to, and dependent on, each other<sup>9</sup>. During Application Development, FortisBC updated its Revised Application to include Indigenous interests related to cultural continuation and Indigenous governance systems to address Kwantlen's provided feedback regarding temporal boundaries and noted that Kwantlen First Nation also looks at multi-generations and what the potential effects of projects will be 100 years from now.

Kwantlen's wholly owned subsidiary Səyérh provides services in the areas of contracting (construction, excavation, earthworks, security, and flagging), resource management (archaeology, fisheries, forestry), and on and off reserve development. Kwantlen First Nation recently signed a Clean Energy Business Fund Revenue Sharing Agreement with the Government of B.C. related to the Trethewey Creek and Big Silver Creek hydroelectric projects that will last the lifetime of the power projects<sup>20</sup>. Table 11.6-4 in FortisBC's Revised Application summarizes some of the agreements with other governments to which Kwantlen is a signatory.

#### Current context

[Section 11.6.2.7](#) of the Revised Application presents information about Kwantlen's health and wellness, including emergency services, education, housing, infrastructure, employment, and economic development. FortisBC acknowledged that the statistics provided need to be viewed in context, when comparisons are made between Kwantlen and non-Indigenous populations. The Revised Application noted that across Canada, Indigenous populations have experienced, and continue to experience, the severe and detrimental effects of colonialism, which have affected their social and economic well-being, as well as their health.

The Revised Application reported the largest area of employment by industry for both male and female Kwantlen Peoples on the McMillan Island 6 reserve was "other services," followed by health and education, manufacturing and construction, and transportation and warehousing according to 2016 Census data<sup>21</sup>. Sales and service was the dominant type of occupation for Kwantlen Peoples, followed by social sciences and government, and then trades and related occupations<sup>21</sup>. The dominant occupation type for Kwantlen Peoples identifying as females was sales and service, whereas, while for those identifying as males it was equally distributed between sales and service and trades and related occupations<sup>21</sup>.

In the areas of business development and opportunities, Kwantlen engages in business management, resources, development, land development, and construction through the Səyérh that was created by Kwantlen in 2011. Kwantlen Lands, Resources and Stewardship (KLRS) was established in 2020 to oversee all matters relating to Kwantlen Rights and Title, implementing the Kwantlen Land Code, Heritage and Land Management on and off reserve.

Kwantlen has previously stated that reducing the effects of the climate emergency are a top priority. Rising sea levels have an impact on cultural and heritage resources that have been protected or not found yet<sup>15</sup>. Kwantlen considers

<sup>20</sup> Government of British Columbia (Government of B.C.). "Kwantlen First Nation (Fort Langley) – Province of British Columbia." Accessed by FortisBC for the Tilbury Phase 2 LNG Application May 4, 2022. <https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-firstnations/first-nations-negotiations/first-nations-a-z-listing/kwantlen-first-nation-fort-langley>.

<sup>21</sup> Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). "Workforce Characteristics – Kwantlen First Nation." Fact sheet; resource list. Accessed by FortisBC for the Tilbury Phase 2 LNG Application June 22, 2022. [https://fnp-ppn.aadnc-gandc.gc.ca/fnp/Menu/Search/FNWorkforce.aspx?BAND\\_NUMBER=564&lang=eng](https://fnp-ppn.aadnc-gandc.gc.ca/fnp/Menu/Search/FNWorkforce.aspx?BAND_NUMBER=564&lang=eng).

that increasing water temperatures are having an impact on fish ecosystems and migratory patterns, while, the climate crisis has the potential to raise water levels in the river and create inhospitable areas on Kwantlen reserve lands, including the main reserve IR6. This also includes severe weather systems such as extreme heat/drought or atmospheric rivers.

### Potential Project Effects

The EAO and Kwantlen have identified the following pathways of effects, prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#), that may affect Kwantlen's other Indigenous interests during the Construction, Operation, and Decommissioning phases of Tilbury Phase 2.

Table 23: Summary of residual effects and rationale on Kwantlen's other Indigenous interests.

| Social and Economic Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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Well-being                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| <p><b>Effects on Infrastructure and Services</b> due to added pressure on community infrastructure or public services if out-of-region workers are used, but effects would be limited and indistinguishable from existing conditions (Land and resource use, employment and economy, and infrastructure services VCs).</p> <p><b>Changes to employment, Indigenous businesses, procurement opportunities, and Kwantlen revenue;</b> the extent of positive effects on Kwantlen's employment and business opportunities depends on member participation and access to contracts (employment and economy VC). Indigenous workers are more likely to be in construction jobs, but smaller Indigenous businesses may face challenges finding workers or meeting project demands (culture VC).</p> <p><b>Effects on ability to improve social and economic conditions;</b> Tilbury Phase 2 may support Kwantlen's efforts to improve social and economic conditions by creating employment, training, and business opportunities. Increased demand for skilled workers could also boost interest in trades training (employment and economy VC).</p> <p><b>Effects on the future aspirations for sites or areas surrounding the Project Footprint;</b> Tilbury Phase 2 would not be expected to affect Kwantlen's long-term community aspirations related to economic development, land use, language and cultural revitalization, and reclamation initiatives, or have any other identified effects on Kwantlen First Nation economic development planning. See also the section on Indigenous governance systems in the section below.</p> <p><b>Effects on commercial and non-commercial fishing, gathering, trading and cultural or ceremonial activities and practices;</b> Potential changes to Kwantlen's ability benefit from commercial and non-commercial harvesting is not expected because Tilbury Phase 2 would be located in an industrialized area (land and resource use VC), with limited interaction with cultural use or harvesting</p> | <p><b>Effects on Human Health</b> due to low likelihood of adverse effects to respiratory health through changes in ambient air-borne contaminants from Tilbury Phase 2 (Air Quality VC). Interactions with Kwantlen's members health are not anticipated due to the short-term potential exposures, with sensitive sub-groups directly adjacent to the Tilbury Phase 2 Footprint having greatest risk (Human Health VC).</p> <p><b>Effects on the quality, quantity and availability of harvested country foods</b> due to adverse effects on the fish, wildlife and plants (Vegetation, Fish and Fish Habitat, and Wildlife and Wildlife Habitat VCs). Kwantlen has identified the loss of traditional food sources as contributing to chronic health issues.</p> <p><b>Effects on the quality and perceived value of country foods</b> due to increased risks of contamination (Air Quality, Soil, Groundwater, Surface Water, and Health VC) or shifts in community members' perceptions about the value or quality of country foods. This could have negative impacts on Kwantlen members' participation in harvesting and subsistence activities and cultural and spiritual practices, even in the absence of adverse effects (see land and resource use, and culture VCs).</p> <p><b>Effects on traditional ways of life and cultural sites</b> from changes to traditional practices, access to cultural sites, and socio-economic factors (human health, community health and well-being, and culture VCs). Potential adverse effects on socio-economic determinants of health are limited to effects of shift work and family stress (human health VC). Tilbury Phase 2 is not expected to</p> | <p><b>Effects on the ability to revitalize, develop, and participate in intergenerational cultural transmission</b> due to changes in the experiences of being on the land or water (Air Quality, Visual Quality, and Acoustic VCs), or from changes to current and future availability and quality of country foods (Fish and Fish Habitat, Wildlife and Wildlife Habitat, Vegetation, and Health VCs). Kwantlen has identified the loss of traditional food sources and harvesting access as limiting intergenerational knowledge transfer.</p> <p><b>Disconnection from cultural heritage</b> due to changes in sense of place and identity as a result of changes in accessibility (Land and Resource Use VCs), effects on cultural sites (Archaeological and Heritage Resources), sensory disturbances (Air Quality, Visual Quality, and Acoustic VCs), changes in abundance or distribution of country foods, or any real or perceived risks of environmental contamination by Kwantlen's community members. Kwantlen also has concern for further disenfranchisement from the site, and Tilbury and Lulu Islands. See also the Harvesting and Subsistence Activities, Cultural Use Site and Areas, Indigenous Health and Well-being assessments above, and the section on Indigenous governance systems below).</p> <p><b>Effects on the ability to act as stewards of the land for future generations to come</b> through the interaction with Kwantlen's conservation and stewardship efforts, Tilbury Phase 2-related adverse and cumulative effects, and ongoing industrialization of the Tilbury Island and South Arm of the</p> |



| Social and Economic Conditions                                                                                                                                                                                                                                                        | Indigenous Health and Well-being                                                                                                                                                                        | Cultural Continuation                                                                                                                                                                                                             |
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| sites (see Cultural Use Sites and Areas and Harvesting and Subsistence Activities sections above). Also, Tilbury Phase 2 is not anticipated to change incomes derived from non-commercial harvests, nor Kwantlen community members' participation in intertribal relations and trade. | alter Kwantlen's harvesting or cultural site access or have negative effects on cultural practices. See also the Harvesting and Subsistence Activities and Cultural Use Sites and Areas sections above. | Lower Fraser River. Tilbury Phase 2 would not be expected to affect Kwantlen's long-term community aspirations related to reclamation initiatives. See also the assessment on Indigenous governance systems in the section below. |

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed to potential Tilbury Phase 2-related effects on Kwantlen's other Indigenous interests. These include the following:

Table 24: Summary of FortisBC's proposed mitigation measures relevant to Kwantlen's other Indigenous interests.

| Social and Economic Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Indigenous Health and Well-being                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Cultural Continuation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| <ul style="list-style-type: none"> <li>• <b>Employment and Economy (Section 7.10)</b> Employment, training, and procurement measures create pathways for Kwantlen members and businesses to participate economically in the project, supporting improved social conditions and community well-being;</li> <li>• <b>Land and Resource Use (Section 7.11)</b> Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Kwantlen's long-term aspirations for land and water restoration and reducing stressors that can affect well-being;</li> <li>• <b>Infrastructure and Services (Section 7.12)</b> Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socio-economic impacts on Kwantlen and supporting health and community stability; and</li> <li>• <b>Culture (Section 7.14)</b> Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Air Quality (Section 7.2)</b> Air emission controls help protect respiratory health and prevent contamination of country foods, supporting Kwantlen's physical well-being and confidence in harvesting;</li> <li>• <b>Acoustic (Section 7.3)</b> Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting Kwantlen's comfort, well-being, and connection to land and water;</li> <li>• <b>Surface Water (Section 7.4)</b> Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting Kwantlen's cultural and nutritional reliance on healthy salmon and aquatic ecosystems;</li> <li>• <b>Groundwater (Section 7.5)</b> Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for Kwantlen's subsistence and health;</li> <li>• <b>Soil (Section 7.6)</b> Soil management measures, including erosion control, spill-prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Kwantlen;</li> <li>• <b>Vegetation (Section 7.7)</b> Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Kwantlen's physical health and cultural practices;</li> <li>• <b>Wildlife and Wildlife Habitat (Section 7.8)</b> Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Kwantlen's cultural continuity and nutritional well-being;</li> <li>• <b>Fish and Fish Habitat (Section 7.9)</b> Protecting fish habitat, water quality, and migration conditions supports Kwantlen's food</li> </ul> | <ul style="list-style-type: none"> <li>• <b>See mitigations for Social and Economic Conditions;</b></li> <li>• <b>See mitigations for Indigenous Health and Well-being; and</b></li> <li>• <b>Archaeological and Heritage Resources (Section 7.13)</b> Measures to prevent disturbance to archaeological and heritage materials, including chance-find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support Kwantlen's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory.</li> </ul> |



| Social and Economic Conditions            | Indigenous Health and Well-being                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Cultural Continuation |
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| transfer linked to Kwantlen's well-being. | <p>security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;</p> <ul style="list-style-type: none"> <li>• <b>Land and Resource Use (Section 7.11)</b> Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Kwantlen's long-term aspirations for land and water restoration and reducing stressors that can affect well-being;</li> <li>• <b>Culture (Section 7.14)</b> Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Kwantlen's well-being; and</li> <li>• <b>Human Health (Section 7.15)</b> Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Kwantlen members' physical, cultural, and mental health.</li> </ul> |                       |

Additional mitigation measures proposed by Kwantlen and FortisBC are provided in Table 11.6-12 of the Revised Application. Kwantlen proposed mitigations measures related to plant gathering and cultural continuation that FortisBC provide a response to, which included that the Proponent was open to considering a wide range of mitigation measures and legacy projects that could be potential options to be developed.

In addition to the Proponent's mitigation measures, the EAO developed further conditions that would mitigate potential effects of Tilbury Phase 2 on Kwantlen's other Indigenous interests:

- **Condition 10 (Community Feedback Process)** provides Kwantlen with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Kwantlen's other Indigenous interests;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with Kwantlen to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality mitigates sensory disturbances, such as dust and odors, and prevents particulate deposition that may impact traditional resources. This supports Kwantlen's other Indigenous interests by preserving the cultural acceptability, integrity of harvested species, ensuring harvesting does not become more difficult or costly to access, protects respiratory health, reduce concerns related to environmental safety, and supports Kwantlen's other Indigenous interests;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archeological or cultural materials discovered during project activities. If Kwantlen historically used the area, this condition helps prevent disturbances of cultural materials and avoids associated cultural or emotional harm, supporting Kwantlen's health and well-being; and

- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support Kwantlen's socio-economic well-being.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- **Accidents and Malfunctions Reporting** would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

In addition to the Proponent's mitigations and the provincial conditions the EAO and Kwantlen identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to Kwantlen's other Indigenous interests (excluding social and economic conditions):

- **Federal Consideration for Migratory Bird Protections;** The EAO recommends that the IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Kwantlen's harvesting practices and broader ecosystem conditions important to their way of life.

#### *The EAO and Kwantlen's Analysis and Conclusions*

This section presents Kwantlen's and the EAO's analysis and conclusions on the potential residual effects from Tilbury Phase 2 on Kwantlen's other Indigenous interests.

#### **Social and Economic Conditions:**

Tilbury Phase 2 may result in positive socio-economic effects through direct, indirect, and induced employment and procurement opportunities during Construction and Operation (employment and economy VC). Indigenous workers and businesses could also potentially benefit from training, skill development, and culturally aligned contracting, which would support Indigenous government revenues and community programs.

Considering these potential benefits, the EAO's conclusions on the linked VCs, and proposed mitigation measures, KMM's and conditions, and the lack of any substantial new barriers that would be introduced by Tilbury Phase 2, the EAO and Kwantlen have determined that there would be no residual effect on social and economic conditions, with the following key considerations:

- No direct residual effects to fish and fish habitat, and surface water VCs were identified after mitigation measures to protect aquatic ecosystems that underpin traditional and mixed economies;
- Residual effects to employment and economy, infrastructure and services, land and resource use, culture, air quality, acoustics, vegetation, wildlife and wildlife habitat, and soil were assessed as negligible to low in magnitude and mostly limited to the local area. These effects would not be expected to disrupt or eliminate opportunities for Indigenous participation in wage-based or harvesting economies;
- No direct interactions between Kwantlen's harvesting and subsistence activities and Tilbury Phase 2 expected because Kwantlen community members no longer use the Project Footprint or harvesting and subsistence activities LAA for harvesting or cultural purposes due to the existing level of cumulative effects from industrialization, restricted land and water access, and sensory disturbances. Kwantlen has advised that if these cumulative effects were addressed, Kwantlen members would resume harvesting and subsistence activities; and

- Tilbury Phase 2 would not affect identified plans or agreements about economic development on public lands within Kwantlen's traditional territory or have any other identified effects on Kwantlen economic development planning.

Consequently, no additional characterization of effects or cumulative effects assessment was conducted for this Indigenous interest.

After considering the proposed mitigation measures, the EAO and Kwantlen concludes that Tilbury Phase 2 could result in the following residual adverse effects to Kwantlen's other Indigenous interests (excluding social and economic conditions) as follows:

#### Indigenous Health and Well-being:

- Potential sensory disruption and psychological stress when using lands and resources for traditional purposes;
- Potential effects on members' confidence in country food safety resulting in avoidance of area or changes in harvesting practices; and
- Potential effects on traditional ways of life and cultural sites resulting in adverse effects to health and well-being;

#### Cultural Continuation:

- Potential effects on intergenerational cultural transmission due to sensory disturbances, changes in availability and distribution of resources, and behavioural changes due to real or perceived risks;
- Disconnection from cultural heritage from loss of sense of place, or further disenfranchisement from the site, Tilbury Island, and Lulu Island; and
- Potential effects on abilities to manage and protect lands for future generations.

The EAO's characterization of the residual effects of Tilbury Phase 2 on Kwantlen's other Indigenous interests are summarized in the table below.

Table 25: Summary of residual effects and rationale on Kwantlen's other Indigenous interests.

| Residual Effect                                                                                                                                                                                                             | Assessment Rating*                                                                                                                                                                                                                                                                                                  | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| Indigenous health and well-being<br>- Sensory disruption and psychological stress<br>- Reduced confidence in country food safety and harvesting practices<br>- Effects to traditional ways of life or use of cultural sites | Context (resilience): High<br>Magnitude: Negligible-to-minor<br>Extent: Local<br>Duration: Medium-term<br>Reversibility: Partially reversible<br>Frequency: Continuous<br>Affected Population: Even, except for the effects to social determinants of health from shift work.<br>Risk: Low<br>Uncertainty: Moderate | <p><b>Context:</b> Indigenous health and well-being have high resilience because, while cumulative industrial and colonial impacts have placed strain on health and cultural practices, Kwantlen's efforts to continue to adapt and sustain cultural integrity indicates a high-level of resilience to the predicted localized and negligible-to-low level Tilbury Phase 2-related disturbances.</p> <p><b>Magnitude:</b> Rated as low because the Project is expected to have negligible to low magnitude impact on air quality and human health VC's and Kwantlen do not regularly use the area close to the Project site. Additionally, the project is anticipated to positively impact socio-economic determinants of health by increasing employment and economic opportunities.</p> <p><b>Extent:</b> The potential effects are rated as local since effects would be limited to areas directly surrounding Tilbury Island and its immediate zone of influence on the Fraser River. They are not expected to spread across the wider territory or affect regional cultural or health systems.</p> <p><b>Duration:</b> Environmental monitoring would confirm air and water quality parameters remain within the established guidelines for the protection of aquatic ecosystem and human health.</p> <p><b>Reversibility:</b> While continuous sensory disturbances would be expected throughout Construction and Operation, noise, vibration, and dust would cease</p> |

| Residual Effect                                                                                                                                                                                                                                                               | Assessment Rating*                                                                                                                                                                                                                                                                 | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                    | <p>after Decommissioning, but the impacts on cultural well-being could be partially reversible due to potential for lasting impacts.</p> <p><b>Frequency:</b> Potential effects, including environmental changes and perceptual impacts, would be expected to persist during Construction, Operation and Decommissioning, making them medium-term.</p> <p><b>Affected Populations:</b> Affected populations would be continuous as effects are expected to be experienced generally across the community in a relatively uniform manner except for the negative effects to social determinants of health from shift work (e.g., family stress, mental health concerns, substance use), which would be disproportionate for Indigenous, female, or lower-educated shift workers, and their families/households.</p> <p><b>Risk:</b> The risk rating is low because residual effects on Indigenous health and well-being would be localized, and unlikely to persist after mitigation is applied, meaning such consequences would not be expected to result in measurable or lasting health impacts to Indigenous people.</p> <p><b>Uncertainty:</b> Limited availability of community-specific health data, and the partial integration of Indigenous health frameworks were identified as contributing to a moderate uncertainty rating for this interest.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p>Cultural continuation</p> <ul style="list-style-type: none"> <li>- Loss or disruption of cultural continuity and inter-generational knowledge transfer</li> <li>- Disconnection from culture</li> <li>- Changes in ability to steward the land, waters, and air</li> </ul> | <p>Context (resilience): Medium</p> <p>Magnitude: Negligible-to-minor</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Partially reversible</p> <p>Frequency: Continuous</p> <p>Affected Population: Even</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> Kwantlen has experienced significant environmental, social and Indigenous Knowledge transmission, reducing their resilience to further adverse effects. However, their efforts to maintain strong connection to culture indicate a medium capacity resiliency.</p> <p><b>Magnitude:</b> Negligible to low environmental stressors (including dust, odour, or visual quality) may reduce participation in harvesting and cultural practices, which could then negatively influence health and well-being indicators related to cultural continuity and intergenerational knowledge transfer.</p> <p><b>Extent:</b> Effects would be local and limited to areas directly surrounding Tilbury Island and its immediate zone of influence on the Fraser River.</p> <p><b>Duration:</b> Potential effects, including environmental changes and perceptual impacts, would be expected to persist throughout Tilbury Phase 2's 40 plus years of operation, making them medium-term. While sensory disturbances may end after decommissioning, impacts on cultural well-being could have lasting effects.</p> <p><b>Reversibility:</b> While sensory disturbances occurring regularly throughout Construction and Operation would cease after Decommissioning, the impacts on cultural well-being could be partially reversible due to potential for lasting impacts.</p> <p><b>Frequency:</b> While continuous sensory disturbances would be expected during Construction and Operation, these effects would be noise, vibration, and dust would cease once Construction is complete, such that any changes in members' confidence in country foods or traditional practices would be expected to return once temporary project-related disturbances resolve.</p> <p><b>Affected Populations:</b> No potential for disproportionately affected populations as the effects would be experienced evenly across the community in a relatively uniform manner.</p> <p><b>Risk:</b> The risk would be low because residual effects on Indigenous health and well-being are unlikely to persist after mitigation is applied and the predicted consequences would not be expected to lead to measurable or lasting health impacts.</p> <p><b>Uncertainty:</b> Moderate uncertainty is acknowledged due to complexities in understanding the conditions and availabilities of cultural resources needed for</p> |

| Residual Effect                                                                                                                   | Assessment Rating* | Rationale                         |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------|
|                                                                                                                                   |                    | Kwantlen's cultural continuation. |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                   |

### Cumulative Effects

The EAO and Kwantlen acknowledge uncertainty around the precise degree to which the overall seriousness of impacts on an Indigenous interest is increased from cumulative effects due to the complexities in understanding conditions needed for meaningful practice of rights and cultural use, and the availability of cultural use areas and resources for Kwantlen. See Section 16.4.3 on assessment boundaries above, the EAO does not conduct territory-wide assessments for EAs, so the EAO and Kwantlen are not concluding on the current conditions or degree of cumulative effects throughout Kwantlen's entire Territory or how Tilbury Phase 2 might interact with these, nor does the EAO require comprehensive regional cumulative effects assessment on all the various existing constraints and pathways of impact, which is considered beyond the reasonable scope of a project-specific EA.

Tilbury Phase 2 is located within an area that has been subject to extensive historical and ongoing industrial development, and Kwantlen's health and well-being have already been affected by cumulative impacts associated with pollution, habitat degradation, and reduced access to traditional lands and resources.

The Revised Application identifies reasonably foreseeable projects in the vicinity that could contribute to cumulative effects: T1B and the TMJ Project, expected to introduce sensory disturbances and result in impacts to plant and wildlife habitat as well as aquatic life and habitat from shipping activities. Both TMJ and T1B have the potential to add to cumulative effects associated with decreased air quality and associated health impacts. The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project-specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, FortisBC's proposed mitigation measures, and EAO's Table of Conditions, the EAO concludes that Tilbury Phase 2 would have minor effects on Kwantlen's health and well-being interests.

## 16.4.9 Indigenous Governance Systems

### Background

Kwantlen is an independent nation and manages all matters related to governance, consultation, land management, community services, and economic development. Kwantlen integrates both hereditary systems and an appointed council<sup>15,22</sup>, whom work closely with both the Kwantlen Lands Advisory Committee (LAC) and the Elders Advisory Committee (EAC) to obtain direction and make decisions on various community initiatives. The LAC was created when Kwantlen voted in a referendum in 2015 to pass the community's Land Code under the *First Nation Land Management Act*. This replaces land laws under the *Indian Act* with Kwantlen's own laws through the community-created Land Code.

<sup>22</sup> Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). "Kwantlen First Nation Reserves/Settlements/Villages." Fact sheet; resource list. Accessed by FortisBC for the Tilbury Phase 2 LNG Application May 3, 2022. [https://fnppn.aadnc30.aandc.gc.ca/fnp/Main/Search/FNMain.aspx?BAND\\_NUMBER=564&lang=eng](https://fnppn.aadnc30.aandc.gc.ca/fnp/Main/Search/FNMain.aspx?BAND_NUMBER=564&lang=eng).

As detailed in Kwantlen's 2019 Land Use and Occupancy Report for the TMJ, Kwantlen Indigenous governance is grounded in long-standing occupation and use of their traditional territory, including lands, waters, and related resources. Tilbury Island falls within Kwantlen traditional territory and Kwantlen "asserts title to lands, waters and related resources within their territory," including rights related to freshwater resources such as salmon, eulachon or sturgeon. This authority is tied to responsibility for protecting cultural heritage sites and for determining how lands and waters are used and cared for, reflecting inherent jurisdiction that predates and continues alongside colonial systems.

Also outlined in the 2019 Kwantlen Lands and Occupation Report for TMJ, the Fraser River is described as central to Kwantlen culture, providing resources and serving as a transportation corridor. This report also identifies villages, boundary markers, plant-gathering areas, and shared use areas in the South Arm of the Fraser River as culturally significant. It also documents that parts of the region were shared with other First Nations and that territorial boundaries fluctuated over time, reflecting Indigenous systems of territorial governance and inter-nation relationships. These practices are described as maintaining cultural significance to a living community, demonstrating that Kwantlen governance and stewardship responsibilities are ongoing rather than historical.

Finally, as outlined in Kwantlen's 2019 Land Use and Occupation Report for TMJ, decision-making authority and governance responsibilities are described as ongoing and necessary where activities affect Kwantlen territory. The report concludes that because Tilbury Island is within the western boundary of Kwantlen territory, the Kwantlen First Nation "should be included in decision-making meetings and planning" related to proposed developments. It further notes that development without Kwantlen consent has cumulative effects on their territory and interests, particularly where projects may impact cultural heritage sites and traditional resources. This framing reflects governance responsibilities that include participation in planning, protection of traditional resources, and oversight of activities that may affect the land and river.

#### Current context

Kwantlen's Lands Resources and Stewardship (KLRS), formerly under the Səyém, has separated to become its own entity, manages all consultation, accommodation, and on-reserve lands management, including all matters related to the Land Code, permitting, leasing, and cultural heritage and environmental management.

Səyém is the economic development arm of Kwantlen that provides employment for members in areas such as archaeological monitoring, environmental monitoring or cultural monitoring. Səyém provides services in the areas of contracting (construction, excavation, earthworks, security, and flagging), resource management (archaeology, fisheries, forestry), and on and off reserve development. Table 11.6-4 in FortisBC's Revised Application summarizes some of the agreements with other governments to which Kwantlen is a signatory.

Today, Kwantlen is upholding their important connection to Tilbury Island and surrounding areas by advocating for environmental stewardship practices which take into consideration the cumulative effects of land alienation and rapid development within Kwantlen territory without the consent of the Kwantlen First Nation<sup>15</sup>. Kwantlen has stated that, with the potential for profound impacts on fish and fish habitat, Kwantlen would like to see all necessary steps taken to ensure that Kwantlen First Nation's interests in traditional resources are protected.

#### Potential Project Effects

The EAO and Kwantlen identified the following pathway of effects, prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#) that may affect Kwantlen's Indigenous governance systems during the Construction, Operation, and Decommissioning phases of Tilbury Phase 2. This assessment did not find potential for adverse effects from Tilbury Phase 2 on Kwantlen's use or occupation of the site or ability to derive economic benefits. For more information, see the sections above on Kwantlen's Harvesting and Subsistence Activities, Cultural Use Site and Areas, and Other Indigenous Interests, including social economic conditions, Indigenous health and well-being and cultural continuity.



Following mitigation measures, the EAO and Kwantlen identified the following potential impacts on Kwantlen's Indigenous governance systems from potential effects of Tilbury Phase 2 LNG on:

- Use of tenures and licensed resource (linked to the land and resource use VC);
- Kwantlen's ability to manage and make decision about how lands are used, including future aspirations for sites or areas surrounding the Project's Footprint (see section on Kwantlen's Social and Economic Conditions above);
- Kwantlen's ability to act as stewards of the land for future generations to come (see section on Kwantlen's Cultural Continuity above); and
- Disconnection by Kwantlen from their cultural heritage (see section on Kwantlen's Cultural Continuity above).

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures that the Proponent has proposed in response to potential Tilbury Phase 2 related effects to Kwantlen's Indigenous governance systems. A full table of Proponent mitigations can be found in [Appendix A](#) of the Revised Application. Below is a summary of KMMs, how they address effects on relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air-quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, support Kwantlen's governance and stewardship responsibilities within its traditional territory. By limiting emissions that may affect land, waters, and ecological conditions on and adjacent to Tilbury Island, these measures help maintain environmental conditions necessary for Kwantlen to exercise its inherent authority over land and resource management;
- **Surface Water (Section 7.4)** Erosion and sediment-control measures, along with containment and treatment of contact water, support Kwantlen's governance and stewardship responsibilities for water within its traditional territory. By preventing sediment or contaminants from entering Tilbury Slough and the Delta storm-sewer system, these measures help maintain water quality and aquatic conditions necessary for Kwantlen to exercise its governance systems;
- **Vegetation (Section 7.7)** Avoidance of the MOF footprint supports Kwantlen's governance and stewardship responsibilities by preventing disturbances to riparian areas and culturally important plant species relied on by Kwantlen members. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support Kwantlen's ability to exercise its inherent authority over land management, environmental oversight, and planning decisions affecting lands and ecosystems;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, supports Kwantlen's governance and stewardship responsibilities for wildlife and ecosystems within its traditional territory. By maintaining habitat conditions and ecological integrity, these measures assist Kwantlen in exercising its inherent authority over land and resource management;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures supports Kwantlen's governance and stewardship responsibilities for fish and aquatic ecosystems within its traditional territory. By protecting fish habitat and maintaining water quality for salmon migrating through the Lower Fraser River, these measures help sustain ecological conditions necessary for Kwantlen to exercise its inherent authority over land and water management;
- **Land and Resource Use: (Sections 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities support Kwantlen's governance and stewardship responsibilities by reducing disruptions to land-use patterns and activities within its traditional territory. These measures help

maintain conditions necessary for Kwantlen to exercise its inherent authority over land and resource management;

- **Employment and Economy (Section 7.10)** Employment, training, and procurement measures support Kwantlen's governance systems by strengthening institutional capacity, economic self-determination, and community-led decision-making. By creating opportunities for Kwantlen members and Kwantlen-owned businesses to participate in project-related economic activity, these measures enhance Kwantlen's ability to support governance functions, administer lands and resources, and deliver community services in a manner consistent with Kwantlen's governance systems;
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors support Kwantlen's governance and stewardship responsibilities by helping maintain environmental and social conditions within its traditional territory. By limiting project-related stressors and supporting Kwantlen's ability to manage and oversee activities affecting community well-being, these measures assist Kwantlen in exercising its inherent authority over land management, environmental oversight, and planning processes that influence the health and sustainability of its community; and
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity supports Kwantlen's governance and stewardship responsibilities for cultural heritage within its traditional territory. By maintaining the integrity of culturally important places and landscapes, these measures help enable Kwantlen to exercise its inherent authority over the identification, protection, and management of cultural sites and areas, consistent with Kwantlen's governance systems.

In addition to the Proponent's mitigation measures, the EAO developed further conditions that would mitigate potential effects of Tilbury Phase 2 on Kwantlen's Indigenous governance systems:

- **Condition 15 (Chance Find Protocol)** requiring the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. The condition helps to maintain Kwantlen's governance authority and cultural heritage management process; and
- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requiring the development and implementation of a plan supporting economic participation of First Nations, and local communities, that would describe employment and contracting strategies and training practices. This plan supports Kwantlen's governance systems through the strengthening of economic self-determination, institutional capacity, and community-directed decision-making.

#### Kwantlen's and the EAO's analysis and conclusions

After considering the mitigation measures and potential effects described above, the EAO and Kwantlen concluded that the conclusions on the linked VCs, and proposed mitigation measures, KMM's and conditions, and the lack of any substantial new barriers that would be introduced by Tilbury Phase 2, there would be no residual effect on Kwantlen's Indigenous governance systems, with the following key considerations:

- Kwantlen governance is rooted in longstanding occupation and use of their traditional territory, with the Fraser River and South Arm central to culturally significant villages, resource areas, and shared use spaces;
- The Tilbury Phase 2 development area is on privately owned industrial land and is not expected to alter Kwantlen's current land and resource use practices, including harvesting, subsistence activities, or cultural sites;
- No archaeological or heritage resources have been identified within the Tilbury Phase 2 Project Footprint or the LAA, and contingency measures would be implemented if any such resources are discovered; and

- Tilbury Phase 2 is not expected to affect Kwantlen's economic development plans, governance responsibilities, or long-term community aspirations, though ongoing Kwantlen involvement in planning and decision-making remains important given the project's location within their territory.

Consequently, no additional characterization of effects or cumulative effects assessment was conducted for this Indigenous interest.

#### 16.4.10 Positive Effects of Tilbury Phase 2

FortisBC expects Tilbury Phase 2 would create job opportunities, particularly in construction during a 3-to-6-year period, noting that the greatest demand would be for skilled and semi-skilled workers with a trades certificate and experience in the construction sector. Other potential economic benefits include increased Indigenous business opportunities through contracting and procurement, increased Indigenous government revenues, and long-term skills and training opportunities for Indigenous peoples that would be directly or indirectly employed by the Project.

Positive changes to employment opportunities, Indigenous businesses, procurement opportunities, and Indigenous revenues would have the potential to positively affect Kwantlen's abilities to improve social and economic conditions, however this largely depends on whether Kwantlen's members would be employed by Tilbury Phase 2, and whether Kwantlen businesses, such as those run through the Səyərŋ, would be able to access contracting and procurement opportunities offered by FortisBC. According to 2016 census data, around 12 % of Kwantlen members held an apprenticeship, trades certificate, or diploma, with men being more represented in trades-related fields compared to women. Also, Indigenous workers (not specific to Kwantlen First Nation) are around twice as likely to be employed in construction-related occupations than non-Indigenous workers in the Lower Mainland region.

To enhance employment and economic opportunities for First Nations, FortisBC has committed to implementing measures that would boost Indigenous employment, training, and procurement opportunities associated with Tilbury Phase 2 (see the EAO's proposed Condition 16 for a First Nation and Local Economic Inclusion and Monitoring Plan), which would be developed in consultation with Kwantlen, and the other participating Indigenous nations. This plan would also support economic participation of First Nations, and local communities by including a description of employment and contracting strategies and training practices to target groups that are traditionally underrepresented in the construction labour force. See also [Appendix 6, Section 17.09](#) (Employment and Economy) in this Report.

Positive effects to Kwantlen's Indigenous health and well-being because of Tilbury Phase 2 would also be expected for social determinants of health indicators, such as employment, education, income, and socio-economic status (see [Section 11.6](#) of the Revised Application) depending on whether Kwantlen's members were directly or indirectly employed by the Project. While higher incomes would have a positive impact one's quality of life as well as their family members', Tilbury Phase 2 would also have potential for residual effects to social determinants of health from shift work, which would be negligible to low, but disproportionate for some shift workers (and their families), including females, Indigenous people, or lower-educated workers (see the Indigenous health and well-being assessment section above). To reduce potential for adverse effects of shift work, FortisBC has proposed implementing human resource policies through the CEMP (Condition 12) and OEMP (Condition 13), requiring FortisBC to offer support for employees suffering from substance use, arrange shift schedules taking into consideration the health and safety implication, and provide educational resources to understand health and safety implications for their workforce.

#### 16.4.11 Conclusions

Considering the above analyses, the EAO's and FortisBC's engagement with Kwantlen, FortisBC's commitments in Appendix A of the Revised Application, and the EAO's table of provincial conditions and identified Key Mitigation Measures to inform federal conditions under the IAA 2019, the EAO and Kwantlen concludes that Tilbury Phase 2 is anticipated to have the following impacts on Kwantlen's Indigenous interests:

- Minor residual effects to harvesting and subsistence activities;
- Minor residual effects to cultural use sites and areas;
- Minor residual effects to cultural continuity; and
- Minor residual effects to Indigenous health and well-being.

Considering the above analyses, the EAO and Kwantlen have concluded that the potential for adverse effects of Tilbury Phase 2 on Kwantlen First Nation's interests has been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with Kwantlen First Nation on Tilbury Phase 2, as outlined above in Section 16.4.2 the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Kwantlen First Nation.

## 16.5 kʷikʷə́łəm First Nation

### 16.5.1 Community Profile

kʷikʷə́łəm First Nation (kʷikʷə́łəm) has lived in and cared for their traditional lands for thousands of years, maintaining a profound connection to the Coquitlam River and Coquitlam Lake, where sockeye salmon are central to their culture, diet, and identity. Their traditional territory spans the Coquitlam River Watershed, Pitt Lake, Mossum Creek, and the Fraser River's north arm, extending as far south as Barnston and Annacis Islands. Their territory does not include the South Arm of the Fraser River where Tilbury Phase 2 is located. Tilbury Phase 2 lies entirely outside but directly adjacent to kʷikʷə́łəm's traditional territory, and the LAA and RAA for Indigenous interests overlap with their territory, which is the basis for evaluating potential effects.

Today, kʷikʷə́łəm members, many of whom live on Coquitlam Indian Reserve #1 (slakəyánc), continue to uphold their cultural practices and responsibilities through language revitalization, governance, and environmental stewardship. They actively work to protect their lands, waters, and cultural heritage, ensuring the teachings and voices of their ancestors guide future generations.

### 16.5.2 kʷikʷə́łəm First Nation Involvement in the Environmental Assessment

kʷikʷə́łəm has had limited involvement in the EA for Tilbury Phase 2. During Early Engagement, the nation identified as a participating Indigenous nation and participated in initial information-sharing meetings with the EAO. At this time, kʷikʷə́łəm raised broad concerns related to safeguarding the Fraser River, climate change, cumulative industrial impacts, and effects to salmon, salmon habitat, and species that use their territory. They emphasized that rising water temperatures, altered flows, and existing ecological pressures should be central considerations in the assessment. However, the nation did not provide detailed information about cultural use sites, harvesting locations, or Tilbury Phase 2-specific interests.

During the Readiness Decision Phase in the development of the [Readiness Decision Report](#) kʷikʷə́łəm did not provide specific comments. The EAO engaged kʷikʷə́łəm during the Process Planning Phase regarding their Indigenous interests in relation to Tilbury Phase 2.

During the Process Planning Phase, the EAO sought further input regarding kʷikʷə́łəm's Indigenous interests in relation to the Project. Due to capacity constraints, the nation continued to provide only high-level concerns and no detailed information. As a result, the EAO and FortisBC relied on the preliminary list of Indigenous interests in the AIR to define the scope of assessment. Participation funding was committed by the EAO and IAAC, and the Proponent has engaged with kʷikʷə́łəm since 2020, and provided capacity funding for that engagement, as summarized in Table [11.16-6](#) of the Revised Application.

### 16.5.3 Assessment Boundaries

The Tilbury Phase 2 Project Area is outside kʷikʷə́łəm's traditional territory but is directly adjacent to it. The spatial assessment boundaries for each Indigenous interest were defined based on the overlap of kʷikʷə́łəm's traditional territory with the combined LAA and combined RAA identified for linked VCs, see figure 11.16-1 of the kʷikʷə́łəm's section in the Revised Application. The LAA of each Indigenous interest consists of the combined LAA of VCs that are linked to the Indigenous interest, whereas the RAA of each Indigenous interest consists of the combined RAAs of VCs that are linked to the Indigenous interest. The LAA is used for assessing direct or indirect project effects, while the RAA is for assessing cumulative effects.

The assessment of potential effects related to the proposed Project considered three distinct phases:

- Construction phase, with an estimated duration of three to six years;
- Operation phase, expected to last more than forty years; and
- Decommissioning phase, anticipated to take approximately two years.

#### 16.5.4 Regional Context

kʷikʷə́łəm's traditional territory is centered on the Coquitlam Watershed, including Coquitlam Lake and the upper and lower Coquitlam River, and extends east to Pitt Lake, west to Port Moody and Sapperton Heights, and south across the Fraser River from Barnston Island to Annacis Island. Kʷikʷə́łəm has lived in and cared for the Coquitlam Watershed since time immemorial, guided by ancestral teachings and a deep responsibility as stewards of the land, waters, and all living things. Kʷikʷə́łəm First Nation affirms its rights and title have never been ceded, surrendered, or abandoned.

While the Project Footprint is entirely outside but adjacent to their traditional territory, there's important overlap between the assessment areas (LAA/RAA) and kʷikʷə́łəm's traditional territory, and the Nation has raised concerns about potential effects on the Fraser River and upstream and about respecting other nations' rights.

Kʷikʷə́łəm have experienced lasting impacts from historical developments, such as the near extinction of sockeye salmon from the Coquitlam Dam and continue to face cumulative effects on cultural use sites from colonization, industrialization, and urban growth. Kʷikʷə́łəm's access to harvesting and hunting has been affected by past projects, including vegetation loss from large developments, reduced access to controlled burning areas, and barriers to gathering traditional medicines.

Historically, the Lower Fraser River corridor adjacent to the Project area formed part of kʷikʷə́łəm's broader harvesting landscape, where members fished for sockeye, eulachon, steelhead, and sturgeon; hunted seals, deer, and waterfowl along the South Fraser shoreline; gathered food and medicinal plants in upland areas such as Fraser Heights and Surrey Bend; and travelled the river as a central cultural and transportation route linking the Coquitlam Watershed to the lower river.

It is the Proponent's understanding from information available at the time of writing the Revised Application that kʷikʷə́łəm does not currently use the south arm of the Lower Fraser River adjacent to the Project Footprint to fish, hunt, gather plants, or access cultural sites or areas.

Kʷikʷə́łəm has indicated that the absence of current harvesting activity, particularly for sturgeon and salmon, reflects longstanding stewardship decisions and regulatory constraints in response to population declines, rather than a lack of cultural importance or interest. Sturgeon remains a culturally significant species for kʷikʷə́łəm.

The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with little to no habitat value for wildlife. The vegetation within the Project Footprint is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species. Public access to the Project site is limited, although there is currently public use of the dike to the north of the Project site along the Fraser River.

#### 16.5.5 Indigenous Interests

The EAO engaged kʷikʷə́łəm during the Early Engagement Phase in the development of the [Joint Summary of Issue and Engagement for the Tilbury Phase 2 LNG Expansion Project](#). However, kʷikʷə́łəm did not provide comment.

The EAO drafted the [Tilbury Phase 2- Schedule C – Application Information Requirements](#) Table 6, which outlines the Proposed Preliminary List of Indigenous Interests based on conversations with other First Nations involved in the project and a preliminary understanding of Project effects and how they may impact First Nation interests.

The Proponent identified kʷikʷə́łəm's Indigenous interests to be assessed in the Revised Application through:



- Reviewing requirements and guidance from the EAO, including the AIR; and
- Conducting engagement efforts with kʷikʷə́łəm to gather information on their Indigenous interests, as outlined in Section 11.16.3 Summary of Engagement of the kʷikʷə́łəm section of the Revised Application.

The EAO attempted to engage with kʷikʷə́łəm during the development of the Report. As no comments were received on their section, the EAO relied on the preliminary list of Indigenous interests identified in the AIR, which include:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions and
- Indigenous health and well-being.

The assessment of kʷikʷə́łəm's Indigenous interests in this section uses these categories.

The EAO's assessment of kʷikʷə́łəm's Indigenous interests includes describing the Indigenous interest, current context, potential effects, mitigation, and effects analysis. If there is an adverse residual effect a characterization of effects and cumulative effects assessment is also completed.

In addition to the EAO's assessment of effects to kʷikʷə́łəm Indigenous interests, kʷikʷə́łəm provided their position on how Tilbury Phase 2 will affect kʷikʷə́łəm's Indigenous interests to EAO.

### 16.5.6 Harvesting and Subsistence Rights

#### Background

Kʷikʷə́łəm has expressed that it maintains a deep and enduring relationship with the Fraser River and its surrounding ecosystems. This relationship supports the well-being of kʷikʷə́łəm members holistically—that is, physically, mentally, spiritually, and emotionally. Kʷikʷə́łəm affirms its inherent responsibility to protect and steward the waters, fish and fish habitat, wildlife, and vegetation within its traditional territory. These resources are central to the nation's cultural identity, way of life, and long-term sustainability.

#### Current Context

kʷikʷə́łəm maintains a deep cultural, spiritual, and subsistence relationship with the Lower Fraser River, where traditional practices such as fishing, hunting, plant gathering, and resource stewardship remain foundational to community well-being. Members continue to fish for salmon and other culturally important species, such as eulachon, sturgeon, trout, and freshwater shellfish, along the South Arm of the Fraser River between the Pattullo Bridge and the Golden Ears Bridge. This area lies within the harvesting and subsistence activities RAA and overlaps with the LAAs and RAAs used to evaluate potential effects on Indigenous harvesting. These fishing locations occur approximately 13–15 km upstream from the Project site at the Pattullo Bridge and extend to roughly 22–24 km upstream at the Golden Ears Bridge.

Plant gathering also remains an important cultural practice for kʷikʷə́łəm, with members traditionally collecting medicinal and food plants along riparian zones, wetlands, and forested areas of the lower Fraser River corridor. While these gathering areas are located within the broader regional landscape encompassed by the RAA, no suitable plant-harvesting habitat exists within the Project site itself, which is an active industrial facility with more than 98% of the footprint classified as non-vegetated. Access to the site will remain restricted for the life of the Project. Opportunities for hunting or trapping within the immediate LAA are similarly limited due to long-standing industrial disturbance, fragmented habitat, and the predominance of urban-adapted wildlife species in degraded riparian environments.

Kʷikʷə́łəm identifies as a fishing community, but members have reported declining access, reduced fish quality, and ongoing impacts to cultural practices due to cumulative pressures along the Fraser and Coquitlam rivers, including pollution, habitat degradation, changing water temperatures, and industrial activity. Although the Project Footprint lies outside their traditional territory, the nation has expressed concern regarding the cumulative ecological effects in the Lower Fraser River and the implications for long-term harvesting opportunities and cultural continuity.

#### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect Kʷikʷə́łəm's harvesting rights and subsistence activities during the Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- Changes to the experience and preferences around the practice of asserted harvesting rights and effects on the quality, quantity, and availability of resources:** Potential effects include loss or alteration of habitat supporting harvested wildlife, fish, bird, and plant species, including species of cultural and medicinal importance (vegetation, wildlife and wildlife habitat, fish and fish habitat VCs). Changes to surface water quality and quantity may affect downstream habitat and species availability (surface water, and groundwater VCs). Sensory disturbances such as noise and vibration (acoustic VC), odour and air emissions (air quality VC), dust (soil VC), and visual changes (Land and Resource VC) may influence the experience and preferences around the practice of harvesting. Additional pathways include changes to the availability, distribution, abundance, and quality of harvested species that support harvesting activities (vegetation, wildlife and wildlife habitat, fish and fish habitat, and land and resource use VCs);
- Effects on asserted Aboriginal Rights to fish, harvest, and hunt for Food Social and Ceremonial (FSC) purposes:** Pathways include increases in harvesting effort, including the time, expense, or difficulty required to reach harvesting areas, and changes in harvesting success due to alterations in habitat quality and quantity, species availability, distribution, abundance, and the quality of harvested species (land and resource use, vegetation, wildlife and wildlife habitat, and fish and fish habitat VCs). Sensory disturbances such as noise and vibration (acoustic VC), odour, dust, and reduced air quality (air quality, soil, and groundwater VCs) and changes to surface water quality or quantity (surface water VC) may further influence FSC practices. Temporary access restrictions or altered travelways may also affect the ability to reach FSC sites (land and resource use VC);
- Changes to the current use of lands and resources for traditional purposes:** Potential effects include changes to harvesting methods and practices, such as timing, seasonality, or preferred locations, as well as increased effort required to access or use traditional areas. These pathways may be influenced by changes in habitat quality and species availability, distribution, and abundance, along with sensory disturbances such as noise, air emissions, and vibration during Construction and Operation. Additional effects may include temporary restrictions on travelways or access to culturally important areas due to construction activities and surface water alterations (vegetation, wildlife and wildlife habitat, fish and fish habitat, acoustic, air quality, surface water, and land and resource use VCs); and
- Effects to the accessibility and availability of traditional lands and resources:** Potential effects include changes in the ability to travel to or through areas traditionally used for subsistence or cultural purposes, as well as temporary access restrictions or reduced accessibility of travelways needed to reach these areas. Disruption to navigation on the Fraser River and adjacent marine environment may also affect the availability of and access to traditional lands and resources. These pathways may be influenced by construction- and operation-related sensory disturbances such as noise (acoustic VC), air emissions and dust (air quality, soil, and groundwater VCs), and changes to surface water quality or quantity (surface water VC), as well as habitat changes affecting species relied upon for traditional uses (vegetation, wildlife and wildlife habitat, fish and fish habitat, and land and resource use VCs).

The Revised Application includes a summary of relevant mitigation measures that the Proponent has proposed in response to potential Tilbury Phase 2-related effects on harvesting and subsistence activities, as mentioned in the section above. A full table of Proponent mitigations can be found in [Appendix A](#) of the Revised Application. Below is a summary of Key Mitigation Measures, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Kʷikʷə́łəm's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during construction and operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Kʷikʷə́łəm's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and fish habitat relied on to support Kʷikʷə́łəm's harvesting and cultural practices;
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Kʷikʷə́łəm for harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Kʷikʷə́łəm for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Kʷikʷə́łəm's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the Lower Fraser River. These actions support the health and availability of salmon and other fish species central to Kʷikʷə́łəm's FSC harvesting and cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices; and
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to Kʷikʷə́łəm's harvesting and cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on Kʷikʷə́łəm's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting rights (see [Section 8](#) of this Report):

- **Condition 10 (Condition Community Feedback Process)** creates a clear way for Kʷikʷə́łəm to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Kʷikʷə́łəm's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Kʷikʷə́łəm's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Kʷikʷə́łəm's harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support Kʷikʷə́łəm's harvesting and cultural practices; and
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project related roads, which may lower potential impacts on salmon and other fish important to Kʷikʷə́łəm's harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial conditions the EAO identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Kʷikʷə́łəm's harvesting practices and broader ecosystem conditions important to their way of life.

#### The EAO's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Kʷikʷə́łəm's harvesting rights and interests:

- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources;
- Effects on Aboriginal rights to fish, harvest, and hunt for FSC purposes; and
- Effects to the accessibility and availability of traditional lands and resources.

The EAO's characterization of the residual effects of Tilbury Phase 2 on harvesting and subsistence activities are summarized in the table below.

Table 26: Summary of residual effects and rationale on K'w'ik'w'əłəm and its harvesting and subsistence rights.

| Residual Effect                                                                                                                                                                                                                                                                                                                                                                                                                         | Assessment Rating*                                                                                                                                                                                                                                                  | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <p>Harvesting and subsistence activities</p> <ul style="list-style-type: none"> <li>- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources</li> <li>- Effects on Aboriginal rights to fish, harvest, and hunt for FSC purposes</li> <li>- Effects to the accessibility and availability of traditional lands and resources</li> </ul> | <p>Context (resilience): Low</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium-Term</p> <p>Reversibility: Fully reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Even</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p>Resilience is rated as low despite K'w'ik'w'əłəm's strong stewardship values, reflecting the ongoing degradation of species and habitat, loss of access to traditional lands, and historical disruptions to intergenerational knowledge exchange, alongside ongoing and increasing efforts by the nation to revitalize harvesting knowledge within the community.</p> <p><b>Magnitude:</b> the effect is rated as negligible, based on the absence of direct residual effects on fish, fish habitat, or surface water within the LAA, and no known overlap with historic or current harvesting or trading locations.</p> <p><b>Extent:</b> the effect is rated as local as effects are mostly confined to the LAA, with minor indirect influence on adjacent local areas. The Project lies outside K'w'ik'w'əłəm's traditional territory, and no adverse interactions with harvesting areas are anticipated after mitigation measures are implemented.</p> <p><b>Duration:</b> rated as medium-term, although Tilbury Phase 2 will operate for decades, the related residual effects would cease following Decommissioning, and no permanent impacts to harvesting practices or resources are anticipated.</p> <p><b>Reversibility:</b> rated as fully reversible because the Project is located outside the nation's traditional territory in an already industrialized area, and negligible magnitude effects on fish, fish habitat, surface water, were identified after mitigation. Any minor, short-term changes, such as localized sensory disturbances, would cease once project activities stopped or upon Decommissioning.</p> <p><b>Frequency:</b> effect is rated as continuous because sensory disturbances such as noise, vibration, and air emissions are expected to occur consistently throughout the Construction and Operation phases.</p> <p><b>Affected populations:</b> rating is disproportionate because residual effects, while negligible overall, would be most directly experienced by community members actively engaged in harvesting and subsistence practices. elders, knowledge holders, and harvesters reliant on traditional resources or teaching practices are more likely to be affected by even minor sensory disturbances or ecological changes near the Project area. These groups may experience greater cultural and practical impacts than the broader community, which is less dependent on direct harvesting activities.</p> <p><b>Risk:</b> rating is low – the likelihood of direct Project-related impacts is low, and the consequences of indirect or perceived effects on harvesting practices are minor due to the negligible to low magnitude sensory impacts.</p> <p><b>Uncertainty:</b> rating is moderate due to gaps in site-specific Indigenous knowledge.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a>                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

### Cumulative Effects

As described in the Background and Current Context section, the lower Fraser River and Tilbury Island area have undergone longstanding industrial development, as well as impacts due to climate change, resulting in existing pressures on environmental conditions and on Kʷikʷə́łəm's harvesting and subsistence activities.

The Revised Application identifies several reasonably foreseeable projects that may affect Kʷikʷə́łəm's harvesting and subsistence interests. These include T1B, which would increase LNG production, and the TMJ Project, which would introduce additional vessel traffic in the Fraser River and further development of the foreshore area. Both T1B and TMJ could contribute additional sensory disturbances (noise, light, vibration) and impact air quality in areas used by Kʷikʷə́łəm for harvesting. TMJ could further alter fish habitat and water quality in areas where Kʷikʷə́łəm assert harvesting and subsistence rights. The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Nations in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, FortisBC's proposed mitigation measures, EAO's Table of Conditions and the federal Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 would have negligible effects on Kʷikʷə́łəm's harvesting and substance activities.

## 16.5.7 Cultural Use Sites and Areas

### Background

Kʷikʷə́łəm maintains a deep cultural and spiritual connection to their traditional territory, particularly the Fraser River and Coquitlam Watershed. These areas support well-being, governance, and contain numerous archaeological and important cultural sites. Members have expressed concerns about cumulative impacts from colonization, industrialization, and urbanization on cultural use sites within the Project RAA. Access to these sites—and the ability to carry out traditions—relates directly to affirmed Aboriginal rights, which are recognized and affirmed under Section 35 of the *Constitution Act, 1982*. For a description of culturally important harvesting practices, see the Harvesting and Subsistence Activities section above.

### Current Context

Current access to cultural sites is limited by industrialization, urban development, and pollution, which have reduced opportunities for traditional harvesting, ceremonies, and cultural continuity. The Fraser River remains vital to Kʷikʷə́łəm identity, despite cumulative pressures on water quality, fish habitat, and cultural landscapes.

The Revised Application identifies Kʷikʷə́łəm cultural use areas including the Coquitlam River, a spiritually important waterway with numerous ancestral archaeological sites; Lower Fraser River archaeological sites containing fire-altered rock, lithics, and a fish weir, none located within the Project Footprint or cultural use sites and areas LAA; and Fraser River cultural sites that remain spiritually important though no Kʷikʷə́łəm-specific sites are documented near the Tilbury site.

### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect Kʷikʷə́łəm's cultural use sites and areas during the Construction, Operation, and Decommissioning phases of Tilbury Phase 2:



- **Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural value:** Potential effects include disturbance or alteration of cultural heritage features and archaeological resources during construction activities such as excavation, grading, and ground disturbance (archaeological and heritage Resources VC). These effects may extend to storied places, habitation sites, and archaeological sites along the south arm of the Fraser River, Tilbury Island, and Lulu Island. Additional effects could arise from sensory disturbances such as noise and vibration (acoustic VC), odour and air emissions (air quality VC), dust, and visual changes (Land and Resource Use VC), which may affect the integrity or condition of cultural heritage resources;
- **Loss of access to and disenfranchisement from cultural sites:** Potential effects include changes to physical, cultural, or spiritual sites or areas (culture, and archaeological and heritage resources VCs), along with disruption or alteration of trails, travelways, navigable waterways, and other routes relied upon to access cultural sites (Land and Resource Use VC). Additional pathways include areas with temporary access restrictions or reduced accessibility due to construction activities, safety requirements, or Project-related navigation changes on the Fraser River and adjacent marine environment. Sensory disturbances such as noise and vibration (acoustic VC), odour and air emissions (air quality VC), dust, and visual changes (Land and Resource VC) may further limit the ability to access, use, or meaningfully engage in cultural sites and could affect participation in communal activities and cultural practices linked to these areas (culture VC); and
- **Effects to cultural and spiritual practices caused by damage or loss of access to cultural sites and areas:** Potential effects include disruptions to cultural and spiritual practices that rely on access to culturally important places, where damage to cultural sites or reduced ability to reach them may limit participation in these activities (culture, and archaeological and heritage resources VCs). Sensory disturbances such as noise and vibration (acoustic VC), odour, dust, and reduced air quality (air quality VC), along with visual changes (land and resource use VC), may alter the experience of exercising cultural and spiritual practices. These pathways could influence participation in communal activities and culturally based practices that depend on the accessibility and integrity of cultural sites (culture, and land and resource use VCs).

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the proponent has proposed in response to potential Tilbury Phase 2 related effects on cultural use sites and areas. These include the following:

- **Acoustics (Section 7.3)** Noise reduction measures during Construction and Operation, including idle reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by Kʷikʷəḷəm;
- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Kʷikʷəḷəm's harvesting rights and cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support Kʷikʷəḷəm's ability to safely access and continue cultural practices within their traditional territory;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support

Kw'ikwəłəm's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory; and

- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Kw'ikwəłəm's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to Indigenous cultural use sites and areas (see also [Section 8](#) of this Report):

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance.
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for Kw'ikwəłəm to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting Kw'ikwəłəm's continued access to and use of cultural sites during project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Kw'ikwəłəm;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions-control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by Kw'ikwəłəm; and
- **Condition 15 (Chance Find Protocol)** the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Kw'ikwəłəm historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### The EAO's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Kw'ikwəłəm's cultural use sites and areas rights and interests:

- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural value;
- Loss of access to and disenfranchisement from cultural sites; and
- Effects to cultural and spiritual practices caused by damage or loss of access to cultural sites and areas.

EAO's characterization of the residual effects of Tilbury Phase 2 on Kw'ikwəłəm cultural use sites and areas are summarized in the table below.

Table 27: Summary of residual effects and rationale on Kʷikʷə́łəm and its cultural use sites and areas.

| Residual Effect                                                                                                                                                                                                                                                                                                                                                                                                             | Assessment Rating*                                                                                                                                                                                                                                                                  | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| <p>Cultural use sites and areas</p> <ul style="list-style-type: none"> <li>- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural value.</li> <li>- Loss of access to and disenfranchisement from cultural sites</li> <li>- Effects to cultural and spiritual practices caused by damage or loss of access to cultural sites and areas</li> </ul> | <p>Context (resilience): Low</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Partially reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p>Kʷikʷə́łəm's cultural use sites and areas have low resilience due to cumulative impacts from colonization, industrialization, and restricted land and water access. Cultural practices are highly sensitive to disturbance and already disrupted.</p> <p><b>Magnitude:</b> rated as negligible because the Project does not directly disturb identified cultural sites, does not prevent access, and is not expected to result in any detectable changes to the experience of cultural use. Sensory conditions such as noise, air emissions, and visual effects are anticipated to remain within existing industrial baselines and are unlikely to influence cultural activities or spiritual connection to place.</p> <p><b>Extent:</b> of the effect is rated as local as the impacts are confined primarily to the Project Footprint and nearby lands; there is no overlap with known Kʷikʷə́łəm cultural sites.</p> <p><b>Duration:</b> rated medium-term. No enduring disruption to cultural practices or access is expected after Decommissioning of the Project.</p> <p><b>Reversibility:</b> The effects are partially reversible as some sensory effects (e.g., noise, emissions, activity) would diminish and largely return to baseline following Decommissioning; however, certain visual changes, industrial landscape conditions, and culturally important experiential qualities may not fully recover.</p> <p><b>Frequency:</b> rated as continuous because sensory impacts like noise and visual changes would occur regularly during Operation, though not necessarily at maximum levels continuously. Access restrictions are effectively continuous, but do not represent a new barrier compared to existing conditions.</p> <p><b>Affected populations:</b> rating is disproportionate as elders and cultural knowledge holders may be more acutely impacted due to reliance on traditional experiences.</p> <p><b>Risk:</b> rated as low due to the low likelihood of direct Project-related disturbances within known Kʷikʷə́łəm cultural use sites and the minor consequences of indirect effects, such as noise, vibration, and visual disturbance. While these impacts may influence the quality of cultural experience in nearby areas, they are unlikely to cause lasting disruption to site function or prevent cultural use, particularly given the current lack of overlap with identified sites and the implementation of mitigation measures.</p> <p><b>Uncertainty:</b> rated as moderate due to limited site-specific data and incomplete understanding of how cumulative sensory impacts affect cultural experience. While general effects are known, reliance on secondary sources and gaps in localized input reduce confidence in the assessment.</p> |
| <p>* Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a></p>                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

### Cumulative Effects

The Revised Application notes that future developments, such as the T1B, which may remove culturally valued vegetated habitat, and TMJ, which would increase shipping, noise, and light, could cumulatively affect culturally important areas throughout the Fraser River corridor where Kʷikʷə́łəm has historically fished, hunted, and practiced ceremony.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions

### Conclusion

Considering the above analyses, including proposed proponent mitigations, EAO's conditions, and KMMs, and based on the Project specific effects of Tilbury Phase 2, the EAO concludes that the Project will have a negligible effect on the cultural use sites and areas of Kʷikʷə́łəm.

## 16.5.8 Social and Economic Conditions

### Background

Kʷikʷə́łəm's identity and well-being are rooted in their ancestral connection to the Coquitlam Watershed, where fishing, hunting, and plant gathering historically sustained cultural, social, and economic life. Their Coast Salish kinship system fostered intercommunity cooperation, and these relationships persist today despite lasting colonial impacts on land, governance, and health. The near extinction of sockeye salmon following construction of the Coquitlam Dam disrupted critical food sources and cultural practices, while historic land alienation and industrialization contributed to cultural stress and economic constraints.

Maintaining and restoring traditional practices, improving social conditions, and pursuing economic development remain priorities for Kʷikʷə́łəm. The Project could provide positive contributions through employment, skills training, and procurement opportunities aligned with these goals. See sections on cultural use sites and areas and harvesting and subsistence activities for additional context.

### Current Context

Kʷikʷə́łəm's current social and economic conditions reflect both resilience and systemic challenges. Community health programs integrate traditional and western medicine, with growing emphasis on emergency planning and self-governance. Housing at Coquitlam 1 has improved, with most dwellings in good condition as of 2021, and education outcomes exceed provincial averages for trades and non-university certificates. Economically, members work in diverse sectors, primarily trades and service, but continue to face employment barriers and persistent income gaps compared to non-Indigenous populations. While Canada's Community Well-being Index shows improvements, disparities remain, compounded by limited reserve land and industrial development that restrict cultural and economic opportunities. The loss of access to traditional resources, particularly salmon, continues to affect health, food security, and cultural continuity, while industrialization and urbanization have further altered landscapes and reduced opportunities for cultural practices and harvesting.

### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#) that may affect Kʷikʷə́łəm's social and economic conditions during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Changes to employment opportunities, Indigenous businesses, procurement opportunities, and kʷikʷəłəm revenue:** Potential effects include changes to access to Project-related employment, training, and procurement opportunities that may influence employment income, labour force participation, and Indigenous business development for kʷikʷəłəm members (employment and economy VC). Kʷikʷəłəm has indicated interest in Project-related roles, including archaeology, monitoring, and procurement opportunities, as avenues to support community well-being across economic, social, cultural, and spiritual dimensions. Local and regional Indigenous businesses, including those owned or affiliated with kʷikʷəłəm, may benefit from contracting opportunities created by Tilbury Phase 2, while smaller businesses may face limitations related to capacity or competitiveness. These changes may influence economic equity and the nation's ability to generate revenue through participation in economic activities associated with Tilbury Phase 2 (culture, infrastructure and services, land and resource use, and vegetation VCs);
- **Effects on Indigenous Nations' future aspirations for sites or areas surrounding the Project:** Potential effects include alignment or conflict between Project activities and kʷikʷəłəm's aspirations for economic development, land use, language revitalization, cultural continuity, and environmental reclamation (culture VC). Project-related changes may influence land-based economic opportunities, cultural programming, and stewardship objectives within the surrounding region (employment and economy, land and resource use, fish and fish habitat, wildlife and wildlife habitat, vegetation, and infrastructure and services VCs).
- **Effects on kʷikʷəłəm's ability to improve social and economic conditions:** Potential effects include how Project activities align or conflict with kʷikʷəłəm's plans for economic development, land use, language revitalization, cultural sustainability, and environmental reclamation (culture, and employment and economy VC). These pathways may influence nation-led strategies to enhance community well-being and economic resilience, including access to employment, procurement, and business development opportunities. Project-related changes to land use, infrastructure, and ecological conditions may also affect kʷikʷəłəm's aspirations for long-term stewardship and regional development (land and resource use, infrastructure and services, fish and fish habitat, wildlife and wildlife habitat, and vegetation VCs);
- **Effects on commercial and non-commercial fishing, hunting, trapping, and gathering and cultural or ceremonial activities and practices:** Potential effects include changes in harvesting effort, such as increased time, expense, or difficulty required to travel to harvesting locations, as well as changes in harvesting success related to the frequency or quantity of harvested species or materials available for community use (fish and fish habitat, wildlife and wildlife habitat, and vegetation VCs). Project-related changes to resource availability and habitat quality may influence individual, household, or communal income derived from non-commercial harvesting practices and affect participation in cultural or ceremonial activities linked to harvesting. Additional pathways include potential changes to intercommunity participation and the type, amount, or frequency of harvested materials traded between communities. Sensory disturbances such as noise and odour (acoustic, and air quality VCs) and broader changes to land use, infrastructure, and cultural conditions may further influence these activities (land and resource use, infrastructure and services, culture, and employment and economy VCs);
- **Effects on intercommunity relations and trade:** Potential effects include changes in harvesting effort—such as increased time, expense, or difficulty required to travel for harvesting—as well as changes in harvesting success due to alterations in habitat quality and species availability (fish and fish habitat, wildlife and wildlife habitat, and vegetation VCs). These effects may influence the individual, household, or communal financial value of non-commercial harvesting and participation in intercommunity activities. Project-related changes to resource availability may also affect the amount, type, or frequency of harvested materials traded between communities, with implications for reciprocal sharing practices and intercommunity relationships (culture, employment and economy, land and resource use, and infrastructure and services VCs); and
- **Effects on infrastructure and services:** Potential effects include increased demand or pressure on community services and infrastructure during Project Construction and Operation (infrastructure and services VC). These

pathways may influence access to and the quality of health care and social services, emergency response capacity, community recreational facilities, educational services, and transportation infrastructure (culture, employment and economy, and land and resource use VCs). Project-related changes to land use and environmental conditions may also affect the infrastructure and service systems relied upon by kʷikʷə́łəm members (fish and fish habitat, wildlife and wildlife habitat, and vegetation VCs).

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions. These include the following:

- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to kʷikʷə́łəm's physical health and cultural practices;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting kʷikʷə́łəm's cultural continuity and nutritional well-being
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports kʷikʷə́łəm's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for kʷikʷə́łəm members and businesses to participate economically in the project, supporting improved economic and social conditions;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socioeconomic impacts on kʷikʷə́łəm and supporting community stability;
- **Land and Resources VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting kʷikʷə́łəm's long-term aspirations for land and water restoration and reducing stressors that can impact economic development and community well-being; and
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to kʷikʷə́łəm's social and economic interest.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to Indigenous social and economic conditions (see [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** provides kʷikʷə́łəm with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting on-going social and economic interests;
- **Condition 12 (CEMP)** requires mitigation measures to manage dust, noise, traffic, spills, surface water, erosion, and wildlife interactions during Construction. These measures help minimize construction related disturbances that could affect community and social well-being of kʷikʷə́łəm members;



- **Condition 13 (OEMP)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation. By limiting long-term environmental disturbances, this condition supports stable conditions that protect Kwikwā'xam's social and economic interests;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality mitigates sensory disturbances, such as odour, and protects habitat quality, supporting the social and economic conditions of Kwikwā'xam by preserving the integrity of harvested resources and ensuring that stewardship activities and non-commercial harvesting do not become more difficult or costly to access;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Kwikwā'xam historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated social harm; and
- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support Kwikwā'xam First Nation's socio-economic well-being through increased access to jobs, skills development, and business opportunities associated with Tilbury Phase 2.

#### The EAO's Analysis and Conclusions

After applying mitigation measures, the EAO does not expect any residual adverse effects on Kwikwā'xam's social and economic conditions. The Project could potentially provide positive outcomes through employment. While Kwikwā'xam faces ongoing social and economic challenges, such as limited access to land, housing, and cultural spaces, these arise from historic and regional factors like colonization and industrialization, not from the Project. The Project lies outside Kwikwā'xam's traditional territory on a heavily industrialized site with no known current use by nation members. Design measures, including removing waterborne deliveries and eliminating the MOF, avoid potential effects on fish, wildlife, and cultural practices. In contrast, the Project may provide positive employment, training, and contracting opportunities supporting Kwikwā'xam's economic goals. Overall, the absence of new barriers and the potential for positive outcomes support the EAO's conclusion that no residual adverse effects on Kwikwā'xam's social and economic conditions are expected, and no further characterization or cumulative effects assessment was required.

### 16.5.9 Indigenous Health and Well-being

#### Background

Kwikwā'xam's well-being is inseparable from the health of the natural world they have occupied since time immemorial, reflecting a holistic relationship in which environmental, cultural, and community conditions are deeply interconnected. Their wellness relies on healthy ecosystems and continued access to cultural landscapes that sustain identity, resilience, and self-determination, supported by traditional foods such as salmon and sturgeon that provide nutrition, food security, and cultural continuity. Cultural and spiritual practices, rooted in specific places along the Fraser River and Coquitlam Watershed, foster mental wellness and community cohesion. Stewardship responsibilities, guided by Indigenous laws and ancestral teachings, further reinforce well-being through the continued care of land and water.

#### Current Context

Kwikwā'xam emphasizes that the health of the Coquitlam River is fundamental to the health and well-being of its members. The river has long provided country foods and served as a cultural and spiritual anchor for the community. However, cumulative effects from industrial development, urbanization, and the Coquitlam Dam have degraded water quality, disrupted salmon populations, and reduced access to traditional foods. This has contributed to a loss

of cultural practices, diminished opportunities for intergenerational knowledge transfer, and negative impacts on community wellness.

Members describe the inability to fish, swim, and gather along the river as a source of cultural and emotional harm, linking these changes to spiritual stress and broader health challenges. While community-led cleanup efforts have sought to restore river health, pollution and siltation remain concerns. These conditions reflect broader systemic pressures that have affected Indigenous health and well-being for generations, even as kʷikwə́łəm continues to prioritize cultural continuity, food security, and ecological restoration as pathways to improved health.

#### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect kʷikwə́łəm's Indigenous health and well-being during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Effects on the quality, quantity, and availability of harvested country foods:** Potential effects include changes to the health, abundance, and distribution of fish, wildlife, and traditional plants relied upon as country foods (fish and fish habitat, wildlife and wildlife habitat, and vegetation VCs). Project-related alterations to surface water and groundwater quality may affect aquatic species and plant-growing conditions, while atmospheric emissions and dust deposition may influence the quality or perceived safety of harvested foods (surface water, groundwater, and air quality VCs). These pathways could affect the availability and nutritional reliability of country foods if habitat conditions or environmental quality are altered within areas traditionally used for harvesting (land and resource use, and human health VCs);
- **Effects on the value and perceived quality of country foods:** Potential effects include changes to the perceived safety, cleanliness, and overall quality of harvested country foods due to Project-related emissions, dust deposition, and changes to air and water conditions (air quality, surface water, and groundwater VCs). Alterations to fish health, wildlife condition, or the integrity of traditional plants may influence confidence in consuming or sharing country foods, which can affect their household, communal, and cultural value (fish and fish habitat, wildlife and wildlife habitat, and vegetation VCs). Even where environmental changes are limited, concerns about contamination or habitat disturbance may reduce willingness to harvest, trade, or use country foods, thereby affecting their practical, nutritional, and social importance within the community (land and resource use, and human health VCs);
- **Effects on air quality, noise, and water quality:** Project activities may contribute contaminants of concern to air and water and increase noise and vibration levels within the LAA. Potential pathways include changes to ambient air quality from criteria air contaminant and nitrogen dioxide emissions (air quality VC), alterations to surface and groundwater quality that may affect drinking and recreational water conditions (surface water, and groundwater VCs), and elevated noise and vibration during Construction and Operation (acoustic VC). These pathways are linked to human health, land and resource use, and fish and fish habitat VCs and may indirectly influence the ability to gather safe and sufficient traditional foods; and
- **Effects on health and well-being from changes to traditional ways of life and cultural sites:** Potential effects include reduced participation in harvesting, subsistence activities, and cultural or spiritual practices that are closely tied to culturally important places and traditional land- and water-based use (harvesting and subsistence activities, and culture VCs). These pathways may be influenced by sensory disturbances such as noise and vibration (acoustic VC), odour, dust, and reduced air quality (air quality VC), as well as by changes in surface water and groundwater conditions that support cultural site use and access (surface water, groundwater, and fish and fish habitat VCs). Reduced accessibility to cultural sites or traditional-use areas, including limitations along travelways or on the Fraser River and adjacent marine routes, may further affect participation in communal activities, cultural practices, customs, and values associated with these places (land and resource use VCs, and social and economic conditions section). Together, these factors may

influence physical, mental, emotional, and spiritual health and overall community well-being (human health VC).

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on Indigenous health and well-being. These include the following:

- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting kʷikʷəłəm's cultural and nutritional reliance on healthy salmon and aquatic ecosystems;
- **Acoustics (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting kʷikʷəłəm's comfort, well-being, and connection to land and water;
- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting kʷikʷəłəm's physical well-being and confidence in harvesting;
- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting kʷikʷəłəm's cultural and nutritional reliance on healthy salmon and aquatic ecosystems;
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for kʷikʷəłəm's subsistence and health;
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by kʷikʷəłəm's health and well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for kʷikʷəłəm members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socioeconomic impacts on kʷikʷəłəm and supporting health and community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports kʷikʷəłəm's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting kʷikʷəłəm's cultural continuity and nutritional well-being;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to kʷikʷəłəm's physical health and cultural practices;
- **Land and Resources VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting kʷikʷəłəm's long-term aspirations for land and water restoration and reducing stressors that can affect well-being;

- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures and early notification to Indigenous nations, help protect culturally important sites and landscapes that support the spiritual and emotional well-being of K'w'ik'w'əłəm;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to K'w'ik'w'əłəm's well-being; and
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect K'w'ik'w'əłəm members' physical, cultural, and mental health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides K'w'ik'w'əłəm with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with K'w'ik'w'əłəm to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting K'w'ik'w'əłəm's physical health and overall well-being;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If K'w'ik'w'əłəm historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being; and
- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- **Accidents and Malfunctions Reporting** would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

*The EAO's Analysis and Conclusions*

After considering the EAO's conclusions on the linked VCs, and proposed mitigation measures, the EAO concludes that Tilbury Phase 2 is not expected to cause adverse effects on kʷikʷə́łəm's Indigenous health and well-being. While kʷikʷə́łəm continues to experience long-standing impacts from regional industrial development, such as degraded water quality in the Coquitlam River and reduced access to traditional foods, these issues are unrelated to Tilbury Phase 2. Tilbury Phase 2 is located outside kʷikʷə́łəm's traditional territory, does not involve in-river works, and includes mitigation measures to manage air quality, noise, and water runoff. These actions effectively address the potential pathways of impact identified during the assessment. Although there may be minor sensory changes during Construction, these are not expected to affect health, cultural practices, or food systems. Overall, Tilbury Phase 2 introduces no new barriers and, through potential employment and contracting opportunities, may provide some positive contributions to community well-being and no further characterization or cumulative effects assessment was required.

**16.5.10 Positive Effects of Tilbury Phase 2**

According to the Revised Application, Tilbury Phase 2 is expected to generate Construction phase employment and procurement opportunities that could benefit kʷikʷə́łəm members and Indigenous businesses and may contribute to increased nation revenue and long-term skills development. These opportunities include training, monitoring roles, and contracting potential aligned with kʷikʷə́łəm's interests in community growth and capacity building.

The extent of positive effects will depend on the degree to which kʷikʷə́łəm members and businesses are able to access these opportunities, and Tilbury Phase 2 benefits may remain limited relative to broader existing social and economic conditions in the kʷikʷə́łəm community.

**16.5.11 Conclusions**

Considering the above analyses, EAO's engagement with kʷikʷə́łəm, their comments, the Proponent's proposed mitigation measures, provincial conditions, and Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is anticipated to have the following impacts on kʷikʷə́łəm Indigenous interests:

- Negligible residual effects to kʷikʷə́łəm harvesting and subsistence activities; and
- Negligible residual effects to kʷikʷə́łəm cultural use sites and areas.

Considering the above analyses the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on kʷikʷə́łəm interests has been adequately avoided, minimized or otherwise accommodated. Based on engagement undertaken with kʷikʷə́łəm on Tilbury Phase 2, as outlined above in Section 16.5.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with kʷikʷə́łəm.

## 16.6 xʷməθkʷəyəm (Musqueam Indian Band)

### 16.6.1 xʷməθkʷəyəm's Section 19.4 Assessment



# Section 19(4): Assessment of Impacts of the Tilbury Phase 2 LNG Expansion Project on xʷməθkʷəy̓əm Culture

June 18, 2026

xʷməθkʷəy̓əm (Musqueam Indian Band)



*Image Credit: Musqueam Indian Band*

## Section 19(4): Assessment of Impacts of the Tilbury Phase 2 LNG Expansion Project on xʷməθkʷəy̓əm Culture

Prepared by: Musqueam Indian Band



With support from: Firelight Research Inc.



Submitted to: BC Environmental Assessment Office

### **Disclaimer:**

*All descriptions of xʷməθkʷəy̓əm rights presented into this report are for the purposes of assessing potential adverse effects on those rights by the proposed Project. Descriptions of xʷməθkʷəy̓əm rights in this report should neither be considered comprehensive nor exhaustive and should only be interpreted in a manner intended to uphold xʷməθkʷəy̓əm's existing Aboriginal Rights recognized and affirmed under section 35 of the Constitution Act, 1982, and not to abrogate or derogate from them.*

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## ACRONYMS AND ABBREVIATIONS

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|                             |                                                                 |
|-----------------------------|-----------------------------------------------------------------|
| BC                          | British Columbia                                                |
| BC EAO                      | British Columbia's Environmental Assessment Office              |
| BC Declaration Act          | BC's <i>Declaration on the Rights of Indigenous Peoples Act</i> |
| BCER                        | British Columbia Energy Regulator                               |
| CCP                         | 2018 x̣ṃəθḳẉəỵəm Comprehensive Community Plan               |
| CEMP                        | Construction Environmental Management Plan                      |
| COSEWIC                     | Committee on the Status of Endangered Wildlife in Canada        |
| The 1976 Declaration        | x̣ṃəθḳẉəỵəm Declaration of 1976                             |
| EA                          | Environmental Assessment                                        |
| EAA                         | British Columbia's <i>Environmental Assessment Act</i> 2018     |
| EMS                         | Environmental Management System                                 |
| ERP                         | Emergency Response Plan                                         |
| EAC                         | Environmental Assessment Certificate                            |
| DFO                         | Fisheries and Oceans Canada                                     |
| FCA                         | Federal Court of Appeal                                         |
| FPIC                        | Free, prior and informed consent                                |
| FortisBC or "the Proponent" | FortisBC Holdings Inc.                                          |
| FSC                         | Food, social and ceremonial                                     |
| ha                          | Hectare                                                         |
| HADD                        | Harmful alteration, disruption, or destruction of fish habitat  |
| IA                          | Impact Assessment                                               |
| IAA                         | Canada's <i>Impact Assessment Act</i> 2019                      |
| IAAC                        | Impact Assessment Agency of Canada                              |

|                  |                                                                |
|------------------|----------------------------------------------------------------|
| IDOH             | Indigenous Determinants of Health                              |
| LFFA             | Lower Fraser Fisheries Alliance                                |
| LNG              | Liquefied Natural Gas                                          |
| LSA              | Local Study Area                                               |
| Methodology      | Methodology for xʷməθkʷəy̓əm Rights Impact Assessment          |
| MOF              | Material off-loading facility                                  |
| OEMP             | Operations Environmental Management Plan                       |
| Project          | Tilbury Phase 2 LNG Expansion Project                          |
| Project Site     | LNG Expansion Project Site                                     |
| QP               | Qualified Professional                                         |
| RIA              | Rights Impact Assessment                                       |
| RSA              | Regional Study Area                                            |
| SRKW             | South Resident Killer Whales                                   |
| TDR              | Technical Data Report                                          |
| TMJ Project      | Tilbury Marine Jetty Project                                   |
| 19(4) Assessment | xʷməθkʷəy̓əm Section 19(4) Assessment                          |
| VC               | Valued Component                                               |
| UNDRIP           | United Nations Declaration on the Rights of Indigenous Peoples |

# 1. Introduction

## 1.1 xʷməθkʷəy̓əm's Relationship to the Territory

xʷməθkʷəy̓əm's relationship to the territory started with the creation of the estuary itself. xʷməθkʷəy̓əm has been here for as long as there has been land to live upon, and when the delta was only water, xʷməθkʷəy̓əm fished those waters. xʷməθkʷəy̓əm first existed at a time when the Fraser River delta was completely covered with water and Point Roberts was an isolated island (Musqueam Indian Band n.d.).

xʷməθkʷəy̓əm oral histories demonstrate not only xʷməθkʷəy̓əm being here since time immemorial but the breadth of xʷməθkʷəy̓əm territory and connections. Changes within the territory and waterways and to the evolving landscape have both natural and supernatural origins, meaning that some aspects of the changes have been brought about through transformation by x̣e:ls (the transformer) or other supernatural acts – which are evidenced in xʷməθkʷəy̓əm teachings and language.

Our oral history is also supported by western science, with sedimentation models and archaeology confirming a physical manifestation of our presence in midden, village and burial sites originating some 8,000+ years ago, a time when the delta was only water and Point Roberts was, indeed, an island. Changes in the delta are reflected in Musqueam oral histories and their many names across the landscape. These 120+ place names within and beyond the territory serve as storehouses for snəwəy̓əł and place-based knowledge.

## 1.2 Purpose

This Musqueam (xʷməθkʷəy̓əm) Section 19(4) Assessment ("the 19(4) Assessment") intends to present a transparent assessment of the potential residual effects on xʷməθkʷəy̓əm rights resulting from the proposed FortisBC Holdings Inc. (FortisBC or "the Proponent") Tilbury Phase 2 Liquefied Natural Gas Expansion Project (LNG Expansion or "the Project"). While this 19(4) Assessment is not a cumulative effects assessment, it also considers the Tilbury Marine Jetty (TMJ) Project, which underwent its own Impact Assessment (IA) process and received an Environmental Assessment Certification (EAC) in March 2024 and a Decision Statement under Section 54 of the *Canadian Environmental Assessment Act* in July 2024. xʷməθkʷəy̓əm, in a separate submission to Ministers on August 15, 2022, expressed support for the issuance of the EAC but raised concerns about the TMJ's contribution to cumulative effects within their territory, particularly its potential impact on Cultural Continuity, Sense of Place and Identity, and Fishing.

The physical works associated with the TMJ Project are assessed separately from the LNG Expansion Project in this 19(4) Assessment to ensure methods and conclusions are comparable to the assessments undertaken by the Proponent and the British Columbia Environmental Assessment Office (BC EAO). The TMJ Project is also assessed due to its close proximity to the LNG Expansion Project and its connection to the LNG Expansion Project. The TMJ Assessment Report (2022) described how both projects would be dependent on one another, with the TMJ Project transferring LNG from the LNG Expansion Project to vessels. However, in the TMJ Project's EAC, the BC EAO clarified that the LNG Expansion Project is a separate project and that the TMJ Project is not dependent on it.

This Assessment considers the Project residual effects that are anticipated to persist after all mitigations and offsetting measures identified by the Proponent in their draft Application have been considered. The primary purpose of this report is to present findings for discussion with FortisBC to identify preferred mitigation measures. As such, the analysis and reporting was conducted primarily in 2024, before FortisBC revised their Application for submission to the EAO in February 2026. Importantly, this Assessment includes the April 8, 2024, decision by the Proponent to include the following as mitigation measures:

- exclude all waterborne vessel delivery of modules and bulk construction materials during construction
- exclude all in-water works and the proposed Material off-loading Facility (MOF) described in the Detailed Project Description.

x̱m̱əθḵw̱əy̱əm requested that the above mitigations be integrated into the body of the Application's project description of the Application, so that the impact analysis could be undertaken that was more reflective of the actual proposed activities and works. However, this update was not provided prior to x̱m̱əθḵw̱əy̱əm's Assessment drafting. What was updated in May 2026 was the addition of the Proponent's new mitigation measures so that FortisBC's Revised Application and x̱m̱əθḵw̱əy̱əm's Assessment are comparable.

This 19(4) Assessment does not signify the end of the Crown consultation and accommodation process or the engagement process with the Proponent. Rather, its conclusions will be used to guide further engagement with the Proponent and Crown consultation regarding accommodations beyond the formal IA process pursuant to the *Impact Assessment Act* (IAA) and British Columbia's *Environmental Assessment Act* (EAA). These additional accommodations are required to meet the Crown's legal duty to consult and accommodate but are beyond the scope of this 19(4) Assessment. Rather, the specific purpose of this 19(4) Assessment is to inform x̱m̱əθḵw̱əy̱əm, the Proponent, BC EAO, and key stakeholders of the potential adverse effects on x̱m̱əθḵw̱əy̱əm rights resulting from the Project.

**All descriptions of x̱m̱əθḵw̱əy̱əm rights presented into this report are for the purposes of assessing potential adverse effects on those rights by the proposed Project. Descriptions of x̱m̱əθḵw̱əy̱əm rights in this report should neither be considered comprehensive nor exhaustive and should only be interpreted in a manner intended to uphold x̱m̱əθḵw̱əy̱əm's existing Aboriginal Rights recognized and affirmed under section 35 of the *Constitution Act, 1982*, and not to abrogate or derogate from them.**

### 1.2.1 Assessing Impacts to Rights

The Crown's duty to consult and accommodate has been clarified by past jurisprudence which indicates that the Crown must seek to understand the potential impacts<sup>1</sup> of a project on a right itself and not only on the environment in which that right is exercised. Federal and provincial requirements, as set out in IAA and EAA, are as follows:

1. The effects of a project on Indigenous nations and rights recognized and affirmed by section 35 of the *Constitution Act, 1982* must be evaluated for every assessment; and

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<sup>1</sup> The terms "impact" and "effect" are used interchangeably throughout the 19(4) Assessment.

2. The impact assessment of a designated project, whether it is conducted by the BC EAO as a substituted IA or by the Impact Assessment Agency of Canada (IAAC) or a review panel must take into account the impact that the designated project may have on any Indigenous group and any adverse impact that the designated project may have on the rights of Indigenous peoples as recognized and affirmed by section 35 of the *Constitution Act*, 1982.

This 19(4) Assessment is intended to provide a reasonable opportunity for xʷməθkʷəy̓əm to become informed regarding the potential effects on their rights and to identify and engage with the Crown on proposed accommodation measures. The goal of this 19(4) Assessment is to provide information for xʷməθkʷəy̓əm to determine whether to provide or withhold consent regarding the proposed Project. Both provincial and federal impact assessment acts point to implementation of the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP), including Article 32.2 requiring states to consult and cooperate in good faith with Indigenous peoples to obtain their free, prior and informed consent (FPIC) before approving any project affecting their lands or territories and other resources (EAA 2018; IAA 2019). To live up to this commitment, this 19(4) Assessment must be completed before the Crown makes its decision regarding a given project to ensure xʷməθkʷəy̓əm is adequately informed prior to making a consent or no-consent decision.

### 1.3 Sparrow Fishing Right

In 1990, the Supreme Court of Canada recognized and affirmed xʷməθkʷəy̓əm's Aboriginal right to fish for food, social, and ceremonial (FSC) purposes.<sup>2</sup> Ronald Edward Sparrow, a member of xʷməθkʷəy̓əm, was charged with fishing in šxʷiicəm (Canoe Pass) in the south arm of the Fraser River in 1984. Sparrow maintained he was exercising his Aboriginal Right to fish; the Supreme Court unanimously agreed in accordance with section 35(1) of the *Constitution Act*, 1982.

The salmon fishery “has always constituted an integral part of [Musqueam’s] distinctive culture”.<sup>3</sup> The Supreme Court not only affirmed this but also imposed limits on the federal authority to regulate xʷməθkʷəy̓əm's fishing rights. Specifically, the Court imposed a justification test on the Crown when deciding what may constitute a *prima facie* infringement on an Aboriginal Right. This includes decisions that may infringe upon xʷməθkʷəy̓əm's right to fish for FSC purposes and on other xʷməθkʷəy̓əm rights. The decision does not require evidence that the Crown's conduct has reduced xʷməθkʷəy̓əm's fish catch below that needed for reasonable FSC purposes. Rather, the threshold of a *prima facie* infringement begins at the point when Crown conduct is shown to have the potential to adversely affect the *efficiency* of xʷməθkʷəy̓əm's ability to fish in preferred locations, at preferred times, and with preferred means.

In addition, the Court ruled that after conservation measures have been implemented, xʷməθkʷəy̓əm's FSC fishery takes priority over other fisheries.

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<sup>2</sup> *R v. Sparrow*, [1990] 1 S.C.R. 1075

<sup>3</sup> *R v. Sparrow*, [1990] 1 S.C.R. 1075

## 2. Methodology

This Section outlines the approach taken to assess impacts and identify residual effects of the proposed Project on x̱m̱əθḵw̱əy̱əm Rights and Title, which is presented alongside a general assessment of impacts of the TMJ Project. This 19(4) Assessment is adapted from the *Methodology for x̱m̱əθḵw̱əy̱əm Rights Impact Assessment* (“the Methodology”) developed in 2017. For information only, the guiding methods are attached as **Appendix A**. The methods used in this assessment are presented in this Section.

### 2.1 Overview of Scope of the x̱m̱əθḵw̱əy̱əm Section 19(4) Assessment for Purpose of the Assessment

The LNG Expansion Project Site (“the Project Site”) is located entirely within x̱m̱əθḵw̱əy̱əm’s core territory as set out by the x̱m̱əθḵw̱əy̱əm Declaration of 1976 (“the 1976 Declaration”). This territory includes “the lands, lakes and streams defined and included by a line commencing at Harvey Creek in Howe Sound including the Fraser River, across to the south or left bank of the Fraser River and proceeding downstream taking in the left bank of the mainstream and the south area to the sea”.

#### 2.1.1 Aboriginal Rights

x̱m̱əθḵw̱əy̱əm has Aboriginal Rights throughout its territory as set out in the 1976 Declaration, including, but not limited, to the proven right to harvest marine resources outlined in Section 1.3 above. This is supported by x̱m̱əθḵw̱əy̱əm oral and written histories, ethnographic records, material evidence, and ongoing x̱m̱əθḵw̱əy̱əm practices.

For x̱m̱əθḵw̱əy̱əm, the *Sparrow* decision confirms x̱m̱əθḵw̱əy̱əm’s constitutionally protected right to fish throughout the full extent of its territory. This view is supported by the Supreme Court of Canada’s 2014 *Tsilhqot’in*<sup>4</sup> decision which found that a narrow, site-specific approach to Aboriginal Title, and by extension Aboriginal Rights, is without merit. In recent years, both Canada and British Columbia (BC) have announced the adoption of legislation to support the implementation of UNDRIP; BC enacted the *Declaration on the Rights of Indigenous Peoples Act* (“BC Declaration Act”) in November 2019. BC’s *Declaration Act* and corresponding Action Plan enables the Crown to enter into agreements with Indigenous governing bodies, including joint or consent-based decision-making agreements that aspire to respect the principle of FPIC (British Columbia 2019). Similarly, Canada has committed to implementing the *United Nations Declaration on the Rights of Indigenous Peoples Act*, 2020 and associated Action Plan, which includes a commitment to develop guidance on federal Crown consultation and cooperation in good faith with Indigenous peoples and seeks to obtain FPIC prior to the approval of any project affecting those people’s lands, territories, and resources (Canada 2023, 8).

In addition to x̱m̱əθḵw̱əy̱əm’s established FSC fishing rights laid out by *Sparrow* (see Section 1.3), x̱m̱əθḵw̱əy̱əm has strong *prima facie* claims to Aboriginal Rights to harvest marine and terrestrial resources throughout areas potentially impacted by the Project. This includes areas potentially impacted by marine shipping activities proposed by the TMJ Project and the LNG

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<sup>4</sup> *Tsilhqot’in Nation v. British Columbia*, 2014 SCC



Expansion Project (before mitigation), including in the south arm of the Fraser River extending to Sands Head Lighthouse in the Salish Sea.

xʷməθkʷəy̓əm's connection to the Fraser River should not be interpreted as having a lesser connection to the terrestrial lands in xʷməθkʷəy̓əm territory. xʷməθkʷəy̓əm identity and culture developed in relation to the unique landscape of xʷməθkʷəy̓əm core territory and the resources it contains; this relationship has existed since time immemorial. Culture is the umbrella that everything else is done under for xʷməθkʷəy̓əm. Culture permeates xʷməθkʷəy̓əm's entire way of life and living and cannot be looked at in isolation. For example, xʷməθkʷəy̓əm culture is inseparable from xʷməθkʷəy̓əm territory and language; s̓q̓iq̓əs m̓ə kʷ stəʔe ʔə t̓həʔ ʔiʔ s̓kʷey kʷ s xʷəsθəlθəleq (they are knotted together and impossible to separate).

The Project Site and surrounding lands and waters are areas where xʷməθkʷəy̓əm continue to practice culture. However, the ability to do so depends on the continued existence of sustainable, safe, and accessible resources and landscapes. Therefore, xʷməθkʷəy̓əm's approach to assessing potential impacts to xʷməθkʷəy̓əm culture is focused on culture and rights. When this 19(4) Assessment refers to "xʷməθkʷəy̓əm rights", this should be read as being inclusive of xʷməθkʷəy̓əm rights and of xʷməθkʷəy̓əm culture, which is part of xʷməθkʷəy̓əm's entire way of life.

### *2.1.2 Aboriginal Title*

xʷməθkʷəy̓əm holds Aboriginal Title to its territory as set out in the 1976 Declaration. xʷməθkʷəy̓əm's Aboriginal Title is supported by xʷməθkʷəy̓əm oral and written histories, ethnographic records, material evidence, and ongoing xʷməθkʷəy̓əm practices.

## **2.2 Categories of Rights to be Assessed**

This 19(4) Assessment considers the potential impacts of the Project on six categories of xʷməθkʷəy̓əm rights described below. For each right, a sub-component of that right is defined for the specific purposes of this 19(4) Assessment in Section 5.

These categories are based on the important fact that xʷməθkʷəy̓əm historically had access to all areas in xʷməθkʷəy̓əm territory. xʷməθkʷəy̓əm's whole territory was part of the xʷməθkʷəy̓əm lived experience. Any current limitation on or past infringement of a right is a result of colonial law and not past xʷməθkʷəy̓əm practice and does not justify a current or future infringement. For example, restrictions are currently imposed on xʷməθkʷəy̓əm by the Department of Fisheries and Oceans Canada (DFO) on where and when xʷməθkʷəy̓əm members are permitted to fish. However, before colonization, xʷməθkʷəy̓əm members would access resources in situ in the territory according to xʷməθkʷəy̓əm's own protocols and were not constrained by any imposed colonial restrictions.

Additionally, these categories emerge out of xʷməθkʷəy̓əm's understanding and lived experience that culture permeates xʷməθkʷəy̓əm's entire way of life and cannot be looked at in isolation. Culture is the essence of who xʷməθkʷəy̓əm is and informs how xʷməθkʷəy̓əm members understand the world around them. xʷməθkʷəy̓əm culture also goes to the core of their being. Culture is reflected in how xʷməθkʷəy̓əm members live out every aspect of their lives and how they relate to non-xʷməθkʷəy̓əm people, both indigenous and non-indigenous alike. For this reason, these categories are all related, so changing a conclusion in one category will change a conclusion in another.

- xʷməθkʷəy̓əm Title (governance and ownership)
  - Right to decide how lands and waters will be used;
  - Right to economic benefits derived from lands and waters; and
  - Right to proactively use and manage lands and waters including managing access through kinship protocols and permissions.
- Fishing
  - Right to access, harvest, and process fish for sustenance, social cohesion, spiritual/ceremonial, and economic purposes; and
  - Sufficiency of resources for food, social, and ceremonial purposes.
- River Shoreline and Terrestrial Plant Harvesting
  - Right to access, harvest, and process river shoreline and terrestrial foods and materials for sustenance, social cohesion, and spiritual/ceremonial purposes; and
  - Sufficiency of resources for food, social, and ceremonial, and economic purposes.
- Hunting
  - Right to access hunting locations for sustenance, social cohesion, and spiritual/ceremonial purposes; and
  - Sufficiency of resources for food, social, and ceremonial purposes.
- Cultural Continuity
  - Right to continue transmission of knowledge across generations, including place-based knowledge through practice, language, and sharing of oral histories and traditions;
  - Right to maintain territorial integrity, including the integrity of cultural landscapes, riverscapes, and seascapes; and
  - Right to continue to safely access and use places for spiritual purposes under preferred timing and conditions.
- Health
  - Right to maintain holistic wellness, including mental, physical, emotional, and spiritual health; and
  - Right to social cohesion and community wellbeing.

## 2.3 Information Sources

The primary, xʷməθkʷəy̓əm-led data sources informing the identification of xʷməθkʷəy̓əm rights and the conduct of this 19(4) Assessment include:

- Gillian Gregory, Jordan Tam, Rachel Olson, The Firelight Group, and Musqueam Indian Band. 2017. “Musqueam Indian Band Knowledge and Use Study for BHP Billiton’s Proposed Potash Export Facility Project”. Report prepared and authored by Gillian

Gregory, Jordan Tam, Rachel Olson, The Firelight Group, and Musqueam Indian Band for Musqueam Indian Band;

- Jordan Tam, Rachel Olson, Firelight Research Inc., and Musqueam Indian Band. 2018. “Musqueam Indian Band Knowledge and Use Study for Wespac Midstream’s Proposed LNG Marine Jetty Project”. Report prepared and authored by Jordan Tam, Rachel Olson, Firelight Research Inc., and Musqueam Indian Band for Musqueam Indian Band;
- Musqueam Band Council. 1984. “Musqueam Comprehensive Land Claim”. Presented to the Office of Native Claims by the Musqueam Band Council; and
- Nelitz, M., Stimson, H., Semmens, C., Ma, B., and Robinson, D. 2018. “Impacts of marine vessel traffic on access to fishing opportunities of the Musqueam Indian Band”. Prepared for the Musqueam Indian Band by ESSA Technologies Ltd.

The 2018 Knowledge and Use Study for Wespac Midstream’s Proposed LNG Marine Jetty Project listed above is considered in this 19(4) Assessment when assessing the current conditions and context of impacts for all rights, discussed in Section 4 below.

## 2.4 Spatial and Temporal Boundaries

The spatial and temporal boundaries for this 19(4) Assessment are the same as those used in the Knowledge and Use Study for the TMJ Project (Tam et al. 2018). These boundaries are used to present and organize information on current context and trajectory of change and analysis of adverse impacts.

### 2.4.1 Spatial Boundaries

Impacts on xʷməθkʷəy̓əm rights are assessed using the following spatial boundaries:

- Local Study Area (LSA): Tilbury Island with a 1km buffer width of the south arm of Fraser River from 1km above (upstream of) Tilbury Island downstream to Sands Head Lighthouse station.
- Regional Study Area (RSA): entire xʷməθkʷəy̓əm core territory as defined by the 1976 Declaration, including the shipping route extending out to mid-point of Salish Sea.
- Project Site: extends 250m from the spatial extent of the Project physical works (not including shipping or road transportation).

The Project Site, LSA, and RSA are collectively referred to as the Study Area.

The TMJ Project Site extends 250m from the spatial extent of the proposed TMJ physical works (not including shipping). The LSA and RSA also apply to the TMJ portions of this 19(4) Assessment.

While each of the LNG Expansion and TMJ Projects are assessed separately, the term “Project Site” is used to refer to the use values identified in Tam et al. (2018) for both the LNG Expansion Project Site and the TMJ Project Site. This is due to the reliance on Tam et al. (2018) to describe use values for both projects in this 19(4) Assessment (see Limitations of Assessment in Section 2.8). Since the actual footprints for these two projects are so similar, there is no effect on the conclusions made in this 19(4) Assessment.

Figure 1 below is a map of the proposed LNG Expansion Project Site and LSA in relation to x̣ṃəθḳẉəỵəm core territory. Figure 2 is a regional map of the proposed LNG Expansion Project Site, showing the proposed Study Area as a whole, including the RSA, in relation to x̣ṃəθḳẉəỵəm core territory.

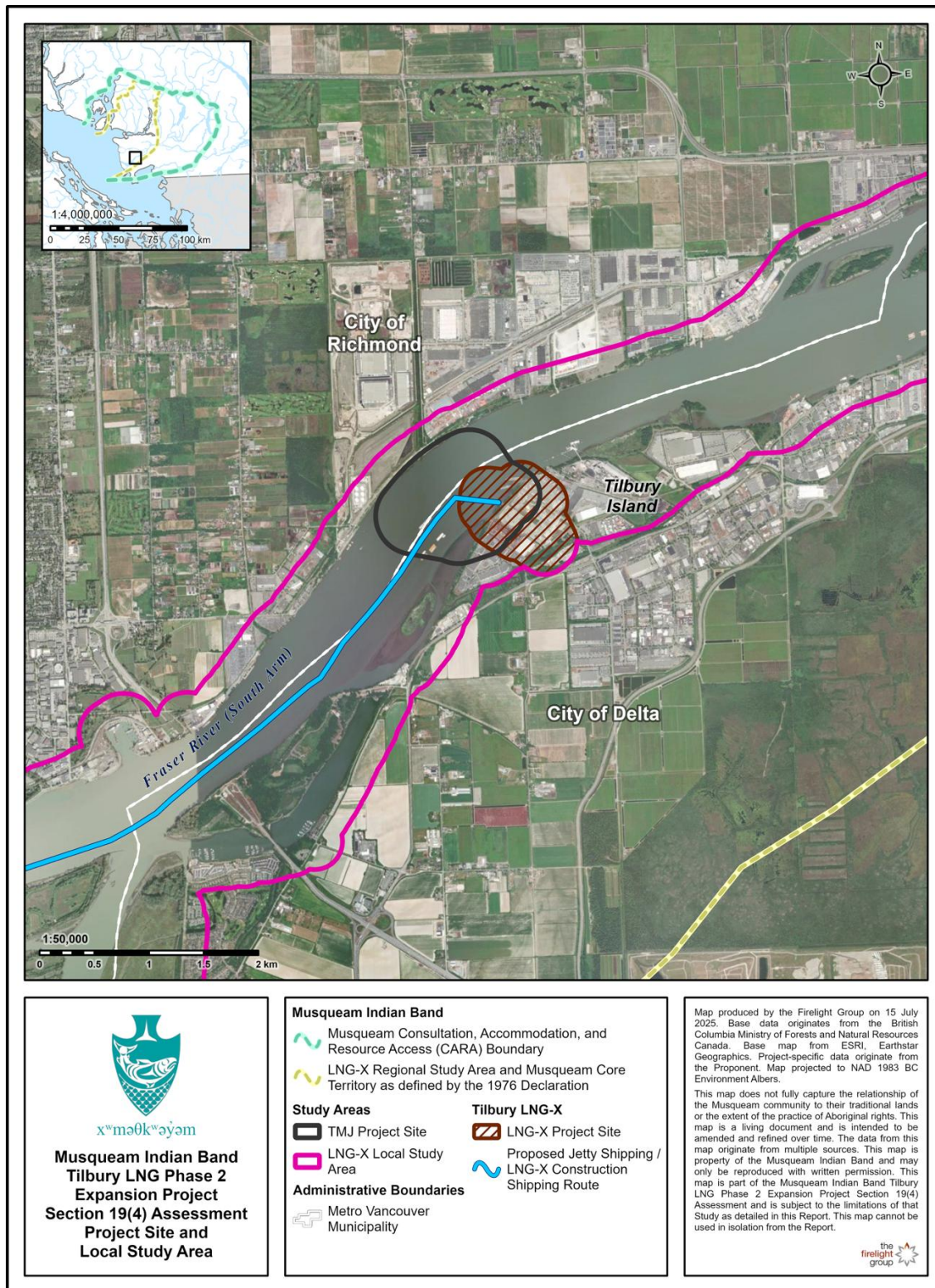


Figure 1: Tilbury LNG Phase 2 Expansion Project Site and LSA map



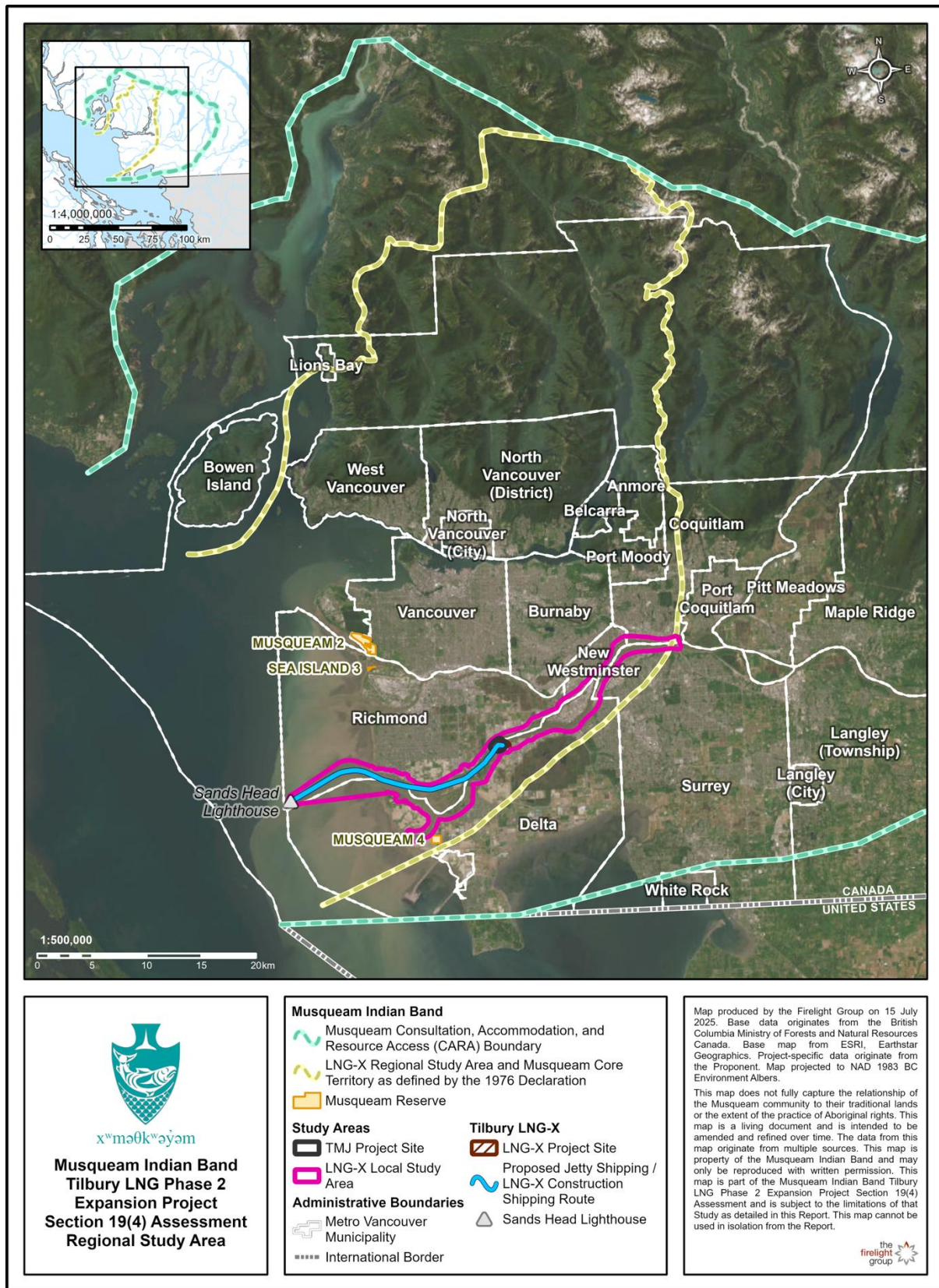


Figure 2: Tilbury LNG Phase 2 Expansion Project RSA map



The Knowledge and Use Study for the TMJ Project (Tam et al., 2018) used the same LSA as this 19(4) Assessment. In that study, x̣ẉṃə̣θ̣ḳẉə̣ỵəm members reported:

- 35 values within the TMJ Project Site (see Figure 1); and
- 608 values within the LSA, which includes the marine shipping route (see Figure 2).

The values identified in Tam et al. (2018) were mapped according to five categories (Activity Classes):

- Habitation values (including temporary, occasional, seasonal, and permanent camps and cabins);
- Cultural and spiritual values (including teaching areas, burial sites, ceremonial areas, and community gathering areas);
- Subsistence values (including harvest, hunting, and fishing sites, and plant collection areas);
- Environmental feature values (including specific, highly valued habitat for salmon, sturgeon, and ducks, etc.); and
- Transportation values (including trails, water routes, and navigation sites).

All sites are considered important to x̣ẉṃə̣θ̣ḳẉə̣ỵəm. Sites identified by participants represent where the value or resource is for x̣ẉṃə̣θ̣ḳẉə̣ỵəm members. These locations can change over time depending on many environmental and social factors. As stated in the study, the sites and values identified in Tam et al. (2018) are non-exhaustive; where a site or value may not have been identified, this does not mean that it does not exist.

#### *2.4.2 Temporal Boundaries*

The temporal boundaries for the 19(4) Assessment extend from the pre-contact period (prior to 1800) to a future period after the anticipated decommissioning date of the Project (2088 and onwards).

## **2.5 Indicators for Rights**

The indicators used to assess categories of x̣ẉṃə̣θ̣ḳẉə̣ỵəm rights and their sub-components for the Project are presented in Table 1 below. They reflect x̣ẉṃə̣θ̣ḳẉə̣ỵəm's understanding of the interaction between these rights and the Project.

It is important to note that the sub-components and indicators below are interconnected and are not separate reflecting x̣ẉṃə̣θ̣ḳẉə̣ỵəm culture and way of understanding the world. For example, Cultural Continuity requires access to and availability of a resource, and opportunities for teaching in order to transmit knowledge. The absence of a resource can lead to loss in language associated with a resource, losing x̣ẉṃə̣θ̣ḳẉə̣ỵəm knowledge forever.

As such, these criteria set out the resources or conditions that provide minimally sufficient opportunity for rights to be practiced.

This 19(4) Assessment does not capture the totality of x̣ẉṃə̣θ̣ḳẉə̣ỵəm values likely to be adversely affected by the Project and cumulatively, nor are effects of the Project captured in complete form. This 19(4) Assessment has prioritized specific indicators, information sources,

spatial and temporal boundaries in order to highlight the most important effects to meet the purpose set out in Section 1.1 of this 19(4) Assessment.

*Table 1: Indicators for each Category of Right and Right Sub-component*

| Category of Right                                | Right Sub-component                                                                                                                                           | Indicators for Rights                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| x̣ṃəθḳẉəỵəm Title                            | Right to decide how the lands and waters will be used.                                                                                                        | Ability to exercise x̣ṃəθḳẉəỵəm decision-making authority, both in respect to the Project and within and over x̣ṃəθḳẉəỵəm territorial lands and waters, including the Study Area.                                                                                                             |
|                                                  | Right to derive economic benefits from the lands and waters.                                                                                                  | Ability to derive economic and other benefits from infrastructure development in x̣ṃəθḳẉəỵəm territory.                                                                                                                                                                                           |
|                                                  | Right to proactively use and manage the lands and waters including managing access through kinship protocols and permissions.                                 | Ability to proactively govern and control access to and use of x̣ṃəθḳẉəỵəm territorial lands and waters.                                                                                                                                                                                          |
| Fishing                                          | Right to access, harvest, and process fish for sustenance, social cohesion, spiritual/ceremonial, and economic purposes.                                      | <p>Ability to safely access harvesting areas</p> <p>Sense of safety and security on the water which includes not avoiding an area due to perceived risk.</p> <p>Adequate duration and quality of time spent in fishing areas.</p> <p>Opportunity for fishing and processing (current and future).</p> |
|                                                  | Sufficiency of resources for food, social, and ceremonial, and economic purposes.                                                                             | Quantity and quality of fish and fish habitat.                                                                                                                                                                                                                                                        |
| River Shoreline and Terrestrial Plant Harvesting | Right to access, harvest, and process river shoreline and terrestrial foods and materials for sustenance, social cohesion, and spiritual/ceremonial purposes. | <p>Ability to safely access harvesting areas.</p> <p>Sense of safety and security on the shoreline and land.</p> <p>Opportunity for harvest and processing (current and future).</p> <p>Adequate duration and quality of time spent in harvesting areas.</p>                                          |

| Category of Right   | Right Sub-component                                                                                                                                                        | Indicators for Rights                                                                                                                                                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Sufficiency of resources for food, social and ceremonial purposes.                                                                                                         | Quantity and quality of plant harvest.                                                                                                                                                                                                             |
| Hunting             | Right to access hunting locations for sustenance, social cohesion, and spiritual/ceremonial purposes.                                                                      | <p>Ability to safely access hunting areas.</p> <p>Sense of safety and security on the land and water.</p> <p>Opportunity for hunting and processing (current and future).</p> <p>Adequate duration and quality of time spent in hunting areas.</p> |
|                     | Sufficiency of resources for food, social, and ceremonial purposes.                                                                                                        | Quantity and quality of wildlife harvest.                                                                                                                                                                                                          |
| Cultural Continuity | Right to continue transmission of knowledge across generations, including place-based knowledge, through practice, language, and sharing of oral histories and traditions. | Ability to continue cultural practices and transmission.                                                                                                                                                                                           |
|                     | Right to maintain territorial integrity, including the integrity of cultural landscapes, riverscapes, and seascapes.                                                       | Access to teaching cultural areas and spiritual locations.                                                                                                                                                                                         |
|                     | Right to continue to safely access and use places for spiritual purposes under preferred timing and conditions.                                                            | Sense of safety and security and overall sensory experience.                                                                                                                                                                                       |
| Health              | Right to maintain holistic wellness, including mental, physical, emotional, and spiritual health.                                                                          | <p>Ability to nurture mental &amp; spiritual wellness through use of cultural areas.</p> <p>Ability to nurture physical wellness through the harvest of traditional foods and medicines.</p>                                                       |
|                     | Right to maintain social cohesion and community wellbeing                                                                                                                  | Ability to gather on the lands and waters for social and ceremonial purposes without disruption, including continuity                                                                                                                              |

| Category of Right | Right Sub-component | Indicators for Rights                                                                                                                                                             |
|-------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |                     | <p>of intergenerational teaching and sharing practices.</p> <p>Ability to carry out and implement wellness and healing practices that rely on access to the lands and waters.</p> |

## 2.6 x̣ẉṃə̣θ̣ḳẉə̣ỵəm Approach for Characterizing Adverse Impacts to Rights

Six criteria are used to characterize adverse impacts to rights, as presented in Table 2 below. The first criterion is Context, which relies on the cumulative effects information presented in Section 4. Information in Section 5 is then used to rate the remaining five criteria as they are focused on project-specific effects. Table 4 shows the results of the assessing the severity of adverse impacts that applies these criteria to each rights category and indicator, prior to mitigation.

*Table 2: Criteria and ratings used for assessing severity of adverse impacts to rights.*

| Criterion      | Definition                                                                                                                                                                          | Rating                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Context</b> | Current condition of the opportunity to exercise and/or benefit from the right, with consideration of the historical context, current stressors on the right, trajectory of change. | <b>Highly Resilient</b><br><br>Ability to derive benefit and freely exercise right has not appreciably declined in historical period (i.e., 1800-2020) and is not currently in decline. | <b>Moderately Impacted</b><br><br>Ability to derive benefit and freely exercise right has appreciably declined in historical period (i.e., 1800-2020). However, a majority of community members can continue to exercise their right in a way that resembles past practice. The right is not currently in decline or is moderately in decline. | <b>Highly Sensitive</b><br><br>Ability to derive benefit and freely exercise rights has severely declined in historical period (i.e., 1800-2020) and/or the right is not currently being exercised due to inadequate access or resources. The condition of the right is either in a steep trajectory of decline or has fallen below the threshold where the right can be exercised in a manner that derives meaningful benefit or enjoyment. The level of erosion of the right means that any further impact, even a minor one, may constitute/contribute |

| Criterion                | Definition                                                                                                                                                                                                       | Rating                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                  | to a severe adverse effect on the right.                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Magnitude</b>         | Degree of the change the impact will likely cause relative to an established baseline as described in Section 4.2 current context. Considers context and territorial capacity to withstand additional stressors. | <b>Negligible to Low</b><br>No to little change in quality or quantity of resources, locations, conditions, and other factors required for the exercise of rights, relative to an established baseline. Impact is considered by x̣ẉṃə̣θ̣ḳẉə̣ỵəm (rights holders) to be of a minor degree. | <b>Moderate</b><br>Changes in the quality, quantity, and accessibility of resources, locations, conditions, and other factors that affect the ability or willingness to exercise the right, such as limitations on access to areas used to practice a right, in the preferred manner and locations are considered by the Indigenous Nation (rights holders) to be of degree relative to an established baseline. | <b>High</b><br>Changes in the quality, quantity, and accessibility of resources, locations, conditions, and other factors, such as change in quality and quantity of habitat required to practice the right, such that the right can or will no longer be exercised in the preferred manner and locations and the impacts are considered by the Indigenous Nation (rights holders) to be of high/critical degree relative to an established baseline. |
| <b>Geographic Extent</b> | Area over which impact is expected to occur. This may differ from the physical footprint of the change.                                                                                                          | <b>Site Specific</b><br>Impacts limited to the Project Site, little impact on interconnectedness.                                                                                                                                                                                              | <b>Local</b><br>Impacts extend beyond the Project Site, may affect valued areas, disrupts interconnectedness.                                                                                                                                                                                                                                                                                                    | <b>Regional</b><br>Impacts which extend beyond the LSA, especially valued areas, disrupts interconnectedness.                                                                                                                                                                                                                                                                                                                                         |

| Criterion            | Definition                                                                                                                                                                                                                | Rating                                                                                                            |                                                                                                                                    |                                                                                        |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <b>Reversibility</b> | Ability to return to established baseline (Section 4.2). Considers both the reversibility of the impact pathway and the reversibility of the impact to the exercise of rights.                                            | <b>Reversible</b><br>Easily reversible                                                                            | <b>Partially Reversible</b><br>Reversible but requires significant effort and cost or will take a long time via natural processes. | <b>Irreversible</b><br>Permanent or persistent alteration.                             |
| <b>Duration</b>      | How long an impact is predicted to last.                                                                                                                                                                                  | <b>Short-term</b><br>Short-term, only a year or two.                                                              | <b>Medium-term</b><br>Lasts for more than a year or two but less than one generation.                                              | <b>Long-term</b><br>Persists beyond one generation.                                    |
| <b>Likelihood</b>    | An estimate of the probability that a potential impact on the exercise of rights will occur because of the Project. Considers the evidence available and level of certainty to characterize the likelihood of occurrence. | <b>Low</b><br>A potential impact on the exercise of rights has a low probability and is unlikely but could occur. | <b>Moderate</b><br>A potential impact on the exercise of rights is probable and likely but may not occur.                          | <b>High</b><br>A potential impact on the exercise of rights is highly likely to occur. |

Given the amount of existing, often Crown-sanctioned, damage to x̣ẉṃə̣θ̣ḳẉə̣ỵəm lands, waters, culture, and resources in many areas of x̣ẉṃə̣θ̣ḳẉə̣ỵəm territory, new projects could easily result in further diminishing already severely diminished conditions required for x̣ẉṃə̣θ̣ḳẉə̣ỵəm to exercise their rights. Historical context provides critical information for assessors as any project-direct contribution to total cumulative effects, however small, may further exacerbate an already strained threshold. In most cases, conditions for the practice of some rights may no longer be able to be fully exercised, meaning that any project-direct contributions to total cumulative effects may further inhibit these rights, or reduce the likelihood that these rights can be meaningfully practiced again in the future.

x̣ẉṃə̣θ̣ḳẉə̣ỵəm's Assessment framework presented herein represents a high standard and reflect a state where a given right may be exercised collectively. This 19(4) Assessment considers both positive and negative potential effects of the Project. It includes potential positive contributions to the reduction of cumulative stressors and the restoration of resilient habitats, effects which would support the restoration of those conditions necessary to exercise a right in a meaningful way.



The context of cumulative effects is described for each category of right in Section 4 of this 19(4) Assessment, along with the trajectory of change. Section 4 also considers restoration and rehabilitation projects independent of the Project that may affect this context. Specifically, each category of right is assessed for:

- Whether the conditions for the exercise of a given category of right are already diminished and are therefore highly sensitive project-specific effects; and
- The trajectory of change in the conditions that support a category of rights.

These conclusions are brought forward into Section 5 to inform the assessment of the severity of impacts of the proposed Project. The same approach is also applied to assess the TMJ Project, but in a more generalized manner.

## 2.6 Evaluation of Mitigation Measures

Residual effects on x̣ṃəθḳẉəỵəm rights are assessed by identifying any mitigations committed to in the Environmental Assessment (EA) Application materials by the Proponent that could lessen the potential effects of the project on each x̣ṃəθḳẉəỵəm category of right<sup>5</sup>. For each mitigation, potential effectiveness is evaluated based on several considerations: monitoring design, proven measures from previous projects, and level of uncertainty in success (e.g., insufficient information on proposed measures to ensure high confidence of success).

This 19(4) Assessment was revised to identify the removal of in-water works as a mitigation measure in the same way as the Proponent's EA Application, so it was easier to compare conclusions with this Assessment.

## 2.7 Severity Determination

The residual effects associated with each category of right are identified in Section 7 and carried forward for further analysis and characterization. For each residual effect carried forward, the effect is characterized to determine the overall severity of residual project effects after mitigation.

Severity is determined for each category of right sub-component. These criteria set out the resources or conditions that provide minimally sufficient opportunity for rights to be practiced (see Table 1 above). Each of these subcomponents already describe the point at which conditions will not allow for the exercise of a right. A high level of severity occurs when that right can no longer be collectively exercised in a meaningful manner as a result of the Project. This contrasts with conditions under which the exercise of a given right produces meaningful social and economic benefit for the whole community while sustaining and enriching the transmission of x̣ṃəθḳẉəỵəm culture and collective identity at a high level. In the assessment of the severity of impacts to x̣ṃəθḳẉəỵəm rights, the following categories are used:

### High level of severity

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<sup>5</sup> Note that any non-EA mitigations will be excluded from the initial analysis but may be included in future iterations of this Assessment informing final conclusions after discussion between x̣ṃəθḳẉəỵəm, the Proponent, and relevant government agencies.

*Where project-specific effects on a xʷməθkʷəy̓əm right have surpassed the point at which that right can be exercised in a meaningful way. In this category of severity, an impact would generally be of moderate or high magnitude, partially reversible or irreversible, of medium- or long-term duration, and of high likelihood.*

**Moderate** level of severity

*Where project-specific effects on a xʷməθkʷəy̓əm right have caused moderate constraints on the ability to exercise that right in a meaningful way. In this category of severity, an impact would generally be local or site-specific, of moderate or low magnitude, partially or fully reversible, of short- or medium-term duration, and of high likelihood.*

**Low** level of severity

*Where project-specific effects on a xʷməθkʷəy̓əm right have caused moderate constraints on the ability to exercise rights in a meaningful way. In this category of severity, an impact would generally be local or site-specific, of moderate or low magnitude, reversible, and of short- or medium-term duration.*

## 2.8 Limitations of Assessment

First, this 19(4) Assessment is missing information on xʷməθkʷəy̓əm use and knowledge at the Project Site due to a significant change in the Proponent's Project mitigations while this was being drafted. Much of the xʷməθkʷəy̓əm data in this Assessment is derived from the Traditional Use Study for the TMJ Project that focuses largely on interactions with the Fraser River (Tam et al. 2018) because the original residual project interactions for this Project overlapped largely with the TMJ Study Areas. For this and other reasons, *xʷməθkʷəy̓əm did not collect new information for this Project*. As a result, this analysis presents information on project-specific and cumulative interactions expected to occur from the Project primarily in the Fraser River prior to mitigation from a study focused on the nearby TMJ Project.

Second, the Proponent notified the BC EAO of their intention to abandon the use of waterborne deliveries of modular components and construction materials to the Project Site while this report was being drafted. At that time, the Proponent included this change as an avoidance mitigation measure. Since this Assessment was originally intended to inform discussions with FortisBC, the project description is based on this original process design: full project with in-water construction barges and MOF, and removal of these activities and works as a mitigation measure. xʷməθkʷəy̓əm acknowledges that the Proponent's revised Application shared in February 2026 includes a revised description of the project that excludes all waterborne delivery transportation and the MOF during construction. However, this assessment was drafted prior to this change.

While this Assessment considers the Project with these in-water construction activities and works, then removes them as an avoidance mitigation measure, and the Proponent and EAO consider the project without these in-water works and activities, and the residual effects from all of these assessments (FortisBC's Revised Application, EAO's Assessment Report, and xʷməθkʷəy̓əm's Assessment). Importantly, though, this Assessment does include FortisBC's updated mitigation measures, but does not include BC EAO's draft conditions, also shared in February 2026 after this Assessment was drafted.

Third, a fulsome cumulative effects assessment has not been undertaken despite the fact that x̣ṃəθḳẉəỵəm has identified several likely cumulative effects. Further, the BC EAO noted in the TMJ Assessment Report that it would be reasonable to assume that cumulative interactions could occur between both projects if the timelines for the construction phase overlapped (BC EAO 2022a, 251). In its assessment of effects on Valued Components (VCs), the BC EAO indicated that, should residual effects be predicted for the Tilbury LNG Expansion Project, a cumulative effects assessment that considers the TMJ Project's effects could be undertaken (BC EAO 2022a, 95). To fully understand the implications of the proposed Project on x̣ṃəθḳẉəỵəm rights, a fulsome cumulative effects analysis is needed. This work was not completed by x̣ṃəθḳẉəỵəm for several reasons. This issue is magnified by the fact that vessel traffic has been proposed for other projects that have received EACs but for which effects have yet to be observed, felt, measured, or fully understood, such as the Robert Banks Terminal II project and others. As highlighted in Section 2, the existing effects assessments conducted do not adequately capture these cumulative effects and neither does this 19(4) Assessment.

### 3. Context of x̣ṃəθḳẉəỵəm Title

x̣ṃəθḳẉəỵəm's Aboriginal Title is a fundamental aspect of x̣ṃəθḳẉəỵəm identity and culture. x̣ṃəθḳẉəỵəm has not signed a treaty nor has x̣ṃəθḳẉəỵəm surrendered or ceded its Aboriginal Title. x̣ṃəθḳẉəỵəm retains possession and ownership across all lands and waters (including the riverbed, seabed and foreshore) within x̣ṃəθḳẉəỵəm's territory, as described in the 1976 Declaration:

*We, the Musqueam people openly and publicly declare and affirm that we hold Aboriginal title to our land, and Aboriginal Rights to exercise use of our land, the sea and fresh waters, and all their resources within that territory occupied and used by our ancestors ...*

x̣ṃəθḳẉəỵəm's past and present knowledge holders, based on the teachings of their own late Elders, demarcated x̣ṃəθḳẉəỵəm's core territory in the 1976 Declaration. These boundaries were drawn with respect for x̣ṃəθḳẉəỵəm relations in mind and included only what they knew to be x̣ṃəθḳẉəỵəm's core territory for which x̣ṃəθḳẉəỵəm exercised exclusive control. These boundaries did not seek to include lands known to belong to other nations, for which x̣ṃəθḳẉəỵəm would seek kinship-based protocol to access, as is x̣ṃəθḳẉəỵəm's way.

x̣ṃəθḳẉəỵəm's Title lands include:

*The lands, lakes and streams defined and included by a line commencing at Harvey Creek in Howe Sound and proceeding Eastward to the height of land and continuing on the height of land around the entire watershed draining into English Bay, Burrard Inlet and Indian Arm; South along the height of land between Coquitlam River and Brunette River and proceeding downstream taking in the left Bank of the main stream and the South Arm to the sea, including all those intervening lands, islands and waters back along the sea shore to Harvey Creek; and, the sea, its reefs, flats, tidal lands and islands adjacent to the above described land and out to the centre of the Georgia Strait.*

This description includes Tilbury Island and the surrounding waters where the Project is proposed, as can be seen in Figure 2.

At the core of x̣ṃəθḳẉəỵəm's Aboriginal Title is the right to proactive governance and control over x̣ṃəθḳẉəỵəm lands and resources — in short, the right to choose how x̣ṃəθḳẉəỵəm Title

lands will be used, the right to manage xʷməθkʷəy̓əm Title lands, and the right to the economic benefits of xʷməθkʷəy̓əm Title lands. This is also captured in the 1976 Declaration.

As with any major infrastructure project in xʷməθkʷəy̓əm territory, xʷməθkʷəy̓əm has expressed its expectation that the Crown seek xʷməθkʷəy̓əm's consent to the project and accommodate the impacts to xʷməθkʷəy̓əm's proven and asserted Aboriginal Rights and Title. The Supreme Court of Canada's decision in *Tsilhqot'in* reaffirmed the Crown's duty to consult and accommodate Indigenous nations like xʷməθkʷəy̓əm. Adequate consultation by the Crown would include seeking and obtaining the consent of xʷməθkʷəy̓əm for the Project. The Court in *Tsilhqot'in* also noted that "the right to control the land conferred by Indigenous Title means that governments and others seeking to use the land must obtain the consent of the Indigenous title holders".

xʷməθkʷəy̓əm's Title rights, and other categories of rights, have also been affected over time through negative effects of poor Crown consultation. xʷməθkʷəy̓əm's territory is highly developed and making decisions affecting rights have been done in a way that overextends xʷməθkʷəy̓əm and reduces frequency of harvesting in favour of navigating bureaucratic processes.

The Project Site is a unique and critical area of xʷməθkʷəy̓əm Title lands that was and continues to hold value for xʷməθkʷəy̓əm. The Project Site and the surrounding LSA was and continues to be accessed by xʷməθkʷəy̓əm for harvesting resources but has been severely impacted by historical and recent developments, as set out in Tam et al. (2018) and in this 19(4) Assessment. The importance of this part of xʷməθkʷəy̓əm territory is far reaching, including as it pertains to governance and control to ensure maintenance of cultural activities such as access for harvesting resources which is described in Section 4.

## 4. Context of xʷməθkʷəy̓əm Rights

Historical context is essential to understanding trajectories of change over time for each of the categories of rights and understanding the sufficiency of resources required for xʷməθkʷəy̓əm to exercise its rights. Section 4 of this 19(4) Assessment first describes trends for each category of right and those resource characteristics from the time period ranging from prior to colonization to early settlement and industrial change to the territory. This historical context is critical to understand relative importance placed by xʷməθkʷəy̓əm on these resources necessary to exercise the right.

### 4.1 Historical Baseline and Trajectories of Change for xʷməθkʷəy̓əm Rights

#### 4.1.1 General

The xʷməθkʷəy̓əm people have occupied, used, and managed its territory since time immemorial. The territory is in a temperate climate and has varied forest, marsh, estuarine, intertidal, mountainous, and open water features that "previously contained an abundance of resources" (Kew 1970; Ham 2014; North, Dunn, and Teversham 1979; Roy 2010 quoted in Tam et al. 2018, 16). xʷməθkʷəy̓əm's territory includes the Fraser River delta and is deeply entwined with xʷməθkʷəy̓əm oral histories, cultural identity, and position in historical trade networks (Musqueam Band Council 1984).

xʷməθkʷəy̓əm ancestors have a continuous history of salmon fishing and mammal harvesting, which dates back at least 8,000 years, and the present-day village has been occupied for 3,000-3,500 years and other settlements for at least 4,500 years ago (Musqueam Band Council 1984, 19). xʷməθkʷəy̓əm exercised rights over resource harvesting sites in xʷməθkʷəy̓əm territory, including salmon, eulachon, and sturgeon fishing, sealing, cranberry, wapato, eggs, waterfowl, and other wildlife harvest. Specific protocols were in place to control xʷməθkʷəy̓əm's access to these sites (Musqueam Band Council 1984; Suttles 1984 quoted in Gregory et al. 2017, 15).

Seasonal resource sites and the implements used to exploit them were owned exclusively; however, it was understood that these were to be shared across families or communities (Tam et al. 2018, 65).

Starting around 1850, settlement occurred in xʷməθkʷəy̓əm lands while commercial logging and salmon fishing commenced. From this time, the effects of urbanization were felt. Factors such as reduced access to traditional harvesting sites, resource degradation from pollution, and declining abundance of harvested resources. Other activities like sports fishing, recreational boating, and marine shipping in Canada and the USA caused more restriction in xʷməθkʷəy̓əm's ability to access to resources in the Fraser River and surrounding areas (Tam et al. 2018, 45). These pressures on the riparian ecosystem and the fish stocks it sustains were further compounded by cannery operations routinely dumping fish waste into the Fraser River. All of these changes have led to the loss and deterioration of aquatic and terrestrial habitats and areas, making the remaining intact foreshore, waterways and terrestrial areas critical to protect (Musqueam Band Council 2016; Tam et al. 2018).

xʷməθkʷəy̓əm-defined protocols determining access to lands and resources continue to be used by xʷməθkʷəy̓əm and other nations today (Woolman 2014 in Gregory et al. 2017). This includes a moratorium on fishing sturgeon despite its importance to xʷməθkʷəy̓əm culture (Tam et al. 2018, 75) and a xʷməθkʷəy̓əm requirement for other First Nations seeking access to waterways and resources in the territory to apply for permission through the xʷməθkʷəy̓əm Fisheries Department. At the same time, harvesting access restrictions imposed by DFO, such as fishing quotas, timing windows, and gear restrictions, limit xʷməθkʷəy̓əm access to fish resources (Tam et al. 2018) and DFO licencing requirements circumvents and often undermines xʷməθkʷəy̓əm access protocols. As noted in Section 3, xʷməθkʷəy̓əm Title rights to govern and control xʷməθkʷəy̓əm territory are constrained by the diminished conditions of xʷməθkʷəy̓əm's other categories of rights presented in this Section.

#### 4.1.2 *Fishing*

Resource harvesting, including salmon and other fish harvesting, are central to xʷməθkʷəy̓əm rights. Fishing has been exercised throughout the lower Fraser River with strategically placed year-round and seasonal settlements and established management protocols (Gregory et al. 2017, 21). Access to fishing sites and other resources in xʷməθkʷəy̓əm territory by other First Nations is still managed by xʷməθkʷəy̓əm based on relationships and protocols that continue to be used today (Gregory et al. 2017). Fraser River fisheries are central to xʷməθkʷəy̓əm economic and cultural well-being and although xʷməθkʷəy̓əm continues to exercise its right to fishing, as well as the right to trade and benefit economically from fishing, the ability of xʷməθkʷəy̓əm members to do so has been negatively impacted (Musqueam Band Council 1984). Non-Indigenous settlement, resource exploitation, industrialisation, colonialization, and other land, river, and marine use changes surrounding the Fraser River have resulted in dramatic cumulative changes over the past 150 years, including displacement and dispossession of the xʷməθkʷəy̓əm people from most of its territories, fishing sites, and fish

processing locations. These changes have also led to drastic declines in fish and fish habitat quality and quantity for all five salmon species, eulachon, sturgeon and other fish species, despite the importance of these species to x̣ṃəθḳẉəỵəm. The following specific, non-exhaustive, changes since non-Indigenous settlement began in x̣ṃəθḳẉəỵəm territory affecting x̣ṃəθḳẉəỵəm fishing in the Fraser River were identified by x̣ṃəθḳẉəỵəm members and documented in Tam et al. 2018:

- Loss of valuable habitat to development, river dredging, foreshore armouring, log booms and transportation, sedimentation, and pollution (46);
- Dredging is frequently seen as a cause of severe impacts to migratory fish habitats especially in combination with water temperature, water level, and water velocity changes (46; 75);
- Non-point sources of pollution from agricultural and residential runoff (89);
- Development on shorelines such as spits, jetties, and infilling (52);
- Decline of fish stocks due to overfishing and mismanagement (91);
- Implementation of restrictive fishing regulations for x̣ṃəθḳẉəỵəm members regarding when, where, and how fishing takes place (92) and restrictions on selling fish for economic benefit; and
- Increase in marine traffic, specifically large vessel, causing safety concerns for smaller fishing boats and leading to avoidance of these areas by x̣ṃəθḳẉəỵəm members (56).

Other changes include loss of critical fish habitat such as eelgrass and salt marshes, transmission of diseases from farmed to wild salmon, lack of safety and security due to conflict and tension between commercial fishers and other fishing groups and increases in small and large marine vessel traffic, and water hazards from logging and other developments (e.g., debris, snags, etc.).

The changes to the Fraser River, the Fraser estuary, and its surrounding existing and lost waterways and shorelines as well as regulations and policy intended to manage river, marine, and land uses has affected x̣ṃəθḳẉəỵəm's access to harvesting areas and led to the decline in all five salmon species, eulachon, and sturgeon populations which had been sustainably managed for millennia by x̣ṃəθḳẉəỵəm prior to settlement (Musqueam Band Council 1984; LFFA 2015 and Cohen 2012 quoted in Gregory et al. 2017, 24; Musqueam Indian Band and Firelight Research Inc. 2016, 68). A more detailed discussion of the changes observed in key fish populations is provided below.

#### 4.1.2.1 *Salmon*

Salmon is a highly valued species for x̣ṃəθḳẉəỵəm as a food source and a culturally significant species, playing a role in ceremony, community cohesion, oral histories, and the transfer of knowledge (Gregory et al. 2017, 72; 79). x̣ṃəθḳẉəỵəm members have harvested all five species of salmon: chinook, sockeye, pink, coho, and chum throughout the territory and, notably, the Fraser River where multiple fishing sites are identified by members (Gregory et al. 2017; Tam et al. 2018). For example, qiqéyt is a former village site located along the southern shore of the Fraser River (northeast of where the Pattullo Bridge is now located) and was described as an area where large quantities of salmon have been fished and dried (Point 1967 quoted in Gregory et al 2017, 19). Oral histories as supplemented by archeological and geological records of these fishing sites along with historical documents all demonstrate the



central role salmon and salmon fishing plays in xʷməθkʷəy̓əm life economically, culturally, and socially (Gregory et al. 2017, 68; Ham 2014 and Suttles 2004 in Gregory et al. 2017).

Since colonization began in xʷməθkʷəy̓əm territory, salmon stocks in the Fraser River have declined significantly. Restrictions imposed by government has played an important role in this declining trajectory. For xʷməθkʷəy̓əm members, reduced access to the fishery and declines in catch rates are the result of population declines and restrictions imposed on xʷməθkʷəy̓əm by the Crown on harvest (e.g., restricted access to fishing licences and the equipment necessary to engage in the commercial fishery) (Musqueam Band Council 1984, 50-51). The Hell's Gate slide of 1914 resulted in dramatic declines in salmon numbers and led to the imposition of a distinct food fishery, separate from the commercial fishery. Despite appeals to change the system, xʷməθkʷəy̓əm members were denied the ability to sell fish under these licences to generate wealth or benefit economically (Musqueam Band Council 1984). These systems also place restrictions on xʷməθkʷəy̓əm's salmon harvest times and sites, introduced short harvesting windows, quotas, and gear restrictions that continue to be implemented by DFO and the Province of BC to this day (Tam et al. 2018). The fisheries management system and associated restrictions have severely impacted xʷməθkʷəy̓əm members ability to use salmon for economic, cultural, and social well-being.

Such impacts resulting from historic colonial policies and regulations, and other evidence (e.g., Harris 2002) demonstrate their unjust and racist qualities. These policies and regulations resulted in significant land and resource dispossession including from salmon and other fisheries (Harris 2002). Current policies continue to be widely viewed by xʷməθkʷəy̓əm, other coastal First Nations in BC and elsewhere in Canada, and many others as unjust and an infringement on their rights (e.g., Claxton 2019). xʷməθkʷəy̓əm was resistant to these regulations. In 1997, the *Sparrow* decision found federal fisheries regulations, and the priority given to the commercial and sports fisheries, to be an infringement on xʷməθkʷəy̓əm's right to fish. The *Sparrow* decision is one example of xʷməθkʷəy̓əm's countless efforts to maintain and strengthen Rights and Title of xʷməθkʷəy̓əm territory and remains foundational for xʷməθkʷəy̓əm's current work in seeking this recognition today. Despite dramatic impacts on salmon as described in further detail below, salmon remains central to xʷməθkʷəy̓əm culture and way of life.

Despite these efforts by xʷməθkʷəy̓əm and others, sockeye salmon runs have been declining, with a major crash in 2009 that resulted in a mere 3,600 caught by xʷməθkʷəy̓əm harvesters. xʷməθkʷəy̓əm catch in more recent years for different populations of sockeye have also been at unacceptably low levels, with only 16,000 caught in 2015. Compounding this serious decline in abundance, xʷməθkʷəy̓əm fishers have not had sufficient opportunities to harvest salmon in recent years, and where openings occur, they are limited in hours. In general, the sub-dominant and off-cycle sockeye runs have declined to the point where few if any openings are being authorized, and the only opportunities to harvest are occurring every four years during the dominant return (i.e., in the last decade, these years have been 2010, 2014, 2018, and 2022). These declines and seasonal fishing restrictions are a barrier for xʷməθkʷəy̓əm to rebuild its once much higher level of participation in the salmon fishery.

#### 4.1.2.2 *Salmon populations in a declining trajectory*

Fraser River salmon stocks have been declining since colonization with exploitation of salmon for the salt salmon export fishery began in late 1820s upstream from the Project in Fort Langley. The establishment of commercial fisheries in the 1870s contributed to additional pressure on the salmon stocks and xʷməθkʷəy̓əm access. This was due to the export of salmon regionally and

internationally, which required much larger quantities of fish compared to traditional trade that took place within Indigenous relationships. As commercial fishing was introduced, Crown regulations and practices were introduced, such as unfair licensing and fishing net restrictions being implemented. As highlighted above, these rules caused a dramatic reduction in xʷməθkʷəy̓əm's access to the fishery (Musqueam Band Council 1984, 32; Tam et al. 2018, 44-45).

Industrialization and urbanization along the Fraser River that have also negatively impacted valuable habitat and increases in fishing activities and vessel traffic are all factors that have impacted the salmon population for all five species.

Dredging along the Fraser River has significantly altered the Fraser River and its estuary, with the removal of approximately 140 million cubic metres (m<sup>3</sup>) of material since the 1950s required for large vessel navigation (McLean et al. 2006 in Nelitz et al. 2018). Dredging in the South Arm of the Fraser River has lowered the channel bed elevation by three metres in 30 years, increasing the velocity of the water and making much of the river no longer usable by salmon and other species (Johannes et al. 2011 and Tam et al. 2017 in Nelitz et al. 2018).

The first decade of the 20th century was the last of the big sockeye runs in the Fraser River. This decline was already evident by the end of the 19<sup>th</sup> century, with Charlie Capilano remarking to the BC Fishery Commission in 1892 that the salmon “are nothing now to what they were when he was a boy (Caplin, interview by B.C. Fisheries Commission in 1892 in Wilmont 1892, 131).” The Hell’s Gate slide worsened the situation and almost destroyed the sockeye run when it occurred during a dominant run. The commercial catch of Fraser River sockeye was greatly reduced from 20 million pre-slide to less than 2 million (Musqueam Band Council 1984, 50-51). In 2022, for example, the Pacific Salmon Commission recorded 1.4 million sockeye salmon in the catch data (Pacific Salmon Commission 2022). Indeed, DFO recognizes the negative impacts facing Pacific salmon from climate change, habitat loss, and fishing pressures with many populations “on the verge of collapse”, a fact that is underlined by the \$650 million investment in the Pacific Salmon Strategy Initiative (DFO 2021a). More recently, the Pacific Salmon Foundation reported (2025):

*spawner abundance has crept above the long-term average in 2023 but a poor return in 2024 put total abundance well-below the long-term average and below the 2009 levels that triggered a federal inquiry, known as the Cohen Commission. An unexpected surge of sockeye in 2025... may offer a hopeful sign for Fraser sockeye. While these recent increases are encouraging, the potential for high levels of pre-spawn mortality as sockeye migrate to their spawning grounds (up to 90% in some years) necessitates cautious optimism for 2025.*

Annual sockeye catch numbers during non-cycle years are extremely low for xʷməθkʷəy̓əm, with catch numbers of 3,600 in 2009, 84,000 in 2011, and 16,000 in 2015 when compared to cycle years when the catch rates are higher, 158,000 in 2014 (Musqueam Band Council 2016). Responses to a 2016 household census carried out among the xʷməθkʷəy̓əm membership, showed that not a single member found that the quantity of salmon harvested in the previous year had met the FSC purposes (Musqueam Indian Band 2017). This not only limits xʷməθkʷəy̓əm members' ability to pass important cultural knowledge to future generations but has serious health and economic impacts. A 2022 Scientific Advisory report also identified the threat to the Fraser River sockeye as “extreme” with a prediction that a 71-100% population decline is anticipated over the next three sockeye salmon generations (DFO 2022a).

The effects of climate change are expected to impose greater challenges on the resilience and survival of salmon at various life cycles, with some species more sensitive than others (Crozier et al. 2021; 2023). Combined with existing cumulative effects, climate change is also expected to negatively affect salmon's ability to access spawning areas to sustain populations in the Fraser River. Additionally, rising sea temperatures are causing increased concerns that sea lion and seal territories are expanding further north into cooler waters, increasing the predation pressure in xʷməθkʷəy̓əm territory on already declining salmon populations (Walters et al. 2020).

Sockeye salmon have been found to spend less time in habitats that have been altered by human development and have been negatively impacted by the changes occurring along the Fraser River (Nelitz et al. 2018). Other salmon populations have experienced similar effects to the sockeye in the Fraser River, with xʷməθkʷəy̓əm members noting that pink salmon populations have dropped significantly, while DFO and other government bodies observing declines in Fraser River coho and chinook populations (Nelitz et al 2018, 16).

The declining trajectory of Fraser River salmon population change over this long historical temporal period, combined with ongoing land, river, and marine use changes, and the continued unjust fisheries management practices, will continue to impact xʷməθkʷəy̓əm access to and catch rates for salmon, including species like sockeye, at fishing sites and times in the future (Musqueam Band Council 1984).

#### 4.1.2.3 *Eulachon*

Eulachon is a rich, oily smelt that spawns in the Fraser River gravel bars that used to occur more abundantly across the riverbed (Golder Associated Ltd. 2021, 24). The species is culturally, socially, and economically significant for xʷməθkʷəy̓əm. In fact, fishing camps along the mouth of the Fraser River were used specifically for eulachon harvesting, drying, and smoking (Gregory et al. 2017). The species was once so plentiful that many members describe how you could easily pick them out of the water with baskets (Gregory et al. 2017, 86).

The Fraser River eulachon population has been declining since at least the 1960s — a concern raised to the Crown as early as the 1950s and 1960s (Lower Fraser Fisheries Alliance 2015, 29). Commercial harvesting of eulachon began in the 1870s with annual average catches of 20 tonnes per year from 1980 to 1990 (DFO 2022c). Since then, the Fraser River eulachon population has declined significantly with DFO reporting overall stock biomass declining from 302 tonnes in 1995 to only 66 tonnes in 2014, a reduction of nearly 80% (Musqueam Band Council 2016). xʷməθkʷəy̓əm members observed these declines and beginning in the late 1980s, reduced the catch and later introduced a moratorium on fishing eulachon (Musqueam Indian Band and the Firelight Group 2022). DFO closed the commercial fishery in 1997 due to low population levels (DFO 2022c).

Overharvesting, harvesting of other species where eulachon is bycatch, climate change, forestry, industrial and dredging activities, as well as pollution entering the Fraser River have caused the removal and destruction of eulachon habitat used for spawning, egg, and larval stages in the Fraser River (Musqueam Indian Band and Firelight Research Inc. 2016; COSEWIC 2011). Many types of activities, including industrialization and urbanization along the Fraser River have contributed to these stressors. The above-mentioned population changes and ongoing threats led the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) to declare Fraser River eulachon population as Endangered in 2011. These factors and others are identified by COSEWIC as threats and limiting factors affecting the eulachon population in

the Fraser River, noting that this more southern population is the most severely affected by climate change impacts. The species is also preferred by many predator species such as seals, sea lions, bald eagles, and other fish. And, as these species are starting to rebound, the likelihood of x̣ẉṃə̣θ̣ḳẉə̣ỵəm being able to re-build the fishery for member participation remains uncertain (see also DFO 2025).

The decline of eulachon populations in the river has resulted in x̣ẉṃə̣θ̣ḳẉə̣ỵəm members rarely having access to eulachon for food or ceremonial purposes. Many x̣ẉṃə̣θ̣ḳẉə̣ỵəm members have not had the opportunity to harvest eulachon due to these declines. The reduction of availability has affected knowledge transmission about this species and fishing and drying methods, and a loss of the significant social gatherings that the eulachon spring migrations once brought to the community (Gregory et al. 2017, 42). x̣ẉṃə̣θ̣ḳẉə̣ỵəm members have observed only a few places remain along the Fraser River where you will find eulachon, including Canoe Pass downstream of Tilbury Island (Musqueam Indian Band and Firelight Research Inc. 2016).

#### 4.1.2.4 *Sturgeon*

Sturgeon was historically an important food for x̣ẉṃə̣θ̣ḳẉə̣ỵəm and, today, continues to have a strong cultural importance for members (Musqueam Indian Band and Firelight Research Inc. 2016). When fishing for sturgeon, x̣ẉṃə̣θ̣ḳẉə̣ỵəm members refer to them as ʔeləx, meaning “sibling” or “cousin of the opposite sex”. Sturgeon was once so abundant in the Fraser River that excess harvest was used for trade, meaning that the species played a key role in x̣ẉṃə̣θ̣ḳẉə̣ỵəm’s society and economy (Gregory et al. 2017, 68-69). For example, x̣ẉṃə̣θ̣ḳẉə̣ỵəm would trade sturgeon for shellfish or scallop shells as these were not as abundant in x̣ẉṃə̣θ̣ḳẉə̣ỵəm territory as in other territories. For x̣ẉṃə̣θ̣ḳẉə̣ỵəm members, a sturgeon represents more than just a fish; they are a gateway to x̣ẉṃə̣θ̣ḳẉə̣ỵəm language, territory, health, technology, and society. In a recent x̣ẉṃə̣θ̣ḳẉə̣ỵəm-led study, members shared their knowledge on the important roles that sturgeon plays in x̣ẉṃə̣θ̣ḳẉə̣ỵəm, including in knowledge transfer — even the act of eating sturgeon with an Elder promotes the sharing of knowledge to future generations (Musqueam Indian Band and Firelight Research Inc. 2016, 152). A break in practice will negatively affect knowledge, which may result in a permanent impact where knowledge is lost forever. x̣ẉṃə̣θ̣ḳẉə̣ỵəm used several sites for sturgeon harvest according to oral history and archaeological evidence, including the qiqéyt village near today’s Pattullo Bridge; in fact, qiqéyt village is considered a once prime sturgeon fishing spot by x̣ẉṃə̣θ̣ḳẉə̣ỵəm members (Gregory et al. 2017, 73). x̣ẉṃə̣θ̣ḳẉə̣ỵəm members have also speared sturgeons in various places across the Fraser River (Lord 1866). Areas closer to Tilbury Island have been identified as sturgeon habitat due to the presence of back eddies which provide calmer waters where fish will rest and aggregate (Nelitz et al. 2018; Tam et al. 2018, 88).

Sturgeon exploitation began in the late 1820s in Fort Langley at the same time as the salt fishery. Sturgeon populations declined significantly in the 1900s in the Fraser River, when overharvesting by non-Indigenous fisherman and industrialization took place. In a 1902 letter from x̣ẉṃə̣θ̣ḳẉə̣ỵəm to the Minister of Marine and Fisheries, x̣ẉṃə̣θ̣ḳẉə̣ỵəm noted that “the sturgeon have now been destroyed in the Fraser” (Musqueam Indian Band 1902). White sturgeon continue to face threats due to habitat alteration or removal resulting from construction of dikes, dredging, gravel mining, commercial fisheries by-catch, mortality from catch-and-release fisheries, introduced species, and a decline in eulachon and other food species that juvenile sturgeon prey upon (COSEWIC 2012; DFO 2022b; Musqueam Band Council 1984; Gregory et al. 2017; Tam et al. 2018). In a 1922 letter to Indian Affairs, x̣ẉṃə̣θ̣ḳẉə̣ỵəm, Katzie, Langley and Coquitlam First Nations all noted that one fisher’s use of cross-lines in the Fraser River caused such a severe impact that “in a year, there was no sturgeon to be seen”

(Coquitlam First Nation et al. 1922). This decline is particularly pronounced in the Lower Fraser River population in x̣ṃəθḳẉəỵəm territory's lower Fraser Valley where the species occurs in a small number of locations (COSEWIC 2012). A moratorium, led by x̣ṃəθḳẉəỵəm in the 1990s, was placed on sturgeon harvesting in the Lower Fraser River and continues to be upheld by x̣ṃəθḳẉəỵəm, which is intended to rebuild the population so that a sustainable x̣ṃəθḳẉəỵəm harvest will occur in the future (Tam et al. 2018, 75; DFO 2022b). The Lower Fraser River white sturgeon population was also listed as a threatened species under the federal *Species at Risk Act* in 2012 (COSEWIC 2012). And while the DFO does not permit recreational or commercial take fisheries, they have restricted recreational fishing of sturgeon to catch and release starting in 1990, which x̣ṃəθḳẉəỵəm does not support (COSEWIC 2012; DFO 2022b). Catch and release is identified by COSEWIC (2012) as an activity that threatens species recovery.

The impacts from the sturgeon population declines are deeply felt by x̣ṃəθḳẉəỵəm members, and have resulted in a greater dependence on salmon, eulachon and other food sources to address nutritional and other needs (Tam et al. 2018; 71). However, as noted above, there are also declines in salmon and eulachon (and moratoriums). Many x̣ṃəθḳẉəỵəm members today have never harvested sturgeon, and members are concerned the traditional knowledge on these species will be lost if future generations are unable to harvest sturgeon (Musqueam Indian Band and Firelight Research Inc. 2016). Despite the drastic impacts this has had on x̣ṃəθḳẉəỵəm, sturgeon remains an extremely important species to x̣ṃəθḳẉəỵəm culture. Recovery measures continue to be implemented with the intent of enabling future generations to rebuild this important part of the x̣ṃəθḳẉəỵəm way of life.

#### 4.1.3 River Shoreline and Terrestrial Plant Harvesting

Plant harvesting is an important practice for x̣ṃəθḳẉəỵəm, not only as a food source, but also for artistic, ceremonial, cultural, and medicinal purposes. Plant harvesting has also been identified by x̣ṃəθḳẉəỵəm as an important social activity in which knowledge and oral histories are passed down (Musqueam Indian Band and Firelight Research Inc. 2016). Common plants harvested by x̣ṃəθḳẉəỵəm members along the Fraser River include blueberries, mosses, salmonberries, bog cranberries, cattails, huckleberry, wapato, seaweeds and kelp, medicinal plants, crab-apples, various tree species such as yew, alder, and Western red cedar (Musqueam Band Council 1984, 34-35). ṣc̣əlex̣ẉq̣əñ is a x̣ṃəθḳẉəỵəm campsite located near Ladner which has been used for harvesting cattails that thrive in the boggy environment the Fraser River foreshore provides (Musqueam Indian Band and Firelight Research Inc. 2016, 125).

Many of these resources can no longer be harvested by x̣ṃəθḳẉəỵəm members, such as cranberries. Other resources, such as seaweed, wapato, and kelp can be found but are not harvested by x̣ṃəθḳẉəỵəm members due to perceived or real contamination, sense of safety, lack of intergenerational knowledge transfer, among other factors. Because there are so few remaining plants and medicines that are accessible and considered safe for harvest, these areas are very important to x̣ṃəθḳẉəỵəm.

x̣ṃəθḳẉəỵəm families managed their own productive plant grounds to harvest from highly productive berry plants, fern roots, and wapato. Stewardship practices provide opportunity for future generations, demonstrating the importance of these foods not only for Musqueam diets but also for social organization and land management (Musqueam Band Council 1984, 35). Currently, x̣ṃəθḳẉəỵəm is in the process of revitalizing Burns Bog's harvested resources so that the area can be used for teaching purposes.

The strong cultural connection to plants is also found in the etymology of the word “xʷməθkʷəy̓əm” or “Musqueam”, which translates to “place of məθkʷəy̓”. məθkʷəy̓ is a river plant that once grew abundantly in the Fraser River delta and tidal flats, was often used by xʷməθkʷəy̓əm members, and appears in a xʷməθkʷəy̓əm origin story (Gregory et al. 2017, 15).

šxʷiçəm (Canoe Pass) is not only an important xʷməθkʷəy̓əm fishing area, but it is also important for xʷməθkʷəy̓əm plant harvest. The place name comes from the practice of cutting rushes to let salmon pass through.

xʷməθkʷəy̓əm members knew which areas were good for harvesting and which ones to avoid to protect against overharvest. This knowledge was put in practice and passed down through generations and used when relations would visit from other places. Though this knowledge and practice, xʷməθkʷəy̓əm managed plant harvesting, fulfilling their stewardship responsibilities.

Important plant species and harvesting locations used and managed by xʷməθkʷəy̓əm have drastically declined over time. The following provides a non-exhaustive list of changes since non-Indigenous settlement began in xʷməθkʷəy̓əm territory affecting river shoreline and terrestrial plant harvesting:

- Erosion, destruction, and hardening of beaches, marshes and other coastal features due to infrastructure on shorelines (Gregory et al. 2017, 15);
- Changes to river and riparian features and habitats by river training, armouring, and dredging;
- Draining of bogs and changing of water quality of bogs by infrastructure and other development, including from run off from streets;
- Crowding out native species and associated introduction of new pests and changes to ecosystems by introduction and establishment of invasive plants (Musqueam Indian Band and Firelight Research Inc. 2016);
- Contamination of medicinal plants by marine and terrestrial pollution including ongoing water vessel and road traffic (Tam et al. 2019);
- Overharvesting (Gregory et al. 2017, 102); and
- Access restrictions (Gregory et al. 2017, 15).

Shorelines at the mouth of the south arm of the Fraser River and village sites near Tilbury Island have been highlighted by xʷməθkʷəy̓əm members as some of the last remaining natural areas where they are still able to harvest plants for food, medicine, art, and ceremonial purposes (Tam et al. 2019, 19; Musqueam Band Council 1984, 34-35). Some of the plants found in these increasingly rare environments in xʷməθkʷəy̓əm territory, such as stinging nettles, are medicinal and cultural plants for xʷməθkʷəy̓əm members (Musqueam Indian Band and Firelight Research Inc. 2016, 125,130). However, the quality and quantity of available plants in this area are considered insufficient for practicing xʷməθkʷəy̓əm rights, in part because harvestable plants occur on private lands where xʷməθkʷəy̓əm members do not have access or are in areas that may be contaminated, which discourage many xʷməθkʷəy̓əm members from harvesting medicinal plants from these shorelines (Tam et al. 2018, 93). In fact, many xʷməθkʷəy̓əm members indicate that they are limited to harvesting berries in Burns Bog within the LSA. The long history of urbanization and land use changes in xʷməθkʷəy̓əm territory has required members to rely more heavily on aquatic resources, such as salmon (Tam et al. 2019). xʷməθkʷəy̓əm has experienced substantial losses in the ability to practice plant harvesting



rights, a fact that highlights the importance of the few remaining natural areas along the Lower Fraser River for x̣ṃəθḳẉəỵəm.

#### 4.1.4 *Hunting*

The Fraser River delta is part of the Pacific flyway and is an area where x̣ṃəθḳẉəỵəm hunt and trap birds, including mallard, widgeon, pintail, teal, murres, grebes, loons, scoters, scaups and harlequins (Musqueam Band Council 1984, 36), as well as Canadian geese, snow geese, swans, brandt, blackduck, grouse, pheasant<sup>6</sup>, and duck and gull eggs (Musqueam Band Council 1984, 36). Harvesting areas include riverbanks, marshes, and meadows throughout the Fraser River delta (Musqueam Band Council 1984, 51).

Harvest of ducks and geese provide feathers for community feasts and ceremonies and is a key ingredient in duck soup, a featured dish in gatherings. This dish not only feeds everyone at these events, but the act of sharing it with the community is an important social practice and pays respect and acknowledges the family host (Musqueam Indian Band and Firelight 2016, 104).

x̣ṃəθḳẉəỵəm hunters once harvested large land mammals like deer, elk and bear in the forests behind village sites and along local streams (Musqueam Band Council 1984; Tam et al. 2018), including bog habitat that hosted, deer, bear (Musqueam Indian Band and Firelight 2016). Hunting also occurred for marine mammal species like whales (Tam et al. 2018), as well as trapping smaller furbearers like muskrat (Musqueam Band Council 2016).

x̣ṃəθḳẉəỵəm historically maintained complex trade networks up and down the coast and into the interior. x̣ṃəθḳẉəỵəm's mastery of controlling trading terms was noted by early colonial powers, such as in 1838 when James Douglas noted his frustration of a less prosperous fur trade market than usual for himself due to x̣ṃəθḳẉəỵəm control diverting where the fur was traded (University of British Columbia n.d.).

Even in areas that continue to be hunted today, x̣ṃəθḳẉəỵəm faces harvesting restrictions and a dramatic decline in the species quantity and quality available. Elk, for example, were once present throughout x̣ṃəθḳẉəỵəm territory, but killed off throughout the 1900s. The animal was later reintroduced in the 1990s to the Coquitlam and Indian watersheds. However, x̣ṃəθḳẉəỵəm members can only obtain one elk license out of the Indian watershed. Due to these historic and ongoing impacts, x̣ṃəθḳẉəỵəm is no longer able to harvest large game in x̣ṃəθḳẉəỵəm territory.

The loss of hunting in x̣ṃəθḳẉəỵəm territory has forced x̣ṃəθḳẉəỵəm members to travel to other territories to harvest large game. This change represents a loss of resilience where x̣ṃəθḳẉəỵəm members must rely on their relationship with outside neighbours. This change also represents a loss of cultural continuity by limiting opportunities to teach hunting practices and has direct effects on health and wellbeing (see the following sections of this 19(4) Assessment). Today, only a handful of x̣ṃəθḳẉəỵəm members continue to know how to process meat for consumption and other uses. These losses experienced by the x̣ṃəθḳẉəỵəm remains within the living memory of certain members, particularly among the older generations.

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<sup>6</sup> Pheasants were introduced but were hunted following introduction.

As a result, x̣ẉṃə̣θ̣ḳẉə̣ỵəm has turned to harvesting birds with greater frequency, and this bird hunting practice has also changed.

The following provides a non-exhaustive list of changes since non-Indigenous settlement began in x̣ẉṃə̣θ̣ḳẉə̣ỵəm territory affecting hunting, primarily bird hunting:

- Complete loss of hunting large game in x̣ẉṃə̣θ̣ḳẉə̣ỵəm territory;
- Loss of bird habitat to a range of developments related to transportation and infrastructure, logging, and other industries;
- Access restrictions to hunting areas due to industrial, agricultural, and residential developments;
- Scarcity of areas that can support hunting activities;
- Government restrictions on hunting that were historically built on discriminatory policies, including general firearm restrictions, as well as specific restrictions in populated areas;
- Pollution, including noise and light pollution, changing bird behavior and habitat; and
- Concerns of pollution are affecting the willingness of x̣ẉṃə̣θ̣ḳẉə̣ỵəm community members to harvest waterfowl and other species.

These pressures have led to drastic declines in the ability for x̣ẉṃə̣θ̣ḳẉə̣ỵəm members to exercise the right to hunt in x̣ẉṃə̣θ̣ḳẉə̣ỵəm lands and a reduction in the condition of the resources, which has been experienced by some within their lifetimes (Tam et al. 2018, 103-104). Despite these pressures, x̣ẉṃə̣θ̣ḳẉə̣ỵəm members continue to hunt waterfowl within the Lower Fraser Hunting Area, including areas near Tilbury Island (BC MFLNRO 2015) as outlined in the next Section. This change in hunting has also resulted in a dramatic change from a diet primarily comprised of wild game and fish to store-bought produce, and reduction in materials for feasts and ceremonies (Tam et al. 2018). Increasing development in the Lower Fraser Hunting Area raises concerns among x̣ẉṃə̣θ̣ḳẉə̣ỵəm members that there will be more restrictions on hunting in the area.

#### *4.1.5 Cultural Continuity, including Sense of Place and Identity*

Culture is a way of life and composed of practices and beliefs such as knowledge, language, norms, and protocols; it is central to every part of a x̣ẉṃə̣θ̣ḳẉə̣ỵəm member's life, including social relationships, sense of identity and purpose, spirituality, and ceremonies. Opportunities to practice and pass on x̣ẉṃə̣θ̣ḳẉə̣ỵəm's unique culture have declined over time. x̣ẉṃə̣θ̣ḳẉə̣ỵəm has occupied the Lower Fraser River for thousands of years and is documented in oral histories. Old villages and camp sites are collective representations of x̣ẉṃə̣θ̣ḳẉə̣ỵəm's ancestral ties to the territory and cannot be viewed in isolation. Over 8,500 years ago, the village of səẉq̣ẉeqsən was located under what is now the Alex Fraser Bridge, immediately upstream from Tilbury Island, where the mouth of the Fraser River was situated before the delta expanded. This site is associated with burial grounds and other evidence of human habitation and use (Gregory et al. 2017, 57). Further upstream, evidence shows continuous presence of x̣ẉṃə̣θ̣ḳẉə̣ỵəm ancestors from 8,000 to 9,000 years ago around, for example, St. Mungo's cannery known as q̣ẉəq̣ẉəʔapəp, at what is now the closed Glenrose Cannery site (Gregory et al. 2017, 17). sc̣ələx̣q̣əñ is a x̣ẉṃə̣θ̣ḳẉə̣ỵəm camping site in the Ladner area, near the south bank of the Fraser River's south arm and a seasonal fishing village close to a major cattail harvesting area (Musqueam Indian Band and Firelight Research Inc. 2016, 125). Old village and camp sites and place names are all interconnected and demonstrate x̣ẉṃə̣θ̣ḳẉə̣ỵəm ancestral ties to the territory

and are spaces that connect xʷməθkʷəy̓əm to their heritage. In another example, the named site of ʔəqtinəs (or “long shore”), located across the Fraser River from the Project Site, contributes to sense of place and identity through their meaning to contemporary xʷməθkʷəy̓əm, and by tying together the past, present, and the territory. In addition, an old village site known as səwq̓wəqsən is located approximately five kilometers upstream of the Project Site, providing a window into evidence of extensive historical use of the area (BC EAO 2022a, 41). Many xʷməθkʷəy̓əm people consider sites such as ʔəqtinəs to be sacred or spiritually relevant and were used by members to fish sturgeon. As such, xʷməθkʷəy̓əm members believe that these sites are not to be disturbed.

The pressures of the timber industry were felt by xʷməθkʷəy̓əm by 1861, when land grants for lumber operations encroached upon and surrounded the xʷməθkʷəy̓əm reserve. The addition of other industrial pressures of canneries and urban expansion in the 1870s led to “profound displacement of the xʷməθkʷəy̓əm people from their traditional territory” (Gregory et al. 2017, 22). These and other losses, like the destruction of wild salmon streams throughout the region, have had “immense impacts on xʷməθkʷəy̓əm’s cultural identity and persistence”, leading to large gaps in knowledge and language transmission (Musqueam Indian Band and Firelight Research Inc. 2016, 181-182). Government policies and programs have contributed to further change, such as: establishment of reserve lands and control over xʷməθkʷəy̓əm movement and use of lands, enforcement of the *Indian Act* on access to lawyers and voting rights, and residential schools. These and more resulted in a serious deterioration of cultural continuity, sense of place and identity, governance, with entire generations losing the language (Musqueam Indian Band and Firelight Research Inc. 2016).

More recent effects of increased river users and shipping traffic, changes to the river morphology, the smell and look of the river, and elimination of landing sites from urban expansion and industrial developments results in decreased enjoyment on the river, and the reduction in travel within the territory using preferred means like a canoe; not only is it not safe, but landing sites at the few remaining harvesting locations are no longer available (Gregory et al. 2017; Musqueam Indian Band and Firelight Research Inc. 2016). Specifically, the increase in tug traffic along the Fraser River has also made travelling more dangerous, as tug vessels frequently ignore speed limits which creates hazardous conditions for xʷməθkʷəy̓əm members attempting to travel to hunting locations. Each new development along the river increases tug traffic, which creates more restrictions to xʷməθkʷəy̓əm’s ability to access the few remaining harvesting areas.

Beyond impacting the ability of xʷməθkʷəy̓əm members to travel to harvesting sites, recreational and cultural practices such as canoe racing and general river use have also been negatively affected by the increase in tug traffic in the river.

Given the rate and scale of cultural loss and the limited availability of human capacity and natural resources that remain to support these practices, what remains is “invaluable to xʷməθkʷəy̓əm’s cultural continuity, documentation, and revitalisation efforts” (Musqueam Indian Band and Firelight Research Inc. 2016, 156). These are critical for social connection, identity, as well as livelihood. xʷməθkʷəy̓əm members continue to visit old village sites with their families to share knowledge of connection to the area (Gregory et al. 2017), and a large proportion of xʷməθkʷəy̓əm participates in cultural activities, including activities at the big house, weaving, and wood carving (Musqueam Band Council 1984) and fishing along the Fraser River (Musqueam Indian Band and Firelight Research Inc. 2016). Materials required to carry out these activities — like wood, feathers, shells, bullrushes and other items for dancers, cedar and spruce roots, and cedar and cherry bark for weavers, and cedar slabs for carvers — are

increasingly difficult to obtain (Musqueam Band Council 1984). The Fraser River as a whole is an area for transmission of xʷməθkʷəy̓əm fishing knowledge, including near the George Massey Tunnel immediately downstream from Tilbury Island (Musqueam Indian Band and Firelight Research Inc. 2016, 150-151). Fishing practices are inherently social, as families and friends gather to prepare and preserve fish, share and distribute fish, and feast, while some families practice a traditional ‘first salmon rite’ (Musqueam Band Council 1984). Other cultural practices like fishing, hunting, trapping, and plant gathering are discussed in other Sections.

#### 4.1.6 *Health*

Considering historical baseline, xʷməθkʷəy̓əm health has long been understood as a reflection of the holistic wellbeing of their people and the community as a whole. Unlike Western definitions that tend to define health primarily by the presence or absence of illness, xʷməθkʷəy̓əm understandings of health encompass physical, mental, emotional, spiritual, and cultural wellness, recognizing that these dimensions are interconnected and mutually reinforcing. Health is not treated in isolation from other components of life; rather, it is inherently relational and inseparable from culture, spiritual practice, the environment, and the broader social and political context.

Prior to colonization, xʷməθkʷəy̓əm people maintained a physically active, culturally rich, and socially cohesive way of life, supported by abundant access to nutrient-rich traditional foods harvested from their territory and through protocol the territory of their kin. The health and wellness of individuals and the population as a whole were sustained through cultural practices, intergenerational knowledge-sharing, and sustainable harvesting methods that reinforced social cohesion, nurtured spiritual integrity, and safeguarded the conditions for “good health with good longevity” across generations (First Nations Health Authority n.d.).

As described throughout this Assessment, xʷməθkʷəy̓əm diets included a wide range of seafood, birds, large land mammals, and a rich variety of harvested plants used for both food and medicine. The procurement of these foods required sustained physical activity through fishing, hunting, gathering, and food preparation practices that were embedded in daily life. As noted in the Human Health Chapter of the Proponent’s EAC Application, this “high level of physical exercise and the consumption of high nutritional value foods [...] resulted in a low level of chronic disease” (Doran 2004; Receveur et al. 1997). Beyond the physical value and nutritional sustenance that food procurement provided, participation in seasonal harvesting cycles also reaffirmed kin relations, enacted teachings, maintained ceremonies, and fulfilled responsibilities to community and territory. Nutrient-rich foods were thus obtained through practices that carried cultural and spiritual meaning while educating the next generation, such that nourishment was not only physical, but also relational and ceremonial.

Mental and spiritual health have likewise always been inseparable from the social, cultural, and ecological systems that sustain community life. Historically, psychological wellness was supported through strong kinship networks, active participation in cultural and harvesting activities, and the maintenance of reciprocal relationships with kin, the land, and waters. Participation in seasonal harvesting cycles provided more than physical sustenance; these practices reaffirmed kin relations, enacted teachings, maintained ceremonies, and fulfilled responsibilities to community and territory. Harvesting practices were integral to holistic systems of wellness, functioning as key vessels through which culture was practiced and sustained, intergenerational knowledge was transmitted, social cohesion was reinforced, and spiritual integrity was nurtured. Together, these practices contributed to multiple health-protective characteristics and supported long-term wellbeing (First Nations Health Authority n.d.). The

harvesting of key species such as salmon, sturgeon, and waterfowl provided high nutritional value while also fostering opportunities for cultural and spiritual practice (Musqueam Indian Band and Firelight Research Inc. 2016).

Through time, xʷməθkʷəy̓əm members have utilized the lands and waters of xʷməθkʷəy̓əm territory and developed and maintained kinship ties with neighbouring communities to ensure that all communities access the foods and medicines that were required to maintain holistic health. The lands and waters within xʷməθkʷəy̓əm territory provided seasonal and year-round food, medicines, and other resources (Kew 1970 in Musqueam Indian Band and Firelight Research Inc. 2016, 23). Combined with these resources and trade through kinship ties with neighbouring communities, xʷməθkʷəy̓əm members had the necessary resources to maintain holistic health. Fishing, in particular, has long been essential to xʷməθkʷəy̓əm survival, not only as a primary source of food but also as a social and ceremonial practice deeply tied to cultural continuity. Relationships with water and marine species have therefore encompassed intertwined physical, emotional, spiritual, and relational dimensions of health. The ability to fish—whether for food, social, or ceremonial purposes—is inseparable from community wellbeing, social cohesion, and the intergenerational transmission of knowledge, language, and culture.

Individual and collective wellbeing were further nurtured through highly developed social and kinship systems that emphasized collective responsibility to one another and to the land. xʷməθkʷəy̓əm society was shaped by nuanced social structures in which some animals, regarded as kin alongside human relations, played an essential role in sustaining community wellbeing. Food and trading systems were central to social cohesion, with the abundance of the Fraser River supporting complex trade networks and inter-village relationships (Suttles 1984 in Musqueam Indian Band and Firelight Research Inc. 2016, 18). These networks were reinforced through intermarriage, gifting, and ceremonies that embedded food sharing within cultural practice and governance. Such systems supported food security while simultaneously strengthening social and kinship relations, demonstrating that health and wellbeing were upheld collectively as well as individually (Musqueam Indian Band and Firelight Research Inc. 2016, 79).

The arrival of European explorers, and subsequent generations of colonization introduced a series of profound cumulative impacts that resulted in significant declines in xʷməθkʷəy̓əm health and wellbeing. Even prior to physical contact, European diseases decimated populations of Indigenous communities within the region (Harris 1994). Such epidemics, introduced by European explorers, trade, and settlement, continued in numerous subsequent waves for decades to come. This undermined physical health and weakened the community's ability to sustain traditional practices and food systems. These early impacts were compounded by colonial policies such as the reserve system under the *Indian Act*, which undermined all aspects of xʷməθkʷəy̓əm ways of life. Colonial institutions and policies, including Indian residential schools, Indian hospitals and sanatoriums, the Sixties Scoop, and the banning of ceremonies imposed colonial structures that forcibly and violently removed xʷməθkʷəy̓əm people from their cultural practices, kinship systems, and health-sustaining relationships with land and water. These policies created long-term social dislocation and trauma that has been and continues to be carried forward across generations.

This period also saw the imposition of Western healthcare systems that failed to serve Indigenous peoples in the same way they served non-Indigenous populations. In many cases, these systems acted as mechanisms of further harm, with Indigenous people removed from their communities and subjected to invasive or violent treatment in Indian hospitals and from

visiting western healthcare providers. Indigenous health systems were subsumed within Western frameworks that failed to recognize Indigenous approaches to health and healing. Racism and culturally unsafe health care practices persist within the mainstream healthcare system to this day.

Land dispossession further compounded these impacts. This complex and extensive process was wide-ranging, from imposition of permitting and other exclusionary restrictions on access to lands and resources, to dramatic physical alteration of ecosystems, landscapes, and riverscapes. Also, the enforcement of the reserve system reduced access to traditional food and medicine, forcing increasing reliance on store-bought and processed foods with lower nutritional value (Doran 2004). Poverty, overcrowded housing, poor sanitation, and lack of access to clean water intensified health challenges. Restrictions on fishing and other harvesting practices—whether for food, social, or ceremonial purposes—undermined nutrition, cultural continuity, intergenerational knowledge and language transmission, and social cohesion, resulting in material harm to community wellbeing.

The cumulative impacts of these colonial processes have been profound. The decline in health outcomes among xʷməθkʷəy̓əm people from pre-contact to the present day is expressed in physical, social, and emotional challenges, as well as systemic and intergenerational trauma. These impacts are reflected in disproportionately high rates of chronic illness, mental health challenges, substance use, and other health indicators, all of which are linked to structural determinants of health rooted in colonization.

Despite these harms, cultural practices, including fishing and continued cultivation of reciprocal relationships with land and water, remain central to xʷməθkʷəy̓əm concepts of health and healing. As such, impacts to land, waters, and the ability to carry out health-sustaining practices continue to have direct and far-reaching implications for community wellbeing today.

#### *4.1.7 xʷməθkʷəy̓əm Stewardship Efforts to Protect and Conserve Wild Fraser River Species*

xʷməθkʷəy̓əm stewardship of the territory, including the species that inhabit it, has always been a communal responsibility that is taken very seriously. Historically, families owned some harvesting areas while allowing for reciprocal use and access within the community along kinship lines. For example, family access and management of berry and fishing areas ensured sustainable harvest for future generations (Gregory et al. 2017; Musqueam Band Council 1984, 35). At the time of contact, the xʷməθkʷəy̓əm people exercised these rights and control over use and access within the territory. For example, families from outside communities wishing to access fish harvesting and other resource-harvesting areas in the territory were required to follow specific protocols based on kinship and inter-village ties, including at łəqtinəs (BC EAO 2022a, 41). Historic and traditional protocols determining access rights continue and are an exercise of xʷməθkʷəy̓əm's Aboriginal Right to fish. Today, xʷməθkʷəy̓əm requires other First Nations seeking access to waterways and resources in the territory to apply for permission through the xʷməθkʷəy̓əm Fisheries Department. This takes place, for example, for Vancouver Island Nations wishing to access the Fraser River.

Throughout history, xʷməθkʷəy̓əm has advocated for the conservation of Fraser River fish species. As early as 1892, Charlie Capilano raised concerns about declining fish populations when speaking to the BC Fisheries Commission (Caplin, interview by BC Fisheries Commission in 1892 in Wilmont 1892). Throughout the early 1900s, xʷməθkʷəy̓əm, along with neighboring communities, sent letters to federal and provincial governments highlighting that the use of



harmful fishing methods was causing the decline of salmon and sturgeon in the Fraser River (Musqueam Indian Band 1902; Coquitlam First Nation et al. 1922).

More recently, xʷməθkʷəy̓əm has taken steps to reduce the rate of decline in populations of wild salmon, eulachon, sturgeon and other species and habitats within the Fraser River. xʷməθkʷəy̓əm has made deliberate decisions to conserve and actively restore some affected areas where it has been possible to do so. These efforts continue despite the declining historical trajectory of the Fraser River resulting from agriculture, urban, and industrial development, and inadequate fisheries management practices as outlined in prior Sections.

The following presents several examples of relatively recent and current protection, conservation, and restoration efforts led by xʷməθkʷəy̓əm or in collaboration with other parties:

- Oversee management planning, research, stewardship recommendations, monitoring for compliance and enforcement, and rehabilitation measures through the Collaborative Management Agreement for the Fraser River Transition Area with the Province of BC (2017);
- Project-specific Indigenous monitoring;
- Collaborating with the DFO to develop new and innovative strategies for harvesting to limit impacts, such as the creation of an 8-inch minimum mesh size chinook gillnet in the 1990s and 2000s to minimize unnecessary bycatch and allow for smaller sockeye salmon to pass through and the use of shallow purse seine nets as a use of selective gear;
- The procurement of an oil spill response vessel;
- Musqueam Fisheries Habitat Restoration Project which included capacity and expertise building for project management and implementation of fisheries habitat restoration, planning and collaborative decision-making efforts (2020) (DFO 2021b);
- Development of an Aquatic Habitat Restoration Plan, outlining community priority projects to meet restoration and enhancement objectives for the Musqueam Creek Watershed and foreshore area (2015) (Musqueam Indian Band 2015);
- Various fisheries enhancement projects, including significant investment the Lower Fraser to enhance fisheries habitat, are expected to have a direct effect on fish and fish habitat and, in turn, create more opportunities for xʷməθkʷəy̓əm fishing rights to be exercised in the immediate vicinity of the Project;
- Ongoing engagements for rights recognition, where there are aspects of these activities in those discussions;
- Self-imposed moratoriums on the harvesting of certain culturally important species, notably eulachon and sturgeon; and
- Pursuing broader collaborative strategies to address cumulative effects in the area.

xʷməθkʷəy̓əm has been and continues to lead in this work in the Fraser River, making this list far from exhaustive. Despite this effort, xʷməθkʷəy̓əm continues to be excluded from managing

their own fisheries, lands and waterways. Fish populations and habitats in the Lower Fraser River continue to experience a declining trajectory of change.

#### 4.1.8 *Conclusions on Historical Context for the Exercise of xʷməθkʷəy̓əm Rights*

There are currently insufficient resources available for xʷməθkʷəy̓əm to meaningfully exercise rights. The fish, plants, and animal species which were once abundant in the territory have declined significantly. The diverse marine, riparian, and terrestrial habitats have been permanently altered. This reality, combined with social, economic, cultural, and other pressures, has severely restricted xʷməθkʷəy̓əm's right to use, exercise jurisdiction over, and benefit from the territory. In turn, xʷməθkʷəy̓əm's ability to maintain and continue their unique culture and identity of the xʷməθkʷəy̓əm people and address the health and wellbeing of their population are both currently under serious threat.

In summary, the historical context described in this Section demonstrates the severe limitations placed on the ability of xʷməθkʷəy̓əm members to exercise their rights, not only along the Fraser River, but throughout xʷməθkʷəy̓əm's territory. The key limitations facing xʷməθkʷəy̓əm in exercising their rights include those outlined below:

- xʷməθkʷəy̓əm access to Fraser River fisheries and quality and quantity of fish, as well as access to river shoreline harvesting locations, do not provide members with fish to satisfy food, social, and ceremonial purposes, let alone potential future economic requirements;
- Nations-led moratoria on sturgeon and eulachon harvests has suspended cultural practices integral to xʷməθkʷəy̓əm identity and access to/declines in salmon has had a similar effect;
- Destruction and alterations of wildlife habitat and imposed firearm restrictions has eliminated nearly all hunting activities in xʷməθkʷəy̓əm territory, save for some critical bird harvesting areas;
- Cultural and settlement areas, including those where xʷməθkʷəy̓əm members were able to engage in the economic aspects of the fishery (e.g., historic cannery), have been severely constrained;
- Transfer of knowledge from xʷməθkʷəy̓əm Elders to youth is limited due to increased use of the Fraser River and changes to the river morphology, leaving youth without the knowledge of how to sustainably manage and harvest resources, including salmon, sturgeon, eulachon, medicinal plants, marine and terrestrial mammals, etc. The loss of just one generation of knowledge can be an irrevocable loss of this knowledge, as the knowledge is complex and inter-connected to language, kinship, protocol, place, as well as resource;
- The cost of performing harvesting activities is no longer a viable source of income, requiring more time and money to be used to access fishing areas further away from the community and mammal hunting areas largely outside of xʷməθkʷəy̓əm territory, with lowered chances of harvesting resources;
- Safety implications due to increased barriers to accessing fishing and other resources. These barriers include increased vessel traffic, in-water project activities, and the

elimination of safe landing sites due to urban expansion. Current safety measures are not effective (e.g., no-wake zones are not enforced);

- Economic impacts of purchasing and adapting to use new fishing equipment and techniques in order to be responsive to the changing and increasingly industrialized environment;
- Crown licensing requirements circumvent xʷməθkʷəy̓əm's access protocol to the Fraser River fishery putting severe pressure on xʷməθkʷəy̓əm's ability to self-govern in the area; and
- There is also a social and cultural cost to the above limitations, as xʷməθkʷəy̓əm members are unable to engage in and maintain reciprocal relationships or protocol on a family-to-family or Nation-to-Nation basis.

The loss of xʷməθkʷəy̓əm access to their territory and the declining quality and quantity of these resources has a widespread impact on xʷməθkʷəy̓əm rights, cultural continuity and identity, and health and wellbeing. Further adverse impacts to the area, including the Fraser River and the downstream estuary, have the potential to make it impossible to meaningfully practice xʷməθkʷəy̓əm rights, including xʷməθkʷəy̓əm's proven *Sparrow* right, destroying one of the central pillars of what it means to be xʷməθkʷəy̓əm, and eliminate any returns on the substantial human and financial investment made by xʷməθkʷəy̓əm and others to restore the populations of culturally important (and commercially important) species in the Lower Fraser River.

## 4.2 Current Context and Trajectory of Change for xʷməθkʷəy̓əm Rights

### 4.2.1 Introduction

This Section identifies the current context for xʷməθkʷəy̓əm rights and the related indicators. Using information provided in the previous historical context Section, a summary of the current trajectory of change for each indicator is presented. The Methodology outlined in Section 2 is used.

### 4.2.2 xʷməθkʷəy̓əm Title

Building upon the description of xʷməθkʷəy̓əm Title described in Section 3, the entire Study Area (Section 2.4), including a large portion of the shipping route, is within xʷməθkʷəy̓əm territory. xʷməθkʷəy̓əm has been displaced from most of its territory and dispossessed from control over it and, in turn, xʷməθkʷəy̓əm culture and identity. In 1913, Chief Johnnie of xʷməθkʷəy̓əm was asked whether the xʷməθkʷəy̓əm reserve was sufficient to support its members, to which he replied, "This land is not enough" (xʷməθkʷəy̓əm Chief Johnnie, interview by Royal Commission of Indian Affairs in 1913 in Musqueam Indian Band 1913, 5). His response reflects the result of federal and provincial decisions, including through urban and industrial development. Protocols determining access to lands and resources continue to be used by xʷməθkʷəy̓əm today (Woolman 2014 in Gregory et al. 2017), including moratoria on fishing sturgeon and eulachon (Tam et al. 2018, 75).

xʷməθkʷəy̓əm protocols used to control, access, and make decisions about xʷməθkʷəy̓əm lands and resources have neither been respected by governments in the past, nor are they respected today. One illustrative example appears in 1902 when xʷməθkʷəy̓əm Chief Johnnie along with other Nations' Chiefs wrote to the Crown protesting the increase in the use of deep

nets. They were concerned that deep nets will lead to future impacts on salmon. In that letter, the Chiefs reminded the Crown of their previous warning about the fate of the decimated sturgeon stocks, concerned that the salmon would have the same fate (Musqueam Indian Band 1902). This message continued in 1913, when Chief Johnnie testified to the Royal Commission on Indian Affairs highlighting the restrictions placed on xʷməθkʷəy̓əm to manage and control their lands and resources:

*"I am pretty nearly deprived of my hunting and game matters... Before the whiteman came, the Indians used to have all kinds of game to live on, but since the arrival of the whiteman pretty nearly all the game has disappeared around here, even the fish in the waters are going the same way...it is the whiteman who came to this country that almost destroyed our game and fish. That is all I have to say - I want to be at liberty at all times to take and kill fish and game of all descriptions to support my family and for our own use. I don't want to be restricted by the whiteman's law." (Musqueam Indian Band 1913, 3).*

In consideration of the historic and current context, there is a **declining trajectory of change** for the conditions that support xʷməθkʷəy̓əm Aboriginal Title.

Tilbury Island and the LSA overall are an important part of xʷməθkʷəy̓əm Title lands, with the LSA holding one of the last remaining areas of Fraser River shoreline that is not fully developed or occupied by private, municipal, or industrial land users and associated infrastructure. And while xʷməθkʷəy̓əm is taking significant steps to regain control, use, and occupation over the territory, this is a long, ongoing process that faces many challenges. Increased development pressures along the lower Fraser River, and the delta (Roberts Bank Terminal II), marine shipping and recreational boaters, combined with lack of meaningful recognition by the Crown and industry of xʷməθkʷəy̓əm's rights to benefit economically and govern the territory, has contributed to these challenges. The context for xʷməθkʷəy̓əm Title has already been **severely diminished** and is **highly sensitive**.

#### 4.2.3 Fishing

The Study Area, including Tilbury Island and the LSA, is an area used by xʷməθkʷəy̓əm to harvest resources including salmon, eulachon, steelhead, and sturgeon as outlined in Section 4.2 and continues to be important. xʷməθkʷəy̓əm's preferred areas are no longer available and any remaining areas that xʷməθkʷəy̓əm can access are of critical importance to xʷməθkʷəy̓əm's fishing rights. The Fraser River provides good habitat for these species due to the calm waters and back eddies and the foreshore which provides spawning grounds (Nelitz et al. 2018). xʷməθkʷəy̓əm members identify the Project Site and nearby areas (Fraser Surrey Dock and the George Massey tunnel) as fishing locations that are used by salmon, sturgeon and eulachon as a holding area (i.e. areas of concentration for adult and juvenile salmon and eulachon) that are frequently fished when the ability to catch fish is reduced, or competition is high from marine mammals, in other areas (Tam et al. 2018, 71-72, 88; Musqueam Indian Band and the Firelight Group 2016, 88; Nelitz et al. 2018, 21-23).

The shallow areas of the riverbed around the Project Site makes it a productive salmon fishing area (BC EAO 2022a, 14). xʷməθkʷəy̓əm members continue to fish in the Project Site and use this part of the river. Notably, xʷməθkʷəy̓əm members deploy gillnets in this area, which involve small vessels setting the nets and monitoring the net and the catch. When gillnetting, the entire width of the river is taken up by a combination of gillnets and vessels. When the nets drift, fishers are needed to account for fish movement. These additional vessels are required especially during short openings. Since the whole width of the river is needed there are already

constraints facing this important x̣ṃəθḳẉəỵəm fishery from existing vessel traffic. Any additional reduction in access, particularly during fishing season, will only compound these existing constraints. x̣ṃəθḳẉəỵəm has observed in many parts of their territory that larger vessels have a more serious effect on x̣ṃəθḳẉəỵəm fishing due to sense of safety on the water, actual safety restrictions, noise and sensory disturbance, and duration of impact.

This area of the Fraser River is also used to access fishing areas upstream. However, declines in targeted species populations, historical and ongoing impacts in the LSA described at length in Section 4.1.2, including changes from industrialization and urbanization along the shoreline, increased number of small and large vessel traffic (particularly when fishing takes place), and river training including ongoing dredging along the riverbed have all impacted x̣ṃəθḳẉəỵəm's ability to access fish (Nelitz et al. 2018, 4). The increase in small and large vessel traffic has caused safety to be a growing concern when fishing in the river (BC EAO 2022a, 94).

While this study only presents a very small proportion of total x̣ṃəθḳẉəỵəm fishing use, knowledge, and x̣ṃəθḳẉəỵəm member participation, 35 fishing values were reported by x̣ṃəθḳẉəỵəm members in 2018 at Tilbury Island within the Project Site (Tam et al. 2018, 39). A holistic understanding is essential in interpreting the fishing values as they are highly interconnected to other values. Importantly, the shallow waters close to Tilbury Island were identified as great habitat for spawning eulachon and an area that was previously used for x̣ṃəθḳẉəỵəm for harvesting eulachon. These remaining shallow areas in the river are important as most of these areas have been removed through river training and dredging. x̣ṃəθḳẉəỵəm has a strong desire to resume harvesting eulachon in the future, once eulachon populations have recovered. x̣ṃəθḳẉəỵəm identified the site could potentially support other x̣ṃəθḳẉəỵəm fishing practices (i.e., fish weir, sturgeon fishing or beach seine). This is because the site features a continuous shallow sandy bottom, which is a feature rarely available elsewhere in x̣ṃəθḳẉəỵəm's territory in a location suitable for fishing. x̣ṃəθḳẉəỵəm stressed the importance of this site is linked to many factors, there is seasonal importance, but other factors contribute to the use of the site from year to year and this location can be, or could become, a critical access and use area. x̣ṃəθḳẉəỵəm expressed that Tilbury Island is intrinsically linked to x̣ṃəθḳẉəỵəm core stewardship, cultural continuity, and sense of place.

In the LSA, there are 396 fishing values identified in this area including fishing areas for various fish species, shellfish harvesting sites for crab, fish habitat (such as spawning and migratory routes), camping sites used by x̣ṃəθḳẉəỵəm members while fishing, and processing sites. The following specific fishing values were identified in the LSA:

- Fishing areas for a variety of species such as salmon, steelhead, sturgeon and eulachon;
- Valuable fish habitat such as spawning areas and holding areas for migratory fish;
- Water routes travelled to access fishing sites located upriver;
- Water routes travelled in order to patrol salmon gillnet fisheries;
- Previously used fishing camps;
- Valued habitat of various fish species;
- Spawning and migratory holding areas for salmon and eulachon;
- Water routes and sites for salmon, sturgeon and flounder harvesting; and
- Fish processing sites and temporary habitation sites.

#### 4.2.3.1 *Summary of Current Context and Trajectory of Change*

Increased industrialization and urbanization of the LSA, declines in habitat quantity and quality and quantity and quality of salmon, eulachon and sturgeon, safety concerns and exclusion from access to fishing sites due to small and large vessel traffic and construction and operation of marine terminals, water quality and flow changes due to development and dredging, and harvesting restrictions imposed on x̱m̱əθḵw̱əy̱əm fishing activities have contributed to a **declining trajectory of change** for the conditions (access and resource availability) that support the opportunity for x̱m̱əθḵw̱əy̱əm members to fish at locations and times, or benefit economically from fish harvested within the territory. In respect to the Project, x̱m̱əθḵw̱əy̱əm currently utilizes fishing sites located in the Project Site, LSA, and RSA for FSC fishing and economic development (e.g., allocation transfers and business partnerships). The current conditions for x̱m̱əθḵw̱əy̱əm's right to fish along the lower Fraser River have already been **severely diminished** and are **highly sensitive** to change. This conclusion is particularly important given that other categories of x̱m̱əθḵw̱əy̱əm rights are already far more limited (explained more below).

#### 4.2.4 *River Shoreline and Terrestrial Plant Harvesting*

The Study Area includes plant gathering sites used by x̱m̱əθḵw̱əy̱əm members as sources for food, medicinal and ceremonial resources. Specifically, shorelines within the LSA are some of the few remaining naturally vegetated sites along the Fraser River and contains medicinal resources, including cattail (Tam et al. 2019, 19; Musqueam Band Council 1984, 34-35). While x̱m̱əθḵw̱əy̱əm members continue to harvest plants within the LSA and in proximity to Tilbury Island, development of the shoreline, pollution, foreshore hardening that changes the natural shoreline by installing structures, and access restrictions to the remaining natural areas have led to the decline in the quality and quantity of the plants accessible to x̱m̱əθḵw̱əy̱əm (Tam et al. 2018, 93).

Site-specific rights-based use values were reported by x̱m̱əθḵw̱əy̱əm members in 2018 and described in the Traditional Use Study for the TMJ Project (Tam et al. 2018), including various plant harvesting sites within the Study Area. For detailed site-specific information, please refer to the maps in Section 4 and Figure 2 of that report. As highlighted in that report, results only represent a very small proportion of total x̱m̱əθḵw̱əy̱əm use and knowledge.

#### 4.2.4.1 *Summary of Current Context and Trajectory of Change*

Increased industrialization and urbanization of the shoreline surrounding the LSA, privatization of lands along the shoreline, pollution and lack of privacy when harvesting, and foreshore hardening have contributed to a **declining trajectory of change** for the conditions that support x̱m̱əθḵw̱əy̱əm members right to harvest plants. The current conditions for x̱m̱əθḵw̱əy̱əm's right to harvest plants along the lower Fraser River have already been **severely diminished** and are **highly sensitive** to change.

#### 4.2.5 *Hunting*

x̱m̱əθḵw̱əy̱əm has hunted historically throughout their territory, including in areas around the Fraser River such as the marshes in Richmond, including for waterfowl, seals, deer, elk, and ungulates (BC EAO 2022a, 30). x̱m̱əθḵw̱əy̱əm members are no longer able to harvest large game due to the historic and ongoing pressures noted above, as well as firearms restrictions (Gregory et al. 2017), though some smaller terrestrial mammals continue to be harvested in the

northern portions of core x̣ṃəθḳẉəỵəm territory and can access large game through arrangements to hunt in other territories (Tam et al. 2018, 23). Harvesters are now limited to harvesting waterfowl such as dabbling ducks, geese, grouse and swans mainly in the Fraser River estuary including in the vicinity of Tilbury Island (BC EAO 2022a, 27). Importantly, while hunting has seriously diminished over time, it is “no less important” and remains entwined with other rights-based practices (Tam et al. 2018, 17). Indeed, the remaining hunting sites are critical to ensuring hunting rights can continue.

Values were reported by x̣ṃəθḳẉəỵəm members in 2018 and described in the Traditional Use Study for the TMJ Project. Reports include hunting and trapping sites across the Study Area, including at the Project Site. For detailed site-specific information, please refer to maps in Section 4 and Figure 2 of that study. As highlighted in that study, results only represent a very small proportion of total x̣ṃəθḳẉəỵəm use and knowledge.

#### 4.2.5.1 *Summary of Current Context and Trajectory of Change*

The conditions that support x̣ṃəθḳẉəỵəm opportunities to hunt within the RSA (i.e., x̣ṃəθḳẉəỵəm’s core territory), including access and resource quality and availability, has declined over time such that x̣ṃəθḳẉəỵəm members are no longer able to hunt or trap in the core portions of the territory, reflecting a **declining trajectory of change** for the conditions that support x̣ṃəθḳẉəỵəm members right to hunt and trap. This is the result of increased urbanization and industrialization and regulation in the Study Area, including physical hardening of the shorelines and elimination of habitat that was once used by harvested species including birds, as well as government-imposed firearm restrictions. For these reasons, it is concluded that these cumulative changes in the conditions necessary for x̣ṃəθḳẉəỵəm to exercise hunting rights have already been **severely diminished** and, therefore, the context for hunting and trapping is **highly sensitive**.

#### 4.2.6 *Cultural Continuity, including Sense of Place and Identity*

x̣ṃəθḳẉəỵəm relies on the Fraser River to maintain and restore sense of identity, place, and cultural practices. Indeed, the Fraser River system and flow defines the way x̣ṃəθḳẉəỵəm understands direction and navigation, while many historic village sites, burial grounds, navigation routes, and camping sites occur along the Fraser River in the Study Area, described in Section 4.2. These areas, resources, and knowledge that rely on a healthy Fraser River continue to hold significance for x̣ṃəθḳẉəỵəm members today. These places also hold intangible value (i.e., sense of place and identity in just knowing these sites are there). For some members, these sites are visited to share stories and knowledge with the next generation. Due to the cumulative changes described in Section 4.1.5, x̣ṃəθḳẉəỵəm members are unable to freely transmit knowledge with younger generations. Tilbury Island and the surrounding waters are important for continuation of cultural activities such as fishing (Tam et al. 2018, 38). Plant harvesting occurs throughout x̣ṃəθḳẉəỵəm territory, including at village sites on the Fraser River, such as qiqéyt and on islands at the mouth of the south arm of the Fraser River (Tam et al. 2019, 19).

x̣ṃəθḳẉəỵəm’s sense of place and culture is deeply connected to animals, such as q̣əł̣ṭaḷəməc̣ən (orcas), specifically southern resident killer whales (SRKW) due to their cultural significance as the species is a tool for teaching x̣ṃəθḳẉəỵəm’s culture and language (BC EAO 2022a, 33). Also, their role in the territory’s marine ecosystem has a tangible effect on x̣ṃəθḳẉəỵəm. SRKW influence the timing of fish running up the Fraser River, as well as have an influence on the abundance of fish in the territory for x̣ṃəθḳẉəỵəm fishers (BC EAO 2022a,



34). This can influence the availability of fishing locations along the Fraser as well as the timing of x̣ṃəθḳẉəỵəm's fishing opportunities (BC EAO 2022a, 34).

Despite the displacement of x̣ṃəθḳẉəỵəm members from use and occupation of the territory, and the destruction of wild fisheries and habitat, waterfowl and mammal habitat, and plant harvesting sites along the Fraser River, x̣ṃəθḳẉəỵəm members continue to be intimately tied to the Fraser River. The continuation of x̣ṃəθḳẉəỵəm cultural activities also depends on the availability of resources, the practices tied to them, and the places where these practices take place (BC EAO 2022a, 34). x̣ṃəθḳẉəỵəm's unique and vibrant culture continues with only a few remaining parts of the territory available for x̣ṃəθḳẉəỵəm to maintain social cohesion, transmit intergenerational knowledge, maintain a sense of place and connection to the land and water, continue to practice ceremonial and cultural practices, maintain protocols between families and other nations, and exercise rights.

Several rights-based cultural use values were reported by x̣ṃəθḳẉəỵəm members along the Fraser River in 2018 and described in the Traditional Use Study for the TMJ Project also situated on the Tilbury Island (Tam et al. 2018) and within the Study Area. As highlighted in that report, results only represent a very small proportion of total x̣ṃəθḳẉəỵəm use and knowledge. The Study Area includes various teaching sites for transmission of intergenerational knowledge within the Project Site and wider LSA. Within the LSA, the following rights-based cultural use values were identified:

- Sites used both historically and continuously for the inter-generational transmission of knowledge;
- Culturally significant sites and travel routes to pass generational teachings such as harvesting;
- Gathering sites where x̣ṃəθḳẉəỵəm members received teaching on oral histories and traditions;
- Shoreline areas where x̣ṃəθḳẉəỵəm heritage and belonging are taught;
- Camping sites, spiritual sites, water routes used for access to travel through x̣ṃəθḳẉəỵəm territory;
- Habitation sites such as old village sites and camping areas, rich archaeological evidence, harvesting camps for plants and salmon, burial sites, canneries where many x̣ṃəθḳẉəỵəm members worked and lived;
- Spiritual and ceremonial sites and place names, water routes used to travel throughout x̣ṃəθḳẉəỵəm territory;
- Locations of current docking and camping areas; and
- Water routes used historically and currently to access x̣ṃəθḳẉəỵəm territory.

#### 4.2.6.1 *Summary of Current Context and Trajectory of Change*

Increased non-Indigenous settlement, agriculture, commercial fishing, and industrialization of x̣ṃəθḳẉəỵəm territory, along with the associated decline in and barriers to x̣ṃəθḳẉəỵəm fisheries, waterfowl harvest, and plant harvest have contributed to a **declining trajectory of change** for the conditions (access and resource quality and availability) that support x̣ṃəθḳẉəỵəm cultural continuity. Access to sites near Tilbury Island and the Fraser River such

as ancient village and camping sites, burial grounds, fishing sites and natural areas for plant harvesting represent some of the few remaining places where x̣ṃəθḳẉəỵəm intergenerational knowledge can still be transmitted. The ongoing urbanization of x̣ṃəθḳẉəỵəm's territory has nearly eliminated members' access to terrestrial hunting and plant harvesting grounds which has placed a greater reliance on fisheries for the x̣ṃəθḳẉəỵəm people to be able to continue cultural practices (Tam et al. 2018, 91). However, historic and ongoing declines in wild fisheries along the Fraser River, and the exclusion from the river by large and small marine vessels, continue to severely restrict x̣ṃəθḳẉəỵəm members' ability to access fishing sites and secure sufficient fish to satisfy minimal food, social and ceremonial purposes let alone pass on knowledge of species (e.g., sturgeon) and fishing practices. In sum, x̣ṃəθḳẉəỵəm's ability to simply continue x̣ṃəθḳẉəỵəm way of life has diminished so severely, that any remaining areas accessible for x̣ṃəθḳẉəỵəm to engage in rights-based practices have become extremely important. The current conditions for x̣ṃəθḳẉəỵəm's right to cultural continuity have already been **severely diminished**, meaning that this right is **highly sensitive** to change.

#### 4.2.7 *Health*

As highlighted in Section 4.1.6, health and wellbeing for x̣ṃəθḳẉəỵəm people must be understood holistically, encompassing mental, physical, emotional, and spiritual wellness, and rooted in the community's relationships to the land, waters, resources, and one another. The present-day context of x̣ṃəθḳẉəỵəm health reflects a complex accumulation of impacts, including the enduring effects of colonial policies, environmental degradation, and systemic barriers to culturally safe healthcare and traditional wellness practices. As a result, all conditions necessary for x̣ṃəθḳẉəỵəm to exercise the community health and wellbeing category of rights have been severely impacted by the cumulative effects of colonization, the imposition of colonial programs and policies, and large-scale industrial development along the Fraser River. For the future, however, community members stress that territory-based activities, ceremonies, and undisturbed spaces along the Fraser River corridor and beyond are integral to restoring balance and spiritual wellness (Musqueam Indian Band 2018, 50, 53).

An Indigenous Determinants of Health (IDOH) framework provides an effective lens for understanding the current health conditions facing the x̣ṃəθḳẉəỵəm community, recognizing colonization as the primary driver of health inequities. An IDOH framework centres Indigenous ways of knowing and emphasizes the importance of Indigenous knowledge transmission, the ability to maintain ancestral relationships with land and resources, and community access to traditional foods, medicines, and ceremonial spaces (Carroll et al. 2022). These determinants are deeply interwoven with other rights addressed throughout this 19(4) Assessment, all of which directly influence the health of individuals and the community as a whole.

##### 4.2.7.1 *Land access, traditional practices, and physical wellness*

Industrial development, urbanization, and land privatization across x̣ṃəθḳẉəỵəm territory have contributed to the degradation of, and loss of access to, many of the places and resources that support health and wellness. The ability to harvest and consume traditional foods and medicines is not only a matter of nutrition; it is also a vital means through which community members sustain cultural connections, engage in intergenerational knowledge transmission, and support their health through physical activity, ceremony, and relationship with the land. Ongoing constraints to land and water access therefore have direct and cascading implications for physical, mental, spiritual, and collective wellbeing.

The integrity of traditional food systems has been particularly impacted cumulative environmental and industrial pressures. As detailed in earlier sections of this 19(4) Assessment, key species such as salmon, eulachon, and sturgeon have experienced serious population declines. Similarly, the quantity, quality, and accessibility of many terrestrial plants and large game animals critical for nutrition, medicine, and ceremonial purposes have diminished significantly, with some resources now largely unavailable. These changes have driven a profound dietary shift, from a diet based on wild game and seafood to one increasingly reliant on processed and store-bought foods, reducing both nutritional value and cultural continuity.

Food security has been identified as a central priority for the community today. As noted in the x̣ẉṃə̣θ̣ḳẉə̣ỵəm Comprehensive Community Plan (CCP), “access to healthy, nourishing food is an issue for many of our members,” and “central to this issue is access to traditional foods [...] Harvesting and consuming our traditional resources gives our community members a way to establish connections with our culture and improves health and wellbeing” (Musqueam Indian Band 2018, 50). Survey results from the 2016 Musqueam First Nation Monitoring and Evaluation Report, hereafter referred to as the x̣ẉṃə̣θ̣ḳẉə̣ỵəm 2016 Census, reflect the impacts of this dislocation: 39% of respondents reported never preparing traditional foods, while 46% reported never participating in harvesting (Musqueam Indian Band 2017, 15). While many members continue to rely on country foods where possible, safety concerns while accessing harvesting sites and declining resource availability further constrain access (Musqueam Indian Band and Firelight Research Inc. 2016, 89–92). As a result, 62% of respondents agreed or strongly agreed that food access is an issue for the community (Musqueam Indian Band 2017, 41).

#### *4.2.7.2 Mental and spiritual health, trauma, and cumulative effects*

Alongside nutritional and territorial disruptions, x̣ẉṃə̣θ̣ḳẉə̣ỵəm members continue to carry the psychological burdens associated with cumulative and intergenerational trauma. The legacies of residential and day schools, the Sixties Scoop, the banning of ceremonies, systemic racism within healthcare, and broader processes of cultural suppression have produced enduring health inequities that remain evident today. Importantly, these harms cannot be understood in isolation from the ongoing loss of access to land, resources, and cultural practices; rather, they interact with and exacerbate one another, compounding impacts on mental, emotional, and spiritual wellbeing.

These conditions are reflected in higher rates of chronic illness, mental health challenges, addictions, and barriers to accessing appropriate care (Boksa et al. 2015; Earle 2013). As noted in the x̣ẉṃə̣θ̣ḳẉə̣ỵəm 2016 Census, addictions, substance use, and related social problems are a significant concern within the community. Mental health has been identified as a pressing issue for x̣ẉṃə̣θ̣ḳẉə̣ỵəm people today—one that community members emphasize is best addressed through traditional approaches that honour cultural knowledge and spiritual care (Musqueam Indian Band 2018, 50).

The mental and spiritual health of x̣ẉṃə̣θ̣ḳẉə̣ỵəm people is particularly vulnerable to additional stressors introduced by new projects or disturbances, which must be understood within – and as compounding – the broader cumulative impacts described above. New disturbances do not occur in isolation; rather, their effects on the mental and spiritual wellbeing are amplified by the layered and ongoing losses and traumas imposed by generations of cumulative dislocation from territory and cultural practice. Traditional and territory-based wellness practices are widely recognized as essential to healing; however, access to safe, undisturbed areas for these practices is increasingly limited within the Study Area and surrounding region, especially along

the Fraser River corridor where industrial and marine activity has intensified. These barriers contribute to heightened stress and anxiety and can act as a source of re-traumatization, reinforcing the long-lasting legacies of colonial dispossession and exclusion from territory-based practices.

In addition to the cumulative impacts impacting x̣ṃəθḳẉəỵəm ability to engage in economic activities and livelihoods described throughout Section 4, the health challenges articulated above also have direct implications for economic participation. Health-related issues are identified as a major factor preventing individuals from finding or retaining employment, and overall improvement of health and wellbeing has been identified as one of the highest priorities for the community (Musqueam Indian Band 2017).

Community members have consistently expressed that many social and health challenges—such as addictions, violence, and disrupted family relationships—are directly linked to unresolved and intergenerational trauma rooted in colonial violence, family separation and inter-family conflict, and systemic harm. As one x̣ṃəθḳẉəỵəm 2016 Census participant shared: “The social issues are connected to deeper rooted unaddressed inter-generational trauma. If there is no long term [solution], the issue will continue to affect the next generation. There needs to be a multi-dynamic approach to dealing with alcohol & violence, sexual abuse & mental health, parenting and child abuse...” (Musqueam Indian Band 2017, 40). This perspective reflects a widely held understanding within the community that healing requires a comprehensive, culturally grounded approach — one that addresses both historical roots and present-day realities of trauma, and that is fundamentally tied to restoring and protecting relationships with land, water, and cultural practice.

The health of x̣ṃəθḳẉəỵəm today cannot be disentangled from the legacies of colonial violence, the continuing impacts of colonial policies, or from the strength of ongoing cultural resurgence, which is enabled by and contingent upon safe and unencumbered access to their territory for cultural practices.

#### 4.2.7.3 *Health, fishing, and the Sparrow decision*

The centrality of health to x̣ṃəθḳẉəỵəm rights is reflected in the Supreme Court of Canada’s *Sparrow* decision, which recognized the Aboriginal Right to fish for FSC purposes. It also affirmed x̣ṃəθḳẉəỵəm’s Aboriginal Right to fish for FSC purposes. The Court’s reasoning situates FSC fishing as essential to the survival and wellbeing of the x̣ṃəθḳẉəỵəm community, even though it does not apply the language of “health” in their analysis.

In *Sparrow*, the Court emphasized that Aboriginal Rights must be interpreted generously, that ambiguities must be resolved in favour of Indigenous peoples, and that rights must be understood within their Indigenous context. In doing so, the Court rejected narrow or static interpretations of Aboriginal Rights that would freeze them in time or reduce them to discrete Western legal categories. Instead, the decision affirms that FSC fishing must be understood as a living practice that sustains Indigenous communities in social, cultural, and material terms.

Importantly, the Court recognized that FSC fishing is not merely a cultural preference, but a practice fundamental to community survival. This recognition reflects an implicit understanding that fishing supports far more than physical nourishment alone. As described above, fishing for x̣ṃəθḳẉəỵəm sustains nutrition, social cohesion, intergenerational knowledge transmission, cultural identity, and spiritual connection to land and water.

In the present-day context, however, the conditions that *Sparrow* identified as essential to community survival have been increasingly compromised. Ongoing constraints on fishing access, declining fish populations, degraded aquatic habitats, and cumulative industrial impacts along the Fraser River continue to erode the health-supporting practices that the Sparrow decision sought to protect. These pressures intersect with broader legacies of colonization, systemic inequities, and environmental change, intensifying risks to Musqueam physical, mental, spiritual, and collective wellbeing.

#### 4.2.7.4 *Community healing, resurgence, and the importance of the Fraser River*

In recent generations, xʷməθkʷəy̓əm people, like many Indigenous communities, have taken powerful steps toward decolonization, cultural resurgence, and healing. Efforts to revitalize language, reassert sovereignty, and invest in intergenerational knowledge transmission through ceremonial and territory-based practices have been deeply meaningful and have contributed positively to community wellness (e.g., Tsuji et al. 2023). These efforts reflect a holistic understanding of health rooted in ancestral ways of knowing, where wellness is measured not only by the absence of physical and spiritual illness, but by the presence of strong cultural identity, social cohesion, and spiritual connection—each of which requires free and autonomous access to a healthy land base.

Despite long-standing cumulative impacts, the Lower Fraser River continues to be highly valued as a place that supports xʷməθkʷəy̓əm health and wellbeing. xʷməθkʷəy̓əm are stewards of the Fraser River, bringing a sense of purpose and belonging. Members have identified the Fraser River as providing tangible benefits, including nutrition and physical activity through harvesting, as well as intangible benefits through emotional, psychological, and spiritual connection (Musqueam Indian Band and Firelight Research Inc. 2016). Traditional practices, including stewardship activities, along the river therefore remain central to supporting mental and spiritual wellbeing and to rebuilding community relationships.

Access to land and cultural practices is also seen as essential to future healing. Community members stress that territory-based activities, ceremonies, and undisturbed spaces along the Fraser River corridor and beyond are integral to restoring balance and spiritual wellness, and that ensuring opportunities for these practices will be necessary to support xʷməθkʷəy̓əm mental and spiritual health (Musqueam Indian Band 2018, 50, 53). While xʷməθkʷəy̓əm is actively working to restore territory-based practices, expand community-based health services, and increase economic opportunities, members continue to experience disproportionate challenges in economic security and overall wellbeing compared to the broader Lower Mainland population. This current condition and trajectory of change make it difficult for xʷməθkʷəy̓əm to recover the conditions necessary to fully exercise the community health and wellbeing category of rights.

#### 4.2.7.5 *Summary of Current Context and Trajectory of Change*

The present-day context of health for xʷməθkʷəy̓əm reflects a **declining trajectory of change** resulting from cumulative environmental impacts — combined with ongoing barriers to land and water-based practices, systemic racism in mainstream health systems, loss of traditional food sources, and unresolved intergenerational trauma. The current conditions for xʷməθkʷəy̓əm's right to health have been **severely diminished**. xʷməθkʷəy̓əm's ability to maintain health and wellbeing in accordance with its own knowledge systems and rights frameworks has been significantly compromised. As a result, the conditions that support xʷməθkʷəy̓əm's right to health are now **highly sensitive** to further change.

#### 4.2.8 Conclusion

The table below provides a summary of the *trajectory of change* and *context* for each category of xʷməθkʷəy̓əm right.

*Table 3: Summary of context and trajectories of change for xʷməθkʷəy̓əm rights.*

| Category of Right                                          | Trajectory of Change | Context          |
|------------------------------------------------------------|----------------------|------------------|
| xʷməθkʷəy̓əm Title                                         | Declining            | Highly Sensitive |
| Fishing                                                    | Declining            | Highly Sensitive |
| River Shoreline and Terrestrial Plant Harvesting           | Declining            | Highly Sensitive |
| Hunting                                                    | Declining            | Highly Sensitive |
| Cultural Continuity, including Sense of Place and Identity | Declining            | Highly Sensitive |
| Health                                                     | Declining            | Highly Sensitive |

Notably, for each category, the trajectory of change is **declining**, while the context is **highly sensitive**. In other words, the condition of each right is **severely diminished** from historical baseline.

## 5. Potential Adverse Impacts

This Section summarizes the potential Project-specific impacts to xʷməθkʷəy̓əm rights, as identified by xʷməθkʷəy̓əm. This 19(4) Assessment draws upon those impacts identified in documents drafted by the BC EAO and IAAC in the Application Information Requirements Tilbury Phase 2 (June 2022), as well as the Proponent's EA Application (FortisBC 2024). Potential impacts from the TMJ Project on xʷməθkʷəy̓əm rights are also considered and summarized at the end of each subsection. The impact pathways and potential impacts on xʷməθkʷəy̓əm rights are presented in this section as they are anticipated to occur *before* mitigation and offsetting measures are applied or considered.

### 5.1 xʷməθkʷəy̓əm's Approach to Assessing Impacts

This 19(4) Assessment follows the Methodology set out in Section 2, including a description of the categories of rights assessed. The Assessment builds upon the historical context and current condition for these xʷməθkʷəy̓əm Rights and Title presented in Sections 3 and 4. These Sections clearly demonstrate that rights occur throughout xʷməθkʷəy̓əm territory, including the LNG Expansion Project Site and entire Study Area (inclusive of the TMJ Project). This information is critical to characterize before assessing potential adverse impacts since "historical context is essential to a proper understanding of the seriousness of the potential impact" (*West Moberly First Nation v. British Columbia (Chief Inspector of Mines)*, 2011 British Columbia Court of Appeal 247).

In Section 4, each xʷməθkʷəy̓əm right is assessed for the direction of the trajectory of change and sensitivity to summarize this context. Table 3 summarizes the analysis. This 19(4) Assessment has underlined the high importance placed on the Fraser River, including Tilbury Island and its surroundings, by xʷməθkʷəy̓əm. The LNG Expansion Project Site and Study Area is core xʷməθkʷəy̓əm territory and continues to be important for fishing, hunting, cultural continuity, stewardship, plant harvesting, and health. Opportunities to practice rights throughout other portions of xʷməθkʷəy̓əm territory have been greatly diminished, particularly for terrestrial plant harvesting and hunting and trapping, so that fishing remains a core rights-based activity that continues to this day in the LSA (also see Musqueam Indian Band and the Firelight Group, 2022). Importantly, parts of the Tilbury Island shoreline are the few remaining natural shoreline areas in all xʷməθkʷəy̓əm territory available for habitat and terrestrial shoreline harvest, particularly in this part of the territory. As such, Tilbury Island and the surrounding area of the Fraser River have a greater importance for maintaining and strengthening xʷməθkʷəy̓əm rights and Title. It is also one of the last remaining areas where these rights can be protected (at the bare minimum) and re-built or strengthened.

This approach to characterizing baseline in consideration of cumulative effects means that xʷməθkʷəy̓əm is seeking to reach a higher standard in this Assessment than those undertaken by the Province of BC. However, xʷməθkʷəy̓əm believes this should be the shared objective of the Crown, BC, the Proponent and xʷməθkʷəy̓əm. xʷməθkʷəy̓əm is seeking to enhance and restore aquatic and foreshore habitat and working towards a positive trajectory of change. The work xʷməθkʷəy̓əm does in the Lower Fraser intends to have a positive impact on xʷməθkʷəy̓əm fishing rights. However, Section 4 of this Assessment has found a declining trajectory of change on this right and related rights and Section 5 presents the anticipated adverse impacts resulting from the proposed Project and the TMJ Project. Indeed, this higher standard is being sought through significant financial and time investment by xʷməθkʷəy̓əm, which is expected to have a direct positive impact on fish and fish habitat and, in turn, create more opportunities for xʷməθkʷəy̓əm fishing rights to be exercised.

This unique and sensitive historical context (Section 4.1) and the declining trajectory of change resulting from historic and ongoing adverse impacts (Section 4.2) are carried over to this section and used to assess impacts to xʷməθkʷəy̓əm rights and Title in the Study Area.

**This Section, Section 5, presents expected Project and TMJ Project impacts prior to mitigations,** with short introductions that summarize the current context. Sections 6 and 7 present the analysis of mitigation and offsetting measures and residual effects for both the LNG Expansion Project and the TMJ Project, including the removal of in-water related project activities and components for the LNG Expansion Project.

xʷməθkʷəy̓əm is following FortisBC's approach by applying a mitigation measure introduced in mid-2024 that has far-reaching implications for the impact analysis (see Limitations of Assessment in Section 2.8). At that time, FortisBC revised their Project components and activities, removing all direct in-water works during construction and replaced this entirely with on road vehicle transportation. This change is characterized by the Proponent as a mitigation measure. While xʷməθkʷəy̓əm does not agree that this should be framed as a mitigation measure, as it represents a significant change to the proposed Project, this 19(4) Assessment follows the same approach for ease of comparing conclusions.



## 5.2 Description of Project Components and Activities Before Mitigation

The main LNG Expansion Project components considered in this section are identified in the Proponent's draft Application (FortisBC 2024):

- The Tilbury Phase 2 LNG Expansion Project Detailed Project Description (2022); and
- Updated information provided in meetings with x̣ẉṃə̣θ̣ḳẉə̣ỵəm on January 18, 2023, and September 23, 2024.

It is critical to note that this was written prior to the final Application submitted to the EAO in February 2026. This Assessment was drafted when FortisBC identified the following as mitigation measures only:

- exclude all waterborne vessel delivery of modules and bulk construction materials during construction
- exclude all in-water works and the proposed Material off-loading Facility (MOF) described in the Detailed Project Description.

Residual effects will not include these and other pathways expected to result from these activities and works. See Section 1.2 Purpose and Section 2.8 Limitations for further explanation on reasoning for this approach.

The following Project components are considered to pose the greatest risk of adverse impact on x̣ẉṃə̣θ̣ḳẉə̣ỵəm Aboriginal Rights and Title:

- Approximately 50 large barges will bring construction material to site and additional smaller barges to deliver gravel, steel, and other more finished materials during construction phase for the 3-to-6-year construction period. Vessels are expected to travel from Sand Heads along the shipping channel of the south arm of the Fraser River to the Project Site;
- LNG Expansion facility Project Site to take up 13.1 hectares (ha) on site that will be operational for more than 60 years; and
- Flare technology which may be used when necessary during Project operations.

The TMJ Project is also being assessed in a more general way, as outlined in Section 2. The following components of the TMJ Project are considered to pose the greatest risk of adverse impacts on x̣ẉṃə̣θ̣ḳẉə̣ỵəm Aboriginal Rights and Title:

- Construction of the jetty, along with supporting infrastructure, and the temporary floating bunker berth with a footprint of up to 23 ha, and result in the removal of 460,000 m<sup>3</sup> of sediment from the Fraser River;
- Berthing, loading, departing, and associated activities of LNG carriers and bunkering vessels using the TMJ Project once in operation; and
- Light emissions occurring from both on-site fixed lighting and vessel lighting.

## 5.3 Identified Adverse Impacts and Impact Pathways

### 5.3.1 x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ Title

Several expected Project impacts with x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ Title are identified. x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ's Aboriginal Title category of right is defined by the ability to govern land use and decision-making across x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ territory, including the decision to locate where industrial projects should be permitted and not permitted. This Aboriginal Right to govern is central to the integrity of x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ's culture and identity and would, in turn, enable x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ to derive economic benefits from development on its lands and waters, including within the Study Area described in Section 2.4 within the boundaries of the 1976 Declaration.

A very significant portion of x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ territory is no longer accessible to x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ to exercise these rights, which has significantly restricted the ability to exercise all rights, including title rights. Access has been lost to Tilbury Island due to prior development and other change along the south arm of the Fraser River and across much of Tilbury Island. Despite this, the area remains important for x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ to exercise stewardship authority and responsibility for plant and animal harvesting, fishing, and other land and water uses.

The Project will contribute to the existing changes in the LSA including Tilbury Island. While x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ is largely alienated from this part of the core territory, x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ will be restricted from exercising the right to make decisions for how the LSA will be used, including for potential future economic benefit or restoration/stewardship of the LSA.

If constructed, the Project Site could permanently alienate x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ from use of more than 13.1 ha of the LSA and Tilbury Island. Alienation is expected to occur for (at minimum) the duration of the Project operations, until 2088 when it is proposed for decommissioning. It is likely that, following decommissioning, the same area may be used for similar industrial purposes, beyond 2088. Since the area of x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ core territory is already heavily impacted and x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ largely alienated from this area, the additional impact of the proposed Project on x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ Title is considered moderate.

x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ understands the requirement of FortisBC to site the Project in proximity to the existing LNG facility. It is important to underline that the original proponents of the plant at Tilbury Island did not consult with x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ, seek their consent, or discuss locations or other alternatives. To repeat, the process by which the original proponent selected the proposed Project location did not include x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ and therefore did not recognize x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ's inherent right, as stated in the 1976 Declaration, to governance, stewardship, and decision making within x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ's core territory:

*Our ancestors aboriginal and our aboriginal right, is to live up and travel over our aboriginal lands, seas and water without foreign control or restriction, to utilize, trade and consume all the resources and products of those lands, water and seas.*

*It is our right to govern ourselves and our communities, to up-hold and determine our own customs, beliefs and laws.*

The process followed by the federal Crown and Proponent effectively excluded x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ from making decisions related to the uses of the Fraser River and shoreline of Tilbury Island (e.g., reclamation, economic development, etc.). Financial and other losses caused by the

Project to x̣ṃəθḳẉəỵəm resulting from restricted access to marine economic opportunities at Tilbury Island, include, but are not limited to:

- Commercial harvest of sockeye salmon and other salmon species;
- Tourism from marine guide opportunities (i.e., fishing and cultural guiding); and
- Trade harvested resources with other Nations and other non-commercial economic values.

#### 5.3.1.1 *TMJ Project Interactions with x̣ṃəθḳẉəỵəm Title*

The construction and operation of the TMJ Project will negatively impact the ability of x̣ṃəθḳẉəỵəm to restore access and habitats to support rights-based activities in the future. This includes impediments to x̣ṃəθḳẉəỵəm's efforts to restore fish populations (Tam et al. 2018) and habitats along the Fraser River as well as barriers to x̣ṃəθḳẉəỵəm's intention to restore opportunities to hunt, trap, and gather in x̣ṃəθḳẉəỵəm territory (BC EAO 2022a, 30).

The Project will contribute to existing cumulative impacts in the LSA. While x̣ṃəθḳẉəỵəm is already alienated from much of this part of the core territory, x̣ṃəθḳẉəỵəm will continue to be restricted from exercising the right to make decisions on how the LSA will be used, including the area of the Fraser River that is likely to be directly and indirectly impacted by the TMJ Project and marine shipping components. The addition of the TMJ will restrict navigational access to those times when large construction vessels and operational LNG vessels are not using the navigable part of the river. This will effectively create an access and navigational closure for any potential future x̣ṃəθḳẉəỵəm use of this part of the Fraser River when large vessels are using the area. Similar effects are expected from loading and off-loading during construction and operation of the Project.

The TMJ Project will interact not only with the Project, but with existing pressures experienced by ongoing industrial and recreational activities taking place at the Study Area, including the LSA along the Fraser River.

#### 5.3.2 *Fishing*

As outlined in detail in Section 4, x̣ṃəθḳẉəỵəm have since time immemorial managed the Fraser River lands and waters and resources including fisheries for salmon, eulachon, sturgeon and other fish species through strong and clear legal protocols. x̣ṃəθḳẉəỵəm families lived in year-round and seasonal settlements along the river where they harvested and processed fish. These settlements were strongly connected to x̣ṃəθḳẉəỵəm economic, cultural, and social life. Fishing continues to play a central role in x̣ṃəθḳẉəỵəm life and plays an even more important role than in the past, due to limits placed on other rights by Crown-sanctioned activities. These ongoing exclusions means that fishing may no longer be a central part of all member's daily lives, despite the strong desire for fishing to be central to x̣ṃəθḳẉəỵəm life once again. Despite the importance of fishing, all salmon species, eulachon and sturgeon populations, and number of fish harvested has declined dramatically in the area. This fact, combined with severely restricted habitat, access, pollution, and safety on the water, has severely impacted x̣ṃəθḳẉəỵəm's ability to harvest fish.

The Project will further negatively impact x̣ṃəθḳẉəỵəm Fishing values by the following potential Project impacts:

*i. Avoidance of fishing during construction caused by increased disruption, exclusion and safety risks posed to xʷməθkʷəy̓əm fishers by construction activities, including increased volume of marine vessel traffic in the LSA and RSA;*

- Increased risks to xʷməθkʷəy̓əm fishers' safety and loss of gear while fishing and traveling on the water, due to increased volume of marine vessel traffic on the Fraser River;
- Disruption and exclusion from fishing activities, including water routes used for patrolling salmon gillnet fisheries, due to Project construction activities, including the increase of marine traffic, notably large barges and smaller vessels for the 3–6-year construction period;
- Disruption to xʷməθkʷəy̓əm fishers' ability to fish, particularly when the tide is coming in, due to overlapping vessel traffic creating wakes that creates safety risks;
- Interference with fishing activities from existing and increasing marine traffic due to Project construction activities, resulting in the loss of fishing equipment, reduced times spent fishing, and a decreased sense of enjoyment for xʷməθkʷəy̓əm members when fishing;
- Deterioration or loss of fishing areas and potential future fishing restoration sites within the LSA due to destruction of fish habitat, effects of increased marine traffic, noise, movement, dredging, and pollution associated with construction activities;
- Reduced duration and quality of time spent by xʷməθkʷəy̓əm fishers in fishing areas due to riverscape and landscape changes from Project infrastructure and the increase in marine vessel traffic; and
- Avoidance of fishing areas due to contamination of fishing resources from construction activities and increased marine vessel traffic.

*ii. Loss of use of fishing areas due to avoidance related to perceived deterioration of harvesting conditions, as well as fish and fish habitat, during construction;*

- Increased avoidance of fishing grounds upstream and downstream of Tilbury Island within the LSA due to perception of deteriorated ecological values during construction and operations to an extent that undermines the efficacy of harvesting at that location, with impacts likely to extend beyond the LSA for salmon species.

*iii. Displacement of xʷməθkʷəy̓əm current and future harvesters by the Project;*

- Changes to the Fraser River shoreline and landscape through Project construction activities (i.e., river training) will change current and future fishing grounds used by xʷməθkʷəy̓əm members.

### **5.3.2.1 TMJ Project Interactions with Fishing**

The proposed TMJ Project will further negatively impact xʷməθkʷəy̓əm Fishing values. **All of the expected impacts identified from the proposed Project outlined above, are also expected to occur because of the TMJ Project and are not repeated below.** Rather than

repeat these impacts, only those impacts and impact pathways unique to the TMJ Project are identified and described in the bullets below.

- i. *Avoidance of fishing during operations caused by increased disruption, exclusion and safety risks posed to xʷməθkʷəy̓əm fishers by the operational jetty and marine traffic in the LSA and RSA;*
  - Long-term avoidance of fishing due to deterioration, disruption, and loss of fishing areas for salmon, eulachon, steelhead, sturgeon and other species around the marine jetty and LSA due to ongoing presence of the jetty and marine shipping operations;
  - Increase in vessel traffic associated with the TMJ Project and the narrower navigational access around the jetty, alongside vessel sensory impacts and wakes, are expected to reduce sense of safety on the water within the LSA and project footprint;
- ii. *Loss of use of fishing areas due to avoidance related to perceived deterioration of harvesting conditions during construction and operations;*
  - Long-term avoidance of fishing areas around the marine jetty due to concerns about the TMJ Project's contribution to the cumulative deposition of contaminants that could affect the quality of harvested foods and the ecosystem (BC EAO 2022a, 528), including as a result of dredging of up to 21 ha area of sediment for the TMJ Project; and
  - Permanent loss of fishing area, and related fish spawning habitat and holding areas in the Project Site due to Project construction.
- iii. *Disruption and/or interruption of migration and shoreline movement of fish species, with resulting effects on quantity and quality of resource and health for supporting the exercise of xʷməθkʷəy̓əm current and future rights within the Project Site with implications for the RSA (i.e., xʷməθkʷəy̓əm territory).*
  - Disruption of salmon migration routes and lifecycles along shoreline at valuable spawning areas and holding areas in the TMJ Project Site from the construction, operation, and physical barriers imposed by the jetty (BC EAO 2022a, 704);
  - Disruption of eulachon migration route in the Fraser River from construction, operation and barriers imposed by the marine jetty proposed in the TMJ Project and marine shipping (BC EAO 2022a, 26);
  - Disruption of white sturgeon movement and feeding along the Fraser River including spawning areas and hold areas around the marine jetty proposed in the TMJ Project used during migration from construction, operation and barriers imposed by the marine jetty infrastructure and marine shipping (BC EAO 2022a, 26);
  - The increase in large vessel traffic from construction and operations activities for the TMJ Project will disturb species such as sturgeon and springs that are attracted to slow-moving shoreline habitats around the marine jetty, which could result in avoidance of this area which could negatively impact their spawning activities (BC EAO 2022a, 26); and

- Concerns related to activities such as pile-driving and dredging, which could cause vibration, noise, sedimentation, and riverine changes, could affect fish behaviour and mortality (BC EAO 2022a, 26; Tam et al. 2018).

iv. *Avoidance effects during operations caused by increased disruption, exclusion and safety risks posed to xʷməθkʷəy̓əm fishers by increased volume of marine vessel traffic associated with the TMJ Project on the Fraser River;*

- Increased risks to xʷməθkʷəy̓əm fishers' safety and loss of gear while fishing and traveling on the water, due to increased volume of marine vessel traffic on the Fraser River, vessel transit route, and introduction of larger vessel sizes and types (LNG carrier);
- Increased avoidance by xʷməθkʷəy̓əm fishers of certain fishing techniques (i.e., driftnets) due to increased volume of marine vessel traffic on the Fraser River, vessel transit route, and introduction of larger vessel sizes and types;
- The increase of marine vessel traffic around the TMJ Project will conflict in space and time with xʷməθkʷəy̓əm fishing activities, including the use of water routes used by xʷməθkʷəy̓əm fishers for patrolling salmon gill net fisheries;
- Increased avoidance of areas around the TMJ Project and the marine vessel route on the Fraser River due to decrease fishing efficiency as a result of changes in fish quantity and behaviour caused by vessel traffic (Tam et al. 2018);
- Loss of fishing opportunities around the TMJ Project and on the Fraser River due to the increase of vessel traffic, noise, movement, light, pollution as well as any additional activities (e.g., anchoring or mooring while waiting to berth in Salish Sea); and
- Increased risk of accidents and malfunctions (i.e., vessel strike, grounding, accidental discharge, etc.) could result in xʷməθkʷəy̓əm fishers avoiding certain areas around the TMJ Project and in the Fraser River where vessel traffic occurs. It is important to note here that risk of accidents and malfunctions are commonly underestimated by proponents and the Crown who often place more weight on likelihood over magnitude in the risk equation. For xʷməθkʷəy̓əm, any high magnitude risk should be given greater weight.

v. *Changes in harvested resource populations by increased volume of marine vessel traffic associated with the TMJ Project on the Fraser River;*

- Decreased fish quantity and quality along the Fraser River due to pollution and potential accidents from marine vessel traffic to and from the marine jetty; and
- The potential impacts of TMJ-related shipping on SRKW, or ḡəłʔaləməcən, could lead to an increase in seal and sea lion populations, which could result in a reduction in salmon quantity (BC EAO 2022a, 19).

### 5.3.3 River Shoreline and Terrestrial Plant Harvesting

As outlined in detail in Section 4, plant harvesting is an important practice and resource for x̣ṃəθḳẉəỵəm members. Plants are central to ceremony, medicine, art, and culture, and provide a source of nutrition. Similar to management of fishing areas, productive berry picking areas were managed by x̣ṃəθḳẉəỵəm families to ensure sustainable harvest. Industrialization along the Fraser River shoreline and Tilbury Island has resulted in a loss of harvesting areas for x̣ṃəθḳẉəỵəm members, loss of access to remaining sites, and the quality and abundance of plant species declining.

The Project Site and immediate vicinity is already alienated from x̣ṃəθḳẉəỵəm river shoreline and terrestrial plant use. However, this area of the river is used for navigation and connects x̣ṃəθḳẉəỵəm to other areas used to harvest plant species. As such, the Project will further impact River Shoreline and Terrestrial Plant Harvesting values by the following expected Project impacts:

- i. *Loss of use of plant harvesting areas due to avoidance related to navigational risks and sense of safety concerns, during construction:*
  - Avoidance of plant harvesting sites upstream from Tilbury Island along the Fraser River due to sense of safety barriers resulting from construction activities;
  - Sense of deteriorating harvesting conditions and decline in the quality of x̣ṃəθḳẉəỵəm members experiences when harvesting; and
  - Increased sense of risk associated with harvesting due to potential for accidents and malfunctions (i.e., vessel strike, grounding, accidental discharge, LNG transfer, etc.).

#### 5.3.3.1 TMJ Project Interactions with River Shoreline and Terrestrial Plant Harvesting

The proposed TMJ Project will further negatively impact x̣ṃəθḳẉəỵəm River Shoreline and Terrestrial Plant Harvesting values. **All of the expected impacts identified from the proposed Project outlined above, are also expected to occur because of the TMJ Project and are not repeated below.** Rather than repeat these impacts, only those impacts and impact pathways unique to the TMJ Project are identified and described in the bullets below.

- i. *Loss of use of plant harvesting areas due to avoidance related to perceived or real navigational barriers and/or safety concerns, during operations:*
  - Avoidance of plant harvesting sites upstream from Tilbury Island along the Fraser River due to reduced boat access to harvesting sites and decreased sense of safety in the water;
  - Avoidance of plant harvesting sites upstream from Tilbury Island along the Fraser River due diminishing the quality of x̣ṃəθḳẉəỵəm members experiences when harvesting resulting from the increased sensory impacts from vessel traffic and jetty operations and increase in perceived risks to shoreline, sediment, and water contamination from operations; and
  - Increased risk of accidents and malfunction (i.e., vessel strike, grounding, accidental discharge, etc.) is likely to result in x̣ṃəθḳẉəỵəm harvesters avoiding shoreline



harvesting areas around the TMJ Project where vessel traffic occurs among other psycho-social impacts.

#### 5.3.4 Hunting

As outlined in detail in Section 4, the Fraser River delta is historically and currently an area for x̣ẉṃə̣θ̣ḳẉə̣ỵəm hunting and trapping, attracting a variety of game along the Pacific flyway, though impacts on birds due to pollution, government hunting restrictions, and habitat destruction have all contributed to reduction in harvesting these species. x̣ẉṃə̣θ̣ḳẉə̣ỵəm once harvested large land mammals in the Study Area, but these practices have been severely restricted due to the industrialization and urbanization of the territory.

The Project will further impact x̣ẉṃə̣θ̣ḳẉə̣ỵəm Hunting values by the following expected Project impacts:

- i. *Effects on availability of animals, abundance and health within the LSA caused by the construction and operation of the Project;*
  - Disruption of movement and other behavior from waterfowl from increased lighting and noise from the Project, such as noise from construction vessels, pile driving, and LNG transfer during operations associated with the Project leading to concerns in reduction in availability of harvested species in the LSA;
  - Risk of increased mortality of waterfowl from potential collisions with Project infrastructure and the increased lighting from the Project leading to concerns of reduction in abundance of hunted species in the RSA; and
  - Avoidance of hunting in the LSA due to reduced sense of safety and concerns about deterioration in quality of habitat, deterioration of health and abundance of waterfowl, and increased contamination in animal tissue.

##### 5.3.4.1 TMJ Project Interactions with Hunting

The proposed TMJ Project will further negatively impact x̣ẉṃə̣θ̣ḳẉə̣ỵəm Hunting values. **All the expected impacts identified from the proposed Project outlined above, are also expected to occur because of the TMJ Project and are not repeated below.** Rather than repeat these impacts, only those impacts and impact pathways unique to the TMJ Project are identified and described in the bullets below.

- i. *Displacement of x̣ẉṃə̣θ̣ḳẉə̣ỵəm current and future harvesters by the Project;*
  - Avoidance of hunting grounds due to diminished sensory experience and reduced enjoyment caused by construction activities and the physical footprint of the Project; and
  - Loss of boat access to hunting grounds due to diminished sense of safety on the water.

### 5.3.5 Cultural Continuity

As outlined in detail in Section 4, the Fraser River, and all x̣ṃəθḳẉəỵəm territory, is deeply entwined with x̣ṃəθḳẉəỵəm oral histories, cultural identity, and position in historical trade network. As stated previously, culture is the essence of who x̣ṃəθḳẉəỵəm is and informs how x̣ṃəθḳẉəỵəm members understand the world around them. Culture is reflected in how x̣ṃəθḳẉəỵəm members live out every aspect of their lives, and therefore any negative impact other rights will also likely have an impact on culture and, in turn, cultural continuity for x̣ṃəθḳẉəỵəm. x̣ṃəθḳẉəỵəm has a rich history in the territory, for example, multiple villages were once located along the shores of the Fraser River and used as seasonal and permanent harvesting camps, habitation areas and burial grounds and continue to be visited by members today. x̣ṃəθḳẉəỵəm has continuously used the river for fishing of salmon, eulachon, sturgeon, and other resources. Industrialization and urbanization along the Fraser River, including increases in vessel traffic, has made some historical harvesting knowledge no longer applicable, increasing concerns regarding sense of safety for harvesters, and changed sense of safety and availability in culturally important species. This all impacts x̣ṃəθḳẉəỵəm members' ability to not only exercise their harvesting rights, but also to pass on generational knowledge and alienate members from x̣ṃəθḳẉəỵəm territory by severing their sense of place and connection to the landscape and riverscape.

The Project will further impact x̣ṃəθḳẉəỵəm Cultural Continuity values by the following expected Project impacts:

- i. *Decline in knowledge transfer due to decreased sense of safety to access and use lands and waters critical to cultural continuity, including harvesting areas, and likely resulting x̣ṃəθḳẉəỵəm avoidance of the Project Site and likely the LSA during construction;*
  - Decline in use areas to transfer x̣ṃəθḳẉəỵəm knowledge due to decreased sense of safety in the Project Site and LSA due to the increase in construction-related vessel traffic and related sensory disturbance from traffic and on-land construction for entire duration of Project construction; and
  - Even a few years of disruption to knowledge transfer, including ceremonial and spiritual practices, may lead to longer term impacts on overall x̣ṃəθḳẉəỵəm cultural continuity.
- ii. *Indirect effects on continuity of food harvesting and processing knowledge from disruption and displacement from plant harvesting, navigation, food processing, and fishing areas for duration of Project construction;*
  - Disruption and constraint in accessing fish harvesting areas due to barriers to access, resource availability changes, and displacement due to vessel traffic during construction; and
  - Impacts on x̣ṃəθḳẉəỵəm members' ability to trade harvested plant and fish resources with other nations and the protocols and practices that are associated with trade for duration of Project construction, which may lead to longer term impacts on overall x̣ṃəθḳẉəỵəm cultural continuity.

#### 5.3.5.1 TMJ Project Interactions with Cultural Continuity

x̣ṃəθḳẉəỵəm Cultural Continuity values will be further impacted by the following potential interactions with the TMJ Project. **All the expected impacts identified from the proposed Project outlined above, are also expected to occur because of the TMJ Project and are not repeated below.** Rather than repeat these impacts, only those impacts and impact pathways unique to the TMJ Project are identified and described in the bullets below.

- i. *Decline in knowledge transfer for duration of Project construction and operations due to x̣ṃəθḳẉəỵəm avoidance of the Project Site and LSA);*
  - Decreased sense of safety on the water and perceived risks associated with quality and quantity of resources, resulting from increases in vessel traffic, physical constraints from the jetty, sensory disturbance and access restrictions from various activities, and concerns regarding risks of Project activities (e.g. LNG transfer) are expected to result in avoidance;
  - Loss of x̣ṃəθḳẉəỵəm knowledge transfer due to avoidance of x̣ṃəθḳẉəỵəm members to the TMJ Project Site and parts of the LSA (BC EAO 2022a, 438);
  - Decrease sense of safety and abundance in fish populations across the LSA is expected to result in further declines in x̣ṃəθḳẉəỵəm opportunities to teach the next generation about fishing on and off the river, which have already been severely affected by low populations of fish species (BC EAO 2022a, 438);
  - Disruption and constraint of ceremonial and spiritual practices that depend upon access to river resources, shoreline areas, and heritage sites such as village sites and camping areas;
  - Avoidance of x̣ṃəθḳẉəỵəm harvesters from areas around the TMJ Project Site and the LSA are due to concerns about the risks of accidents or malfunctions from TMJ Project activities, which would restrict the ability of x̣ṃəθḳẉəỵəm members to transfer knowledge (Tam et al. 2018); and
  - Impacts on x̣ṃəθḳẉəỵəm members' access to the TMJ Project Site will result in decreased knowledge transfer, with the presence of larger ships and construction activities deterring specifically younger generations from the area (B.C. EAO 2022a, 438). Where that chain of knowledge is broken, i.e. through the knowledge holder passing, that knowledge may never be recovered.
- ii. *Disruption of x̣ṃəθḳẉəỵəm cultural connection to cultural landscape and riverscape of the Project Site and LSA;*
  - Disruptions to x̣ṃəθḳẉəỵəm members' sense of place, identity, and spirituality due to displacement from Tilbury Island by the marine jetty, exclusion from portions of the LSA during fish harvesting times (i.e., during construction vessels movement and use, and when LNG vessels are at the site at the same tide cycle), exclusion from camping and old village sites and restrictions to traditionally used water routes to access x̣ṃəθḳẉəỵəm territory; and

- Disruptions to xʷməθkʷəy̓əm members' sense of place from the increase in noise from construction activities for the marine jetty (Tam et al. 2018), and likely resulting from other sensory disturbance.
- vi. *Impacts to SRKW from the TMJ-related vessel traffic in the Fraser River and in the Salish Sea will result in impacts to xʷməθkʷəy̓əm's members ability to transfer knowledge and oral histories;*
- Impacts from the TMJ Project on SRKW from increased vessel traffic has the potential to disrupt xʷməθkʷəy̓əm's cultural continuity as their absence will weaken the connection of xʷməθkʷəy̓əm members to their cultural identity due to SRKW holding a significant place in xʷməθkʷəy̓əm (BC EAO 2022a, 27); and
  - Impacts on SRKW from the increased vessel traffic associated with the TMJ Project will reduce the number of knowledge transfer opportunities for xʷməθkʷəy̓əm fishers by disrupting fishing practices in the LSA and RSA. As mentioned in section 4.3.6, SRKW influence the timing of fish runs in the Fraser River and any changes to the timing of fish runs will disrupt the transmission of traditional fishing knowledge (BC EAO 2022a, 27).

### 5.3.6 Health

As outlined in detail in Section 4, xʷməθkʷəy̓əm members understand health holistically – as encompassing biological, psychological, social, spiritual, and cultural dimensions, all of which are deeply rooted in relationships with land, water, culture, and community. As described earlier, this holistic and intersectional understanding of health is critical to the consideration of potential adverse health impacts from the Project. The potential interactions with all other categories of rights addressed in this 19(4) Assessment – in particular, those relating to food harvesting and cultural continuity – have direct and compounding implications for xʷməθkʷəy̓əm health and wellbeing both currently and into the future.

The integrity of these rights is therefore central to understanding the baseline conditions of xʷməθkʷəy̓əm health, how they have historically been affected, their current status, and how they stand to be affected by new developments on their territory. The ability to freely harvest, prepare, and share traditional foods, to access culturally safe healing and ceremonial spaces, and to maintain strong, culturally grounded social cohesion through autonomous and self-determining cultural practices are all vital contributors to collective community health. Generations of colonial policies and land dispossession through urbanization, industrialization, and the reserve system, have severely undermined the ability of xʷməθkʷəy̓əm people to freely express their inherent right to maintain holistic health through Indigenous wellness systems as discussed in Section 4.2.7.

It is anticipated that the Project will further impact xʷməθkʷəy̓əm Health values by the following expected Project impacts:

- i. *Impacts on mental, emotional, and psychological wellbeing from cumulative sensory disturbances, risks to health and safety, and interruptions to healing pathways in the RSA;*
- Increased stress, anxiety, and psychological burden due to changes in noise, air, smell, and visual landscapes from Project construction and operations that alter the sensory experience of being on the land and water;

- Disruption of the restorative and healing effects of land and water-based activities due to diminished integrity of the water and land;
  - Mental and emotional distress caused by both real and perceived risks to health and safety, including fears of contamination of fish, plants, and water, potential vessel accidents or spills, and long-term environmental degradation; and
  - Experiences of grief, loss, and re-traumatization associated with further disturbance of culturally significant places, reinforcing long-standing legacies of colonial exclusion from territory-based practices and undermining feelings of autonomy, safety, food sovereignty, and dignity while exercising rights.
- ii. *Reduced food security and negative impacts on nutrition and dietary health due to decreased access to traditional resources in the LSA and Project Site;*
- Loss of, or diminished availability of, key traditional foods such as salmon, sturgeon, eulachon, berries, and medicinal plants due to habitat degradation, reduced access, and avoidance of harvesting areas during construction and operation; and
  - Interference with the meaningful exercise of x̣ẉṃə̣θ̣ḳẉə̣ỵəm's Aboriginal Right to fish and hunt for FSC purposes, including impacts on the safety, accessibility, and quality of fishing experiences that support not only physical nourishment, but also social cohesion, cultural continuity, and holistic health.
- iii. *Negative impacts on community healing and recovery efforts due to constraints on territory-based healing practices, ceremonies, and wellness activities that are widely understood within the community as essential to addressing intergenerational trauma;*
- Reduced opportunities for youth and families to engage in harvesting and cultural practices that support identity formation, knowledge transmission, and long-term wellbeing; and
  - Increased difficulty reversing existing negative health trajectories, as ongoing disturbance and restrictions further limits the remaining spaces and conditions necessary for recovery, resurgence, and future resilience.

#### 5.3.6.1 TMJ Project Interactions with Health

x̣ẉṃə̣θ̣ḳẉə̣ỵəm Health values will be further impacted by the following potential interactions with the TMJ Project. **All the expected impacts identified from the proposed Project outlined above, are also expected to occur because of the TMJ Project and are not repeated below.** Rather than repeat these impacts, only those impacts and impact pathways unique to the TMJ Project are identified and described in the bullets below.

- i. *Indirect effects on food security from disruption and displacement from plant harvesting and fishing areas in the Project Site and LSA, with implications for the RSA;*
- Disruption and constraint of fish harvesting areas and restriction on x̣ẉṃə̣θ̣ḳẉə̣ỵəm fisher movement to access other harvesting areas on either side of the marine jetty and vessels associated with the TMJ Project due to barriers to access, resource availability changes, and displacement.
- ii. *Impacts on psychological and emotional well-being of x̣ẉṃə̣θ̣ḳẉə̣ỵəm members, diminishing feelings of enjoyment during participation in traditional and cultural activities;*

- Increased vessel traffic in the LSA is expected to surpass members' comfort threshold and reduce their feelings of safety when in the river, resulting in severe impacts for the quality of xʷməθkʷəy̓əm's experience while undertaking rights-based activities (BC EAO 2022a, 27);
- Increased vessel traffic is expected to further restrict access for xʷməθkʷəy̓əm fishers by limiting river access, heightening safety concerns, and causing emotional stress due to the uncertainty of potential accidents or malfunctions which could disrupt the protection, persistence, and living of xʷməθkʷəy̓əm šxwtəhim̓ (i.e., ways, manners, and customs) and snəwəyət̓ (i.e., teachings received since childhood, including identity and responsibilities) (B.C EAO 2022a, 27); and
- Increased vessel traffic is expected to reduce opportunities for the preparation and consumption of traditional foods, as well as for xʷməθkʷəy̓əm members to engage in other traditional activities, potentially leading to increased emotional and psychological stress (B.C EAO 2022a, 27).

5.4 Summary of Potential Adverse Interactions Between the Project and xʷməθkʷəy̓əm Rights

Table 4: Assessment of the severity of impacts on each xʷməθkʷəy̓əm right before mitigation measures are put in place.

| Category of Right  | Right Sub- Component                                                                                                                         | Indicators                                                                                                                                                                                                                                                              | Impact pathway                                                                                                                                                                                                                                                                                                    | Context for Practice of Right(s) | Magnitude | Geographic Extent | Reversibility        | Duration    | Likelihood | Overall Severity of Impact before Mitigation |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------|-------------------|----------------------|-------------|------------|----------------------------------------------|
| xʷməθkʷəy̓əm Title | Right to decide how the lands/waters will be used.<br><br>Right to proactively use and manage the lands/waters.                              | Ability to exercise xʷməθkʷəy̓əm decision-making authority, in respect to the Project, within and over xʷməθkʷəy̓əm territorial lands and waters, including the Study Area.<br><br>Ability to proactively govern and control Xʷməθkʷəy̓əm territorial lands and waters. | Crown exclusion of xʷməθkʷəy̓əm from decision-making role in respect to the LNG Expansion Project approval; as well as subsequent monitoring and management of cumulative effects stemming from past, present and future Crown permitting decisions within xʷməθkʷəy̓əm territory, including Tilbury Island.      | Highly Sensitive                 | High      | Local             | Irreversible         | Long-term   | High       | High                                         |
| xʷməθkʷəy̓əm Title | Right to the economic benefits of the lands/waters                                                                                           | Ability to derive economic benefits from infrastructure development in xʷməθkʷəy̓əm territory.                                                                                                                                                                          | Exclusion from decisions related economic beneficial uses of water and land around Tilbury Island.<br><br>Financial losses caused by the LNG Expansion Project to xʷməθkʷəy̓əm's ability to access to commercial fisheries opportunities, including, but not limited to commercial fishing and tourism.           | Highly Sensitive                 | High      | Regional          | Irreversible         | Long-term   | High       | High                                         |
| Fishing            | Right to access, harvest, and process fish for sustenance, social cohesion, and spiritual/ceremonial purposes, as well as economic purposes. | Ability to safely access harvesting areas.<br><br>Sense of safety and security on the water.<br><br>Opportunity for Fraser River fishing and processing (current and future).                                                                                           | <b>Avoidance and displacement of xʷməθkʷəy̓əm fishers</b> from fishing sites during the construction phase, including water routes intersecting with the LNG Expansion Project Site used for patrolling salmon gillnet fisheries, and any perceived or real change in quality and abundance changes to fisheries. | Highly Sensitive                 | High      | Local             | Partially reversible | Medium-term | High       | Moderate                                     |



| Category of Right                                          | Right Sub- Component                                                                                                                                          | Indicators                                                                                                                                                                 | Impact pathway                                                                                                                                                                                                                                                  | Context for Practice of Right(s) | Magnitude | Geographic Extent                                                                         | Reversibility        | Duration                                                | Likelihood | Overall Severity of Impact before Mitigation |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------|-------------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------|------------|----------------------------------------------|
| Fishing                                                    | Sufficiency of resources for food, social and ceremonial, and economic purposes<br>Salmon Species                                                             | Abundance and quality of fish and fish habitat.                                                                                                                            | <b>Declining fish quality and abundance</b> due project construction and operations, including perceived risk of accidents (e.g. LNG transfer)                                                                                                                  | Highly Sensitive                 | Moderate  | Regional (salmon populations moving through the LSA extend beyond xʷməθkʷəy̓əm territory) | Partially reversible | Medium-term                                             | High       | <b>Moderate</b>                              |
| Fishing                                                    | Sufficiency of resources for food, social and ceremonial, and economic purposes<br>Eulachon and Sturgeon                                                      | Abundance and quality of fish and fish habitat.                                                                                                                            | <b>Declining fish quality and abundance</b> due project construction and operation activities, particularly along the shoreline where these species and shoreline changes and shipping activities are expected to occur in the same place.                      | Highly Sensitive                 | High      | Local                                                                                     | Partially Reversible | Medium-term                                             | High       | <b>Moderate</b>                              |
| River Shoreline and Terrestrial Plant Harvesting – General | Right to access, harvest, and process river shoreline and terrestrial foods and materials for sustenance, social cohesion, and spiritual/ceremonial purposes. | Ability to safely access harvesting areas.<br><br>Sense of safety and security on the shoreline and land.<br><br>Opportunity for harvest and process (current and future). | <b>Avoidance and displacement of harvesters</b> from plant harvesting sites upstream from Tilbury Island due to constraints on access and decreased sense of safety largely due to construction barge traffic, but also shoreline changes along Tilbury Island. | Highly Sensitive                 | Moderate  | Local                                                                                     | Partially reversible | Medium-term                                             | High       | <b>Moderate</b>                              |
| River Shoreline and Terrestrial Plant Harvesting           | Sufficiency of resources for food, social and ceremonial purposes.                                                                                            | Abundance and quality of plant harvest.                                                                                                                                    | <b>Declining shoreline plant quantity and quality</b> due to construction activities, on Tilbury Island, as well as vessel traffic, and perceived risk of accidents and malfunctions that may cause pollution or severe and irreversible impacts.               | Highly Sensitive                 | Moderate  | Local                                                                                     | Partially reversible | Medium-term                                             | High       | <b>Moderate</b>                              |
| Hunting                                                    | Right to access hunting locations for sustenance, social cohesion, and spiritual/ceremonial purposes.                                                         | Ability to safely access harvesting areas.<br><br>Sense of safety and security on the land and water.                                                                      | <b>Avoidance and displacement from hunting areas (waterfowl)</b> due to reduced access to shorelines and increased sensory disturbances from                                                                                                                    | Highly Sensitive                 | Moderate  | Local                                                                                     | Partially reversible | Long-term (sensory disturbance over project operations) | Moderate   | <b>Moderate</b>                              |

| Category of Right                                          | Right Sub- Component                                                                                                                       | Indicators                                                   | Impact pathway                                                                                                                                                                                                                                               | Context for Practice of Right(s) | Magnitude                                                                                                                                                                                                | Geographic Extent | Reversibility                                                                                                                      | Duration                                                | Likelihood | Overall Severity of Impact before Mitigation |
|------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|------------|----------------------------------------------|
|                                                            |                                                                                                                                            | Opportunity for harvest and process (current and future).    | construction and operational activities.                                                                                                                                                                                                                     |                                  |                                                                                                                                                                                                          |                   |                                                                                                                                    |                                                         |            |                                              |
| Hunting                                                    | Sufficiency of resources for food, social and ceremonial purposes.                                                                         | Abundance and quality of wildlife harvest.                   | <b>Declining quality, and abundance</b> resulting from removal of shoreline habitat and expansion of sensory disturbance during construction and operation.                                                                                                  | Highly Sensitive                 | Moderate                                                                                                                                                                                                 | Local             | Partially reversible                                                                                                               | Long-term (sensory disturbance over project operations) | Moderate   | <b>Moderate</b>                              |
| Cultural Continuity                                        | Right to continue to safely access and use places for spiritual purposes safely under preferred timing and conditions                      | Sense of safety and security and overall sensory experience. | <b>Decrease in sense of safety due to construction vessels and changes to sensory conditions</b> during construction and operations, needed to support knowledge transmission, which has the potential to endure after the Project is no longer operational. | Highly sensitive                 | High (requires high sense of safety for involving youth in activities on the land and water, required for intergenerational knowledge transfer in one of the last remaining areas important for fishing) | Local             | Partially reversible                                                                                                               | Long-term                                               | High       | <b>High</b>                                  |
| Cultural Continuity, including Sense of Place and Identity | Right to maintain territorial integrity, including the integrity of cultural landscapes, riverscapes, and seascapes.                       | Access to teaching cultural areas and spiritual locations.   | <b>Avoidance and displacement from teaching areas</b> primarily resulting from construction activities.                                                                                                                                                      | Highly Sensitive                 | Moderate                                                                                                                                                                                                 | Local             | Partially reversible (potential for some impacts to endure beyond construction, particularly intergenerational knowledge transfer) | Medium-term                                             | Moderate   | <b>Moderate</b>                              |
| Cultural Continuity, including Sense of Place and Identity | Right to continue transmission of knowledge across generations, including place-based knowledge through practice, language, and sharing of | Ability to continue cultural practices and transmission.     | <b>Interruption of cultural transmission</b> resulting from access and avoidance behaviours expected resulting primarily from construction activities.                                                                                                       | Highly Sensitive                 | Moderate                                                                                                                                                                                                 | Local             | Partially reversible (potential for some impacts to endure beyond construction, particularly intergenerational                     | Medium-term                                             | Moderate   | <b>Moderate</b>                              |

| Category of Right | Right Sub- Component                                                                             | Indicators                                                                                                                                                                                                                                                                                       | Impact pathway                                                                                                                                                                                                                                                                                                                                         | Context for Practice of Right(s) | Magnitude | Geographic Extent | Reversibility                                                                                                                      | Duration    | Likelihood | Overall Severity of Impact before Mitigation |
|-------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------|-------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------|------------|----------------------------------------------|
|                   | oral histories and traditions.                                                                   |                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                        |                                  |           |                   | knowledge transfer)                                                                                                                |             |            |                                              |
| Health            | Right to maintain holistic wellness, including mental, physical, emotional, and spiritual health | Ability to nurture mental & spiritual wellness through use of cultural areas.<br><br>Ability to nurture physical wellness through the harvest of traditional foods and medicines.                                                                                                                | Physical and psychological barriers to accessing cultural and harvesting areas due to declines in confidence in quality and abundance of harvested resources as well as avoidance and displacement behaviours are expected to result in decreases to mental and spiritual wellness. This is primarily the result from project construction activities. | Highly sensitive                 | Moderate  | Local             | Partially reversible                                                                                                               | Medium-term | Moderate   | <b>Moderate</b>                              |
| Health            | Right to maintain social cohesion and community wellbeing                                        | Ability to gather on the lands and waters for social and ceremonial purposes without disruption, including continuity of intergenerational teaching and sharing practices.<br><br>Ability to carry out and implement wellness and healing practices that rely on access to the lands and waters. | Interruption in intergenerational knowledge transfer primarily during construction is expected to result in a disruption of teaching and ceremonies, and wellness and healing practices primarily during construction.                                                                                                                                 | Highly sensitive                 | Moderate  | Local             | Partially Reversible (potential for some impacts to endure beyond construction, particularly intergenerational knowledge transfer) | Medium-term | Moderate   | <b>Moderate</b>                              |

*Table 5: Summary of Project-specific effects on x̣wməθḳwəỵəm rights, prior to mitigation.*

| Category of Right                                          | Context          | Breakdown of severity of impact scores for sub-components under each Category of Right | Summary of severity of impact on Right |
|------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------|----------------------------------------|
| x̣wməθḳwəỵəm Title                                       | Highly Sensitive | High — 2<br>Moderate — 0<br>Low — 0                                                    | Negative (High)                        |
| Fishing                                                    | Highly Sensitive | High — 0<br>Moderate — 3<br>Low — 0                                                    | Negative (Moderate)                    |
| River Shoreline and Terrestrial Plant Harvesting           | Highly Sensitive | High — 0<br>Moderate — 2<br>Low — 0                                                    | Negative (Moderate)                    |
| Hunting                                                    | Highly Sensitive | High — 0<br>Moderate — 2<br>Low — 0                                                    | Negative (Moderate)                    |
| Cultural Continuity, including Sense of Place and Identity | Highly Sensitive | High — 1<br>Moderate — 1<br>Low — 1                                                    | Negative (Moderate-to-High)            |
| Health                                                     | Highly Sensitive | High — 0<br>Moderate — 2<br>Low — 0                                                    | Negative (Moderate)                    |

#### 5.4.1 Potential Effects from the LNG Expansion and TMJ Projects Combined

As demonstrated above, the LNG Expansion Project is predicted to have an overall high impact on x̣wməθḳwəỵəm Title, moderate impact to Cultural Continuity, River Shoreline and Terrestrial Plant Harvesting, Fishing, and Health, and a low impact on Hunting. However, when the LNG Expansion Project is viewed with the TMJ Project and in the RSA, these predicted impacts are underestimated. The overall impacts x̣wməθḳwəỵəm members will experience on their rights in

the future are expected to be higher, if both projects are to move ahead. Specifically, the marine vessel traffic is proposed to increase throughout the construction and operation phases of the TMJ Project, which will have a cumulative effect on Title, Fishing, River and Terrestrial Shoreline Harvesting, Hunting, Cultural Continuity, and Health. As xʷməθkʷəy̓əm members have already indicated, more vessels will be within the river system which can cause access constraints on members' ability to travel to harvesting areas at preferred times, and in turn impacts their ability to transfer knowledge.

As demonstrated, assessing the LNG Expansion and TMJ projects individually does not accurately reflect the severity of the potential impacts on xʷməθkʷəy̓əm rights. As noted above, xʷməθkʷəy̓əm believes that excluding the TMJ Project and the RSA from consideration when predicting impacts of the LNG Expansion leads to an underestimation of effects, as when considered interdependently, more substantial impacts are predicted to occur.

Additionally, with the increase in marine vessel traffic and shoreline development along the Lower Fraser and throughout the RSA when considering reasonably foreseeable developments, there is expected to be even further negative impacts to xʷməθkʷəy̓əm fishing within the Fraser River and Salish Sea, resulting from declines in sense of safety on the water, decrease in confidence in quality and quantity of harvested resources, and perceived risks of accidents and malfunctions. Such cumulative effects have not been systematically assessed in this Assessment, but xʷməθkʷəy̓əm remains seriously concerned about these impacts.

## 6. Evaluation of Effectiveness of Proposed Mitigation and Offsetting Measures

### 6.1 Approach to Evaluating Effectiveness of Proposed Mitigation and Offsetting Measures

This Section presents a set of draft mitigations and offsetting measures for each of the Project-specific effects identified in Section 5. The purpose of this Section is to determine the level of certainty in the effectiveness of proposed mitigation and offsetting measures for reducing predicted levels of adverse Project-specific effects on xʷməθkʷəy̓əm rights. Where there is uncertainty in respect to the likelihood of the effectiveness in proposed mitigation and offsetting measures, the analysis assumes a reduction in the estimated effectiveness of the proposed measures.

Specifically, the approach used to determine confidence considered the following factors:

- The degree of information and evidence provided to demonstrate efficacy of a proposed mitigation or offsetting measure in similar environments for similar project impacts and general expert and community support for these measures to justify the selection;
- The level of detail about the measures outlined in any plan (e.g. a plan for a plan is considered to have low confidence);
- The level of resourcing committed to implement the mitigation or offsetting measure;
- The effectiveness of a monitoring program to identify and measure a potential project effect; and

- The linkage between the monitoring results and commitment to adapt/update a measure in circumstances where effects are identified.

This approach is keeping with the following observations from the Federal Court of Appeal in *Taseko v. Minister of Env 2017 FCA*:

*It was reasonable for the Panel not to accept Taseko’s “vague assurances” that it would engage in adaptive management in order to deal with adverse environmental effects. The Panel sought information on environmental effects and mitigation measures, and Taseko refused to provide this information. It was entirely reasonable, and in line with the Panel’s (reasonable) interpretation of the precautionary principle, for the Panel to conclude that the concentration of water quality variables in Fish Lake (Teztan Biny) and Wasp Lake would likely be a significant adverse environmental effect. Indeed, acceptance of vague adaptive management schemes in circumstances such as these would, in my view, tend to call into question the value of the entire review panel process – if all such decisions could be left to a later stage, then the review panel process would simply be for the sake of appearances.<sup>7</sup> (emphasis added)*

The proposed Proponent mitigation measures for the Project are drawn from Appendix A – Summary of Mitigation Measures of the Environmental Assessment Certificate Application (FortisBC 2026). It is critical to note that this was written prior to the final Application submitted to the EAO in February 2026. This Assessment was drafted to include Appendix A mitigations and these mitigation measures:

- exclude all waterborne vessel delivery of modules and bulk construction materials during construction
- exclude all in-water works and the proposed Material off-loading Facility (MOF) described in the Detailed Project Description.

As noted in Section 2.8 Limitations, this Assessment does not include BC EAO’s draft conditions shared in February 2026. See Section 2.8 for further reasoning.

xʷməθkʷəy̓əm has an agreement with FortisBC with respect to this Project. This is not considered a mitigation measure in this Assessment.

For the TMJ Project, the BC EAO Assessment Report (BC EAO 2024a), Schedule B of the EAC #T24-01 (BC EAO 2024b), and the Decision Statement Issued under Section 54 of the Canadian Environmental Assessment Act, 2012 (Impact Assessment Agency of Canada 2024) are incorporated.

Table 6 identifies the related percentages for the qualitative descriptors used to estimate the likely effectiveness of proposed mitigation and follow up measures to eliminate or reduce predicted impacts in Table 7 and have been carried over to Table 8.

*Table 6: Qualitative descriptors used in Table 7 and 8.*

| Percentage | Qualitative Descriptors |
|------------|-------------------------|
|------------|-------------------------|

<sup>7</sup> *Taseko v. Minister of Env 2017 FCA*, at paras. 123 and 124.

|         |              |
|---------|--------------|
| 0%      | Non-Existent |
| 1-10%   | Negligible   |
| 10-39%  | Low          |
| 40-69%  | Moderate     |
| 71-100% | High         |



6.2 LNG Expansion Project Mitigation Measures Evaluation

Table 7: Assessment of Proposed Mitigation Measures Relating to xʷməθkʷəy̓əm Rights and Title.

| Category of Right  | Right Sub-component                                                                                                                          | Impact pathway                                                                                                                                                                                                                                                                                           | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                                                                                                                                                                                                                                                              | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| xʷməθkʷəy̓əm Title | Right to decide how the lands/waters will be used.<br><br>Right to proactively use and manage the lands/waters.                              | Crown exclusion of xʷməθkʷəy̓əm from decision-making role in respect to LNG Expansion Project approval; as well as subsequent monitoring and management of cumulative effects stemming from past, present and future Crown permitting decisions within xʷməθkʷəy̓əm territory, including Tilbury Island. | None proposed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | N/A                                                                                                | No mitigations proposed for this impact.                                                                                                                                                                                                                                                                                                                                               | Non-Existent                                                              |
| xʷməθkʷəy̓əm Title | Right to the economic benefits of the lands/waters.                                                                                          | Exclusion from decisions related economic beneficial uses of water and land around Tilbury Island.<br><br>Financial losses caused by the Project to xʷməθkʷəy̓əm access to commercial fisheries opportunities, including, but not limited to commercial fishing and tourism.                             | [M-70] Continue to work with Indigenous nations to identify economic opportunities, identify current capacity, and identify how Indigenous groups and nations may be included in Project construction, operation, and decommission. Efforts will be made with advanced notice to allow for the Indigenous nations to address these needs and opportunities.<br><br>[M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.<br><br>Musqueam has signed a Project Agreement with the Proponent that provides for Musqueam economic benefits from the Project. | Moderate                                                                                           | Low certainty that the mitigation measure related to identifying economic opportunities will be effective at offsetting the likely adverse economic opportunity impacts.<br><br>Avoidance of waterborne deliveries and the construction of the MOF will mitigate some impacts to xʷməθkʷəy̓əm fisheries, however, there are still impacts to opportunities the land on Tilbury Island. | Low                                                                       |
| Fishing            | Right to access, harvest, and process fish for sustenance, social cohesion, and spiritual/ceremonial purposes, as well as economic purposes. | <b>Avoidance and displacement of xʷməθkʷəy̓əm fishers</b> from fishing sites during the construction phase, including water routes near the LNG Expansion Project Site used for patrolling salmon gillnet fisheries, and any perceived or real quality and abundance changes to fisheries.               | [M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.<br><br>[M-36] Lighting for the Project will be designed in a manner that is consistent with the BC Energy Regulator's (BCER) Light Control Best Practices Guideline.<br><br>[M-05] Use of Totally Enclosed Ground Flare (TEGF) technology to reduce noise and light from flaring.                                                                                                                                                                                                                   | Moderate                                                                                           | Moderate certainty that the avoidance of any in-water project components or activities will be effective at reducing likely adverse impacts of the Project on xʷməθkʷəy̓əm avoidance and displacement from fishing in the LSA and Project Site,<br><br>Sensory impacts remain after BCER guidelines and TEGF technology are applied.                                                   | Moderate                                                                  |

| Category of Right | Right Sub-component                                                                                   | Impact pathway                                                                                                                                 | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
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| Fishing           | Sufficiency of resources for food, social and ceremonial, and economic purposes<br><br>Salmon Species | <b>Declining fish quality and abundance</b> due project construction and operations, including perceived risk of accidents (e.g. LNG transfer) | <p>[M-11] The Project will be designed with containments that halt potential hazardous material spills from leaving the Project Site and will have an emergency generator to provide electric supply for critical loads in the event of a site-wide power failure.</p> <p>[M-26] Mitigation measures described in the Construction Environmental Management Plan (CEMP) during loss of containment of LNG will be implemented.</p> <p>[M-27] The Emergency Response Plan (ERP) will include prescribed responses during loss of containment of LNG.</p> <p>[M-48] Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be measured for field parameters prior to being released to the onsite drainage ditches that flow into the Delta storm sewer.</p> <p>[M-50] Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP.</p> <p>[M-61] Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a Qualified Profession (QP) and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers.</p> <p>[M-68] Design site to promote drainage toward the Delta storm sewer system. Storm water draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer.</p> <p>[M-71] Conduct testing and treatment of hydrostatic test water prior to discharge to Delta's storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP.</p> <p>[M-73] Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums.</p> | Low to Moderate                                                                                    | <p>Some uncertainty that the mitigation measure will be effective at avoiding the likely impact as the refueling and spill response plan has not yet been developed. In addition, low certainty that a comprehensive spill response plan will be implemented and evaluated within 5 years due to the highly complex jurisdiction of the Project Site for spill response.</p> <p>Some uncertainty over the effectiveness of the proposed spill response plan on not worst-case scenario spills as the plan is not developed.</p> <p>Low certainty that response-type mitigation measures will be effective at preventing a spill entirely into the Fraser River.</p> <p>Some uncertainty over the effectiveness of the Project being designed with containments that halt potential hazardous material spills from leaving the Project Site as the details are not provided, including efficacy of response and recovery phase in a response plan by contaminant type (e.g. 6-PPDQ).</p> | Low                                                                       |

| Category of Right | Right Sub-component                                                                                   | Impact pathway                                                                                                                                 | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
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|                   |                                                                                                       |                                                                                                                                                | [M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                           |
| Fishing           | Sufficiency of resources for food, social and ceremonial, and economic purposes<br><br>Salmon Species | <b>Declining fish quality and abundance</b> due project construction and operations, including perceived risk of accidents (e.g. LNG transfer) | <p>[M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.</p> <p>[M-05] Use of TEFG technology to reduce noise and light from flaring.</p> <p>[M-36] Project Site Lighting for the Project will be designed in a manner that is consistent with the BCER's Light Control Best Practices Guideline.</p> <p>[M-48] Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be measures for field parameters prior to being released to the onsite drainage ditches that flow into the Delta storm sewer.</p> <p>[M-50] Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP.</p> <p>[M-61] Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a QP and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers.</p> <p>[M-68] Design site to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer.</p> <p>[M-71] Conduct testing and treatment of hydrostatic test water prior to discharge to the Delta storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP.</p> | High to Low                                                                                        | <p>High certainty that the avoidance of any in-water project components or activities will be effective at reducing likely adverse impacts to sufficiency of resources for salmon.</p> <p>Moderate certainty on effectiveness of impacts to fish abundance due to the potential for persistent impacts due to changes in acoustic and light environments.</p> <p>Low certainty on effectiveness of impacts to fish abundance due to potential for stormwater discharges.</p> | High                                                                      |

| Category of Right   | Right Sub-component                                                                                                 | Impact pathway                                                                                                                                                                                                                             | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
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| Fishing             | <p>Sufficiency of resources for food, social and ceremonial, and economic purposes</p> <p>Eulachon and Sturgeon</p> | <b>Declining fish quality and abundance</b> due project construction and operation activities, particularly along the shoreline where these species and shoreline changes and shipping activities are expected to occur in the same place. | <p>[M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.</p> <p>[M-61] Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a QP and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers.</p> <p>[M-05] Use of TEFG technology to reduce noise and light from flaring.</p> <p>[M-36] Lighting for the Project will be designed in a manner that is consistent with the BCER's Light Control Best Practices Guideline.</p> <p>[M-48] Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be measures for field parameters prior to being released to the onsite drainage ditches that flow into the Delta storm sewer.</p> <p>[M-50] Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP.</p> <p>[M-68] Design site to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer.</p> <p>[M-71] Conduct testing and treatment of hydrostatic test water prior to discharge to the Delta storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP.</p> <p>[M-73] Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums.</p> | High to Low                                                                                        | <p>High certainty that the avoidance of any in-water project components or activities will be effective at reducing likely adverse impacts to sufficiency of resources for Eulachon and Sturgeon.</p> <p>Moderate certainty on effectiveness of impacts to fish abundance due to the potential for persistent impacts due to changes in acoustic and light environments.</p> <p>Low certainty of effectiveness due to potential for impacts to fish habitat from tire particle pollution into the river due to increased road transportation during construction and debris and litter and stormwater</p> | Moderate                                                                  |
| River Shoreline and | Right to access, harvest, and process river                                                                         | <b>Avoidance and displacement of harvesters</b> from plant harvesting sites upstream from                                                                                                                                                  | [M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | High                                                                                               | The impacts of safety barriers are largely mitigated by the proposed measures due to the removal of construction barge traffic from the Project.                                                                                                                                                                                                                                                                                                                                                                                                                                                          | High                                                                      |

| Category of Right                                | Right Sub-component                                                                                              | Impact pathway                                                                                                                                                                                                                                    | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
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| Terrestrial Plant Harvesting                     | shoreline and terrestrial foods and materials for sustenance, social cohesion, and spiritual/ceremonial purposes | Tilbury Island due to constraints on access and decreased sense of safety largely due to construction barge traffic, but also shoreline changes along Tilbury Island.                                                                             | [M-73] Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                           |
| River Shoreline and Terrestrial Plant Harvesting | Sufficiency of resources for food, social and ceremonial purposes.                                               | <b>Declining shoreline plant quantity and quality</b> due to construction activities, on Tilbury Island, as well as vessel traffic, and perceived risk of accidents and malfunctions that may cause pollution or severe and irreversible impacts. | <p>[M-11] The Project will be designed with containments that halt potential hazardous material spills from leaving the Project Site and will have an emergency generator to provide electric supply for critical loads in the event of a site-wide power failure.</p> <p>[M-14] The Project will be designed to the Provincial regulations and applicable standards for LNG production, storage, and handling.</p> <p>[M-15] The Project will be designed in a manner that reduces the potential for a vehicle to collide with key infrastructure.</p> <p>[M-18] The Project stormwater management will be connected to the Delta storm water sewer system.</p> <p>[M-26] Mitigation measures described in the CEMP during loss of containment of LNG will be implemented.</p> <p>[M-27] The ERP will include prescribed responses during loss of containment of LNG.</p> <p>[M-48] Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be measured for field parameters prior to being released to the onsite drainage ditches that flow into the Delta storm sewer.</p> <p>[M-50] Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP.</p> <p>[M-54] Develop dust-control measures to be described in the CEMP to limit PM emission during the construction phase.</p> <p>[M-60] Develop and implement feasible soil-management and soil-handling practices that are effective at managing the introduce and spread of</p> | Low to Moderate                                                                                    | <p>Some uncertainty that the mitigation measure will be effective at avoiding the likely impact as the plans proposed as mitigation measures have not yet been developed. In addition, low certainty that a comprehensive spill response plan will be implemented and evaluated within 5 years due to the highly complex jurisdiction of the Project Site for spill response.</p> <p>Uncertainty over the effectiveness of the Project design as a mitigation measure as the details are not provided, including efficacy of response and recovery phase in a response plan by contaminant type (e.g. 6-PPDQ).</p> <p>Musqueam is included in the development and implementation of soil management and soil handling practices to be included in the CEMP and has the potential to mitigate impacts on vegetation quality.</p> | Moderate                                                                  |



| Category of Right | Right Sub-component                                                                                   | Impact pathway                                                                                                                                                                        | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                                                                                                  | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
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|                   |                                                                                                       |                                                                                                                                                                                       | <p>invasive Noxious plant species, as required under Provincial regulations and Municipal bylaws. The measures will be incorporated into the CEMP.</p> <p>[M-61] Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a QP and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers.</p> <p>[M-68] Design site to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer.</p> <p>[M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.</p>                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                    |                                                                                                                                                                                                                            |                                                                           |
| Hunting           | Right to access hunting locations for sustenance, social cohesion, and spiritual/ceremonial purposes. | <b>Avoidance and displacement from hunting areas (waterfowl)</b> due to reduced access to shorelines and increased sensory disturbances from construction and operational activities. | <p>[M-05] Use of TEGF technology to reduce noise and light from flaring.</p> <p>[M-36] Lighting for the Project is to be designed in a manner that is consistent with the BCER's Light Control Best Practices Guidelines.</p> <p>[M-50] Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP.</p> <p>[M-57] During construction and operation of the Project, develop mitigation and contingency measures through engagement with a QP to reduce acoustic disturbance to human and wildlife receptors and incorporate these measures into the CEMP and Environmental Management System (EMS).</p> <p>[M-02] Where practical, plan construction activities within wildlife habitat or buffers of identified wildlife habitat features during the least-risk timing windows for applicable species. For any work within the buffer zone during a sensitive timing window, consult with Indigenous nations and a Wildlife QP and the appropriate regulatory agencies to determine whether additional feature-specific mitigation is required to be incorporated into the CEMP.</p> <p>[M-59] Develop mitigation and contingency measures in consultation with Indigenous nations and a QP to</p> | Moderate                                                                                           | The proposed mitigation measures will not fully mitigate the impacts of the Project on xʷməθkʷəy̓əm members' avoidance or displacement from hunting due inherently to the Project footprint and associated infrastructure. | Moderate                                                                  |

| Category of Right | Right Sub-component                                                | Impact pathway                                                                                                                                              | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                                                                                                                                                                                                                                      | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
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|                   |                                                                    |                                                                                                                                                             | <p>reduce the potential for adverse interactions with wildlife and wildlife habitat (such as human wildlife conflict, vehicle collisions, and sensory disturbance) and incorporate these measures into the CEMP.</p> <p>[M-72] Complete wildlife surveys prior to construction to identify habitat features that warrant site-specific mitigation measures to reduce potential project effects to wildlife and wildlife habitat.</p> <p>[M-76] All compressors will be enclosed to attenuate noise to a level consistent with the BCER noise regulations.</p> <p>[M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                |                                                                           |
| Hunting           | Sufficiency of resources for food, social and ceremonial purposes. | <b>Declining quality, and abundance</b> resulting from removal of shoreline habitat and expansion of sensory disturbance during construction and operation. | <p>[M-05] Use of TEGF technology to reduce noise and light from flaring.</p> <p>[M-36] Lighting for the Project will be designed in a manner that is consistent with the BCER's Light Control Best Practices Guideline.</p> <p>[M-54] Develop dust control measures to be described in the CEMP to limit PM emission during the construction phase.</p> <p>[M-57] During construction and operation of the Project, develop mitigation and contingency measures through engagement with a QP to reduce acoustic disturbance to human and wildlife receptors and incorporate these measures into the CEMP and EMS.</p> <p>[M-02] Where practical, plan construction activities within wildlife habitat or buffers of identified wildlife habitat features during the least-risk timing windows for applicable species. For any work within the buffer zone during a sensitive timing window, consult with Indigenous nations and a Wildlife QP and the appropriate regulatory agencies to determine whether additional feature-specific mitigation is required to be incorporated into the CEMP.</p> <p>[M-59] Develop mitigation and contingency measures in consultation with Indigenous nations and a QP to reduce the potential for adverse interactions with wildlife and wildlife habitat (such as human wildlife</p> | Low to Moderate                                                                                    | <p>The mitigations proposed will limit the impacts on habitat; however, the impacts on habitat and behaviour due to the Project footprint and associated infrastructure cannot fully mitigate the impacts.</p> <p>Low certainty that the measures will be effective at avoiding or offsetting the likely impact, and the measures are yet to be developed.</p> | Moderate                                                                  |



| Category of Right                                          | Right Sub-component                                                                                  | Impact pathway                                                                                                                                                                                                                                                  | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
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|                                                            |                                                                                                      |                                                                                                                                                                                                                                                                 | <p>conflict, vehicle collisions, and sensory disturbance), and incorporate these measures into the CEMP.</p> <p>[M-60] Develop and implement soil management and soil handling practices that are effective at managing the introduction and spread of invasive noxious plant species as required under Provincial regulations and Municipal bylaws. These measures will be incorporated into the CEMP.</p> <p>[M-72] Complete wildlife surveys prior to construction to identify habitat features that warrant site-specific mitigation measures to reduce potential Project effects to wildlife and wildlife habitat.</p> <p>[M-76] All compressors will be enclosed to attenuate noise to a level consistent with the BCER noise regulations.</p> <p>[M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.</p>                                                                                  |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                           |
| Cultural Continuity, including Sense of Place and Identity | Right to continue to access and use places for spiritual purposes safely under timing and conditions | <b>Decrease in sense of safety due to construction activities and changes to sensory conditions</b> during construction and operations, needed to support knowledge transmission, which has the potential to endure after the Project is no longer operational. | <p>[M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.</p> <p>[M-36] Lighting for the Project is to be designed in a manner that is consistent with the BCER's Light Control Best Practices Guidelines.</p> <p>[M-05] Use of TEGF technology to reduce noise and light from flaring.</p> <p>[M-54] Develop dust control measures to be described in the CEMP to limit PM emission during the construction phase.</p> <p>[M-24] Receive, record, investigate, and follow-up on odour complaints from Indigenous nations, the public, and adjacent businesses.</p> <p>[M-08] Traffic management mitigation measures will be developed and incorporated into the CEMP and EMS. Contractor personnel will comply with road use and safety requirements outlined in the CEMP and EMS, applicable Municipal and Provincial traffic regulations, including truck routes and approved access routes.</p> | Moderate                                                                                           | <p>Declines in sense of safety on the water is largely mitigated by the proposed measures due to the removal of construction barge traffic from the Project, but sensory impacts remain.</p> <p>The impacts on the cultural landscape in the LSA cannot be fully mitigated by the proposed measures. However, the avoidance of in-water project components and activities will mitigate impacts to an increase in barge traffic during construction.</p> <p>Low certainty that the mitigation measure will be effective at avoiding the likely impacts, and the measures are yet to be developed in detail.</p> | Moderate                                                                  |

| Category of Right                                          | Right Sub-component                                                                                                      | Impact pathway                                                                                          | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                        | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
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|                                                            |                                                                                                                          |                                                                                                         | <p>[M-50] Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP.</p> <p>[M-57] During construction and operation of the project, develop mitigation and contingency measures through engagement with a QP to manage acoustic disturbances to human and wildlife receptors and incorporate these measures into the CEMP and EMS.</p> <p>[M-55] During operation, refer to the existing EMS, environmental standards, and guidance documents that will be updated, where required, as a result of the project.</p> <p>[M-73] Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums.</p> <p>[M-76] All compressors will be enclosed to attenuate noise to a level consistent with the BCER noise regulations.</p>    |                                                                                                    |                                                                                                                                                  |                                                                           |
| Cultural Continuity, including Sense of Place and Identity | Right to maintain territorial integrity, including to maintain integrity of cultural landscape, riverscape, and seascape | <b>Avoidance and displacement from teaching areas</b> primarily resulting from construction activities. | <p>[M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.</p> <p>[M-31] Prohibit the collection of heritage resources by Project personnel on the Project Site.</p> <p>[M-34] Notify Indigenous nations whose traditional territories overlap with the project before commencement of construction, as well as other stakeholders within the project area.</p> <p>[M-46] If archaeological and/or heritage resources are identified during construction and decommissioning activities, then the Project archaeologist will develop and implement appropriate mitigation measures through engagement with regulators and Participating Indigenous nations, and in accordance with the site-specific Archaeological Chance Find Management Guide (Appendix S of the Application).</p> | High                                                                                               | The impacts of safety barriers are largely mitigated by the proposed measures due to the removal of construction barge traffic from the Project. | High                                                                      |

| Category of Right                                          | Right Sub-component                                                                                                                                                       | Impact pathway                                                                                                                                         | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                                                                                                                                                                                                                                                      | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
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| Cultural Continuity, including Sense of Place and Identity | Right to continue transmission of knowledge across generations, including place-based knowledge through practice, language, and sharing of oral histories and traditions. | <b>Interruption of cultural transmission</b> resulting from access and avoidance behaviours expected resulting primarily from construction activities. | <p>[M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.</p> <p>[M-05] Use of TEGF technology to reduce noise and light from flaring.</p> <p>[M-34] Notify Indigenous nations whose traditional territories overlap with the Project before commencement of construction, as well as other stakeholders within the Project Area.</p> <p>[M-36] Lighting for the Project is to be designed in a manner that is consistent with the BCER's Light Control Best Practices Guidelines.</p> <p>[M-24] Receive, record, investigate, and follow-up on odour complaints from Indigenous nations, the public, and adjacent businesses.</p> <p>[M-54] Develop dust control measures to be described in the CEMP to limit PM emission during the construction phase.</p> <p>[M-57] During construction and operation of the project, develop mitigation and contingency measures through engagement with a QP to manage acoustic disturbance to human and wildlife receptors and incorporate these measures into the CEMP and EMS.</p> <p>[M-59] Develop mitigation and contingency measures in consultation with Indigenous nations and a Qualified Professional to reduce the potential for adverse interactions with wildlife and wildlife habitat (such as human wildlife conflict, vehicle collisions, and sensory disturbance), and incorporate these measures into the CEMP.</p> <p>[M-73] Communicate Project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums.</p> | High                                                                                               | <p>Access and avoidance behaviours are largely mitigated by the proposed measures due to the removal of construction barge traffic from the Project.</p> <p>Low certainty that the other mitigation measures will be effective at avoiding or offsetting the likely impact, as the majority of the proposed measures relate only to communication with Indigenous Nations.</p> | High                                                                      |
| Health                                                     | Right to maintain holistic wellness, including mental, physical,                                                                                                          | <b>Decreases to mental and spiritual wellness</b> resulting from physical and psychological barriers to accessing cultural and harvesting areas due to | <p>[M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Moderate                                                                                           | Avoidance and displacement behaviours are largely mitigated by the proposed measures due to the removal of construction barge traffic from the Project.                                                                                                                                                                                                                        | Moderate                                                                  |

| Category of Right | Right Sub-component             | Impact pathway                                                                                                                                                                              | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
|-------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
|                   | emotional, and spiritual health | declines in confidence in quality and abundance of harvested resources as well as avoidance and displacement behaviours. This is primarily the result from project construction activities. | <p>[M-05] Use of TEGF technology to reduce noise and light from flaring.</p> <p>[M-24] Receive, record, investigate, and follow-up on odour complaints from Indigenous nations, the public, and adjacent businesses.</p> <p>M-36] Lighting for the Project will be designed in a manner that is consistent with the BCER's Light Control Best Practices Guideline.</p> <p>[M-54] Develop dust-control measures to be described in the CEMP to limit PM emission during the construction phase.</p> <p>[M-57] During construction and operation of the project, develop mitigation and contingency measures through engagement with a QP to manage acoustic disturbance to human and wildlife receptors and incorporate these measures into the CEMP and EMS.</p> <p>[M-61] Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a QP and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers.</p> <p>[M-62] Develop emergency response measures to prevent and manage emergencies, including complete onsite fire control and response systems independent of Delta Fire and Emergency Services. Additionally, FortisBC will maintain an ERP with procedures, training and response plans developed alongside the local, fire, police, and medical services and BCER. The ERP will be tested annually, as per the requirements of the BCER. These emergency response measures will be incorporated into the CEMP.</p> <p>[M-68] Design site to promote drainage toward the Delta storm sewer system. Storm water draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer.</p> <p>[M-71] Conduct testing and treatment of hydrostatic test water prior to discharge to the Delta storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP.</p> |                                                                                                    | <p>The measures do not fully account for the potential of changes to the use of the area for holistic wellness purposes, so impact pathways remain.</p> <p>Low certainty that the mitigation measures will be effective at avoiding or offsetting all the likely impact, as the majority of the proposed measures assume broad communication strategies or reporting mechanisms would mitigate effects real and perceived barriers to use for xʷməθkʷəy̓əm members.</p> |                                                                           |

| Category of Right | Right Sub-component                                       | Impact pathway                                                                                                                                                                      | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
|-------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
|                   |                                                           |                                                                                                                                                                                     | [M-73] Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                           |
| Health            | Right to maintain social cohesion and community wellbeing | <b>Disruption of teaching and ceremonies, and wellness and healing practices</b> resulting from interruption in intergenerational knowledge transfer primarily during construction. | <p>[M-77] There will be no waterborne deliveries of modular components or construction materials to the Project Site, and no MOF will be required.</p> <p>[M-02] Where practical, plan construction activities within wildlife habitat or buffers of identified wildlife habitat features during the least-risk timing windows for applicable species. For any work within the buffer zone during a sensitive timing window, consult with Indigenous nations and a Wildlife QP and the appropriate regulatory agencies to determine whether additional feature-specific mitigation is required to be incorporated into the CEMP.</p> <p>[M-05] Use of TEGF technology to reduce noise and light from flaring.</p> <p>[M-24] Receive, record, investigate, and follow-up on odour complaints from Indigenous nations, the public, and adjacent businesses.</p> <p>[M-36] Lighting for the Project will be designed in a manner that is consistent with the BCER's Light Control Best Practices Guideline.</p> <p>[M-54] Develop dust control measures to be described in the CEMP to limit PM emission during the construction phase.</p> <p>[M-57] During construction and operation of the Project, develop mitigation and contingency measures through engagement with a QP to reduce acoustic disturbance to human and wildlife receptors and incorporate these measures into the CEMP and EMS.</p> <p>[M-59] Develop mitigation and contingency measures in consultation with Indigenous nations and a QP to reduce the potential for adverse interactions with wildlife and wildlife habitat (such as human wildlife conflict, vehicle collisions, and sensory disturbance), and incorporate these measures into the CEMP.</p> | High                                                                                               | <p>Disruption during construction somewhat mitigated by the proposed measures due to the removal of construction barge traffic from the Project.</p> <p>Uncertainty that the measures will be effective at avoiding or offsetting all likely impacts until the specific plans and measures are fully developed.</p> <p>Musqueam engagement in developing and implementing the CEMP may reduce direct interference with teaching and other cultural and wellness practices.</p> | High                                                                      |

| Category of Right | Right Sub-component | Impact pathway | Proposed Mitigations and Follow up Measures (Proponent)                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Levels of Confidence in Effectiveness of Mitigations within five years of Scheduled Implementation | Rationale | Estimated Likelihood of measures to eliminate or reduce predicted impacts |
|-------------------|---------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------|
|                   |                     |                | <p>[M-60] Develop and implement soil management and soil handling practices that are effective at managing the introduction and spread of invasive noxious plant species as required under Provincial regulations and Municipal bylaws. These measures will be incorporated into the CEMP.</p> <p>[M-72] Complete wildlife surveys prior to construction to identify habitat features that warrant site-specific mitigation measures to reduce potential Project effects to wildlife and wildlife habitat.</p> |                                                                                                    |           |                                                                           |

The estimated likelihood that proposed mitigation measures for the LNG Expansion Project identified in Table 6 will reduce or eliminate the predicted impacts for each category of right was found to be negligible for xʷməθkʷəy̓əm Title, high for Fishing, moderate for River Shoreline and Terrestrial Plant Harvesting, moderate for Hunting, moderate for Cultural Continuity, and moderate for Health. This is largely the result of measure to remove all waterborne deliveries of modular components or construction materials to the Project Site, and elimination of the proposed materials offloading facility. Direct in-water impacts from construction vessels has been removed. However, sensory disturbance, shoreline habitat removal, and perceived risk associated with Project construction and operations remain with few measures proposed that demonstrate likelihood of reducing or eliminating predicted impacts.



## 6.3 TMJ Mitigation Measures Evaluation

This Section provides an overview of the TMJ Project's mitigation measures, assessing them based on their level of confidence, and concludes by examining how these measures, in combination with the mitigation measures proposed for the LNG Expansion Project, aim to address and mitigate the potential effects of both projects. x̣ẉṃə̣θ̣ḳẉə̣ỵəm have included this as the artificial splitting of the projects does not align with the impacts and effects of the projects. The artificial splitting creates a false perspective of impacts.

### 6.3.1 x̣ẉṃə̣θ̣ḳẉə̣ỵəm Title

As discussed in Section 5.1.1.1, the TMJ Project would negatively interact with x̣ẉṃə̣θ̣ḳẉə̣ỵəm Title and the ability for x̣ẉṃə̣θ̣ḳẉə̣ỵəm to exercise the right to make decisions about the lands and waters in x̣ẉṃə̣θ̣ḳẉə̣ỵəm territory. No mitigation measures related to these effects were proposed as part of the TMJ IA Process.

Given that correspondingly, for the LNG Expansion Project, no mitigation measures were proposed, there is **high confidence** that effects to x̣ẉṃə̣θ̣ḳẉə̣ỵəm Title for both projects **will not be effectively mitigated**.

### 6.3.2 Fishing

Section 5.1.2.1 discusses TMJ Project interactions with x̣ẉṃə̣θ̣ḳẉə̣ỵəm Fishing. The following mitigation measures committed to by the Proponent that are most relevant to x̣ẉṃə̣θ̣ḳẉə̣ỵəm Fishing include:

- Develop a Marine Communication Management Plan that will include procedures for Proponent communication with Indigenous Groups and other marine users;
- Site Management, Erosion and Sediment Control Plan, which would include measures to prevent erosion, sedimentation and effects to the aquatic environment;
- In-water Works Management Plan, which would describe mitigation measures, including conducting in-water works during the DFO fisheries reduced-risk work window (16 July – 28 February) to the extent possible; however, in the event that in-water works extended beyond this window, the Proponent would consider additional mitigations (this would be done in a post-IA setting in consultation with Indigenous groups and DFO, to protect fish during sensitive life stages); the implementation of underwater noise mitigation, as well as water quality monitoring to reduce effects to water quality and aquatic life;
- Fish Habitat Offset Plan, to offset the harmful alteration, disruption or destruction of fish habitat of fish habitat (HADD) due to TMJ footprint disturbance;
- Dredging Management Plan, which would include water quality monitoring and dredging practices to ensure dredging practices minimize effects to the aquatic environment;
- Using side scan sonar for sturgeon detection and develop additional mitigations as a result of monitoring;



- Identifying acoustic and vibratory fish deterrent measures to reduce entrainment and harm risk for sturgeon;
- Seasonal restriction of hydraulic suction and clamshell dredging to avoid entrainment of juvenile salmonids and eulachon;
- Use of dredging practices that minimize the release of suspended sediments to the water column;
- Minimize underwater noise generation activities by using vibratory pile driving, ramp up techniques, and applying injury noise thresholds for fish;
- Develop a Vessel Traffic Management Plan for vessels calling at TMJ to follow the mitigations of maintaining a speed no greater than 10 knots within the Fraser River when safe to do so, follow established routes, regularly clean propellers; and
- Develop a CEMP, Operations Environmental Management Plan (OEMP), and Decommissioning Environmental Management Plan (DEMP) to identify how mitigation measures will be implemented for the following items: lighting management, noise and vibration management, surface water management, and scour protection management.

There is a moderate certainty that a Marine Communications Plan developed closely with xʷməθkʷəy̓əm will have the ability to reduce impacts on xʷməθkʷəy̓əm fishing. This is largely an untested mitigation and will have to be utilized practically by both parties on an ongoing basis in order to be fully effective. Similarly, there is moderate certainty regarding the In-Water Works Management Plan's effectiveness on reducing the impacts to fish and fish habitat particularly concerning the following of DFO fisheries reduced-risk work windows, as xʷməθkʷəy̓əm knowledge about fish behaviours may differ from DFO's established reduced-risk work windows. In addition, the remaining standard mitigation measures related to construction and ongoing operations on average would have a moderate effectiveness, given the inherent risks to fish and fish habitat, and the high potential for xʷməθkʷəy̓əm fishers to continue to avoid the TMJ Project area due to perceived risks.

Considering both the LNG Expansion and TMJ projects mitigations, **the effectiveness of mitigations proposed for Fishing is estimated to be moderate.**

### 6.3.3 River Shoreline and Terrestrial Plant Harvesting

The following mitigation measures are committed to by the Proponent:

- A Dredging Management Plan to mitigate potential adverse effects to the bed of the Fraser River caused by dredging during construction and operations;
- Develop a Vessel Traffic Management Plan for vessels calling at TMJ to follow the mitigations of maintaining a speed no greater than 10 knots within the Fraser River when safe to do so, follow established routes, regularly clean propellers;
- Develop a Marine Communication Management Plan that will include procedures for Proponent communication with Indigenous Groups and other marine users; and

- Vessels and other equipment involved in pile driving and construction activities will be positioned in a manner that will prevent damage to the riverbed and foreshore.

The mitigations proposed relate mainly to plans managing vessel traffic or activities within the Fraser River; however, as currently proposed would be estimated to have low effectiveness as x̣ẉṃə̣θ̣ḳẉə̣ỵəm members are likely to continue to avoid plant harvesting sites in the area due to declines in quality of experience and increase in perceived risk associated with Project construction and operations.

Considering both projects together, there is an estimated **low to moderate effectiveness of the combined mitigation measures** to reduce impacts on River Shoreline and Terrestrial Plant Harvesting.

#### 6.3.4 *Hunting*

For Hunting, the following most relevant mitigation measures are committed to by the Proponent:

- Develop light, noise and air quality management measures in the CEMP, OEMP, and DEMP to reduce visual impacts to experiential aspects of gathering, hunting and trapping at the TMJ; and
- Implement atmospheric monitoring programs for dust and stack emissions and noise monitoring.

Mitigations proposed for Hunting are estimated to have a low effectiveness, given inherent loss of habitat for and increase in marine traffic, and the potential for the continued disruption of waterfowl and other animals' movement and behaviours despite light, noise, and air quality management measures in the CEMP.

Considered jointly, the proposed mitigations for both projects would have a **low to moderate effectiveness** at reducing impacts to Hunting.

#### 6.3.5 *Cultural Continuity, including Sense of Place*

In Section 5.1.5.1, potential TMJ Project interactions are discussed. The following mitigation measures have been committed to by the Proponent in relation to Cultural Continuity:

- Timing construction activities to avoid commercial salmon fishery openings;
- Marine Communication Management Plan, developed in Crown consultation with Indigenous Groups, and include measures to reduce effects to marine navigation, marine access/ use, and commercial and recreational Indigenous fishers as well as traditional use activities, that include fishing for FSC or domestic purposes;
- Develop light, noise and air quality management measures in the CEMP, OEMP, and DEMP to reduce visual impacts to experiential aspects of gathering, hunting and trapping at the TMJ Project;
- Marine Mammal Management Plan, including measures to reduce underwater noise and monitoring at the TMJ Project;

- Develop a CEMP, OEMP, and DEMP to identify how mitigation measures will be implemented for the following items: lighting management, noise and vibration management;
- Develop a CEMP, OEMP, and DEMP to identify wildlife and wildlife habitat management and monitoring; and
- Develop a CEMP, OEMP, and DEMP to identify emergency response and spill prevention.

As many of the impact pathways on Cultural Continuity are intangible and relate to sense of place and are inherent to the project and its activities, the mitigations above for the TMJ Project are estimated to have low effectiveness.

In light of both the LNG Expansion and TMJ project's mitigations considered together, there is an estimated **low effectiveness** to reduce impacts on Cultural Continuity.

#### 6.3.6 Health

The following mitigation measures are committed to by the Proponent for Health:

- Develop an Air Quality Management Plan for Construction and Operations in the Marine Terminal Area;
- Timing construction activities to avoid commercial salmon fishery openings;
- Marine Communication Management Plan, developed in Crown consultation with Indigenous Groups, and include measures to reduce effects to marine navigation, marine access/ use, and commercial and recreational Indigenous fishers as well as traditional use activities, that include fishing for FSC or domestic purposes; and
- Develop light, noise and air quality management measures in the CEMP, OEMP, and DEMP to reduce visual impacts to experiential aspects of gathering, hunting and trapping at the TMJ.

Many of the impacts to health for the TMJ Project relate to psychological impacts and impacts to emotional wellbeing of x̣ṃəθḳẉəỵəm members, including feelings of enjoyment while on the lands and waters which the committed to mitigation measures only address peripherally. Therefore, considering the combined TMJ and LNG Expansion projects and their mitigation measures, a **low effectiveness** is estimated to reduce impacts to Health.

Overall, the evaluated likelihood of the TMJ Project mitigation measures to reduce or remove effects to the categories of x̣ṃəθḳẉəỵəm rights is as follows: Negligible for x̣ṃəθḳẉəỵəm Title, Moderate for Fishing, Low for River Shoreline and Terrestrial Harvesting, Low for Hunting, Low for Cultural Continuity, and Low for Health.

As noted in Section 2.8 Limitations, this Assessment does not include BC EAO's draft conditions shared in February 2026.

## 7. Residual Effects of the Project on x̣ṃəθḳẉəỵəm Rights

### 7.1 Residual Effects After Consideration of Proposed Mitigation and Offsetting Measures

This Section presents the potential residual adverse effects on x̣ṃəθḳẉəỵəm rights. These residual effects are those that remain after mitigation and offsetting measures either proposed or committed to by the Proponent. Table 8 presents a characterization of the residual effects for each category of right below, linking these residual effects with the impact pathways described in Section 5. As outlined in the Methodology in Section 2, for each category of right, subcomponents and associated indicators were identified. These indicators were used to assess the impacts in Sections 5 and the assess residual impacts, after mitigation, in this Section. Residual impacts are also characterized in the final columns of Table 8 below using the approach outlined in Section 2.6.

Note that the final summary of the severity of residual effects on the right is not necessarily an *average* of the assessment of the effects on the multiple right subcomponents and indicators. For example, where adverse effects on one of the indicators, such as access to a plant harvesting area, are characterized as “high”, the conclusion for the right to harvest in this area would be concluded to be high, even if the effects on other right subcomponents of the right, such as plant abundance or sensory experience, were characterized as “moderate” or “low”. The rationale for this is that the meaningful practice of a right requires that multiple conditions be in place, including in the case of plant harvesting, access, presence/abundance of the species, sensory experience, etc. If even one of these conditions are not in place, then the opportunity to meaningfully practice the right may have a low likelihood and therefore would be seriously impacted. Where the analysis finds residual Project impacts on rights, these will be carried forward into the Section 8 to determine overall severity for residual impacts for each category of right.

For the LNG Expansion Project, there are 35 use values documented by Tam et al. (2018) within the Project Site. The majority of these use values relate to Fishing because the participants in the study (Tam et al. 2018) were seriously concerned about in-water Project interactions from vessel traffic and in-water infrastructure. The Proponent introduced a new mitigation measure part-way through the development of this Assessment: the avoidance of in-water construction works, including vessel traffic and infrastructure. As a result of this Proponent decision, this Assessment has only collected very minimal information related to impacts from the proposed Project on-land construction and operations. This information gap is also identified in Section 2.8.

Table 8: Residual effects characterization table for xʷməθkʷəy̓əm rights with respect to the LNG Expansion Project.

| Category of Right                                | Right Sub-component                                                                                                                                          | Residual impact pathway summary                                                                                                                                                                                                                                                                                   | Severity of Potential Project Impact <i>before mitigation</i><br>(High, moderate, low) | Likely effectiveness of proposed mitigation and follow up measures to eliminate or reduce impacts <sup>8</sup> | Overall Severity of Residual Project Impact <i>after mitigation</i><br>(High, moderate, low) |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| xʷməθkʷəy̓əm Title                               | Right to decide how the lands/waters will be used.<br>Right to proactively use and manage the lands/waters.                                                  | Crown exclusion of xʷməθkʷəy̓əm from decision-making role in respect to the LNG Expansion Project approval; as well as subsequent monitoring and management of cumulative effects stemming from past, present and future Crown permitting decisions within xʷməθkʷəy̓əm territory, including Tilbury Island.      | High                                                                                   | Non-existent                                                                                                   | High                                                                                         |
| xʷməθkʷəy̓əm Title                               | Right to the economic benefits of the lands/waters.                                                                                                          | Exclusion from decisions related economic beneficial uses of water and land around Tilbury Island.<br><br>Financial losses caused by the LNG Expansion Project to xʷməθkʷəy̓əm’s ability to access to commercial fisheries opportunities, including, but not limited to commercial fishing and tourism.           | High                                                                                   | Low                                                                                                            | High                                                                                         |
| Fishing                                          | Right to access, harvest, and process fish for sustenance, social cohesion, and spiritual/ceremonial purposes, as well as economic purposes.                 | <b>Avoidance and displacement of xʷməθkʷəy̓əm fishers</b> from fishing sites during the construction phase, including water routes intersecting with the LNG Expansion Project Site used for patrolling salmon gillnet fisheries, and any perceived or real change in quality and abundance changes to fisheries. | Moderate                                                                               | Moderate                                                                                                       | Moderate                                                                                     |
| Fishing                                          | Sufficiency of resources for food, social and ceremonial, and economic purposes<br>Salmon Species                                                            | <b>Declining fish quality and abundance</b> due project construction and operations, including perceived risk of accidents (e.g. LNG transfer)                                                                                                                                                                    | Moderate                                                                               | Low to High                                                                                                    | Low                                                                                          |
| Fishing                                          | Sufficiency of resources for food, social and ceremonial, and economic purposes<br>Eulachon and Sturgeon                                                     | <b>Declining fish quality and abundance</b> due project construction and operation activities, particularly along the shoreline where these species and shoreline changes and shipping activities are expected to occur in the same place.                                                                        | Moderate                                                                               | Moderate                                                                                                       | Low                                                                                          |
| River Shoreline and Terrestrial Plant Harvesting | Right to access, harvest, and process river shoreline and terrestrial foods and materials for sustenance, social cohesion, and spiritual/ceremonial purposes | <b>Avoidance and displacement of harvesters</b> from plant harvesting sites upstream from Tilbury Island due to constrains on access and decreased sense of safety largely due to construction traffic but also shoreline changes along Tilbury Island.                                                           | Moderate                                                                               | High                                                                                                           | Low                                                                                          |

<sup>8</sup> This category considers the likely effectiveness of all mitigation, offsetting and follow-up measures that have been proposed by the Proponent.

| Category of Right                                          | Right Sub-component                                                                                                                                                       | Residual impact pathway summary                                                                                                                                                                                                                                                                                                                    | Severity of Potential Project Impact <i>before mitigation</i><br>(High, moderate, low) | Likely effectiveness of proposed mitigation and follow up measures to eliminate or reduce impacts <sup>8</sup> | Overall Severity of Residual Project Impact <i>after mitigation</i><br>(High, moderate, low) |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| River Shoreline and Terrestrial Plant Harvesting           | Sufficiency of resources for food, social and ceremonial purposes.                                                                                                        | <b>Declining shoreline plant quantity and quality</b> due to construction activities, on Tilbury Island, as well as vessel traffic, and perceived risk of accidents and malfunctions that may cause pollution or severe and irreversible impacts.                                                                                                  | Moderate                                                                               | Moderate                                                                                                       | Low                                                                                          |
| Hunting                                                    | Right to access hunting locations for sustenance, social cohesion, and spiritual/ceremonial purposes.                                                                     | <b>Avoidance and displacement from hunting areas (waterfowl)</b> due to reduced access to shorelines and increased sensory disturbances from construction and operational activities.                                                                                                                                                              | Moderate                                                                               | Moderate                                                                                                       | Low                                                                                          |
| Hunting                                                    | Sufficiency of resources for food, social and ceremonial purposes.                                                                                                        | <b>Declining quality, and abundance</b> resulting from removal of shoreline habitat and expansion of sensory disturbance during construction and operation.                                                                                                                                                                                        | Moderate                                                                               | Moderate                                                                                                       | Low                                                                                          |
| Cultural Continuity, including Sense of Place and Identity | Right to continue to access and use places for spiritual purposes safely under preferred timing and conditions                                                            | <b>Decrease in sense of safety due to construction activities and changes to sensory conditions</b> during construction and operations, needed to support knowledge transmission, which has the potential to endure after the Project is no longer operational.                                                                                    | High                                                                                   | Moderate                                                                                                       | Moderate                                                                                     |
| Cultural Continuity, including Sense of Place and Identity | Right to maintain territorial integrity, including to maintain integrity of cultural landscape, riverscape, and seascape                                                  | <b>Avoidance and displacement from teaching areas</b> primarily resulting from construction activities.                                                                                                                                                                                                                                            | Moderate                                                                               | High                                                                                                           | Low                                                                                          |
| Cultural Continuity, including Sense of Place and Identity | Right to continue transmission of knowledge across generations, including place-based knowledge through practice, language, and sharing of oral histories and traditions. | <b>Interruption of cultural transmission</b> resulting from access and avoidance behaviours expected resulting primarily from construction activities.                                                                                                                                                                                             | Moderate                                                                               | High                                                                                                           | Low                                                                                          |
| Health                                                     | Right to maintain holistic wellness, including mental, physical, emotional, and spiritual health                                                                          | <b>Decreases to mental and spiritual wellness</b> resulting from physical and psychological barriers to accessing cultural and harvesting areas due to declines in confidence in quality and abundance of harvested resources as well as avoidance and displacement behaviours. This is primarily the result from project construction activities. | Moderate                                                                               | Moderate                                                                                                       | Low                                                                                          |
| Health                                                     | Right to maintain social cohesion and community wellbeing                                                                                                                 | <b>Disruption of teaching and ceremonies, and wellness and healing practices</b> resulting from interruption in intergenerational knowledge transfer primarily during construction.                                                                                                                                                                | Moderate                                                                               | High                                                                                                           | Low                                                                                          |

*Table 9: Summary of Severity of Residual Effects on x̣wməθḳwəỵəm Rights for the LNG Expansion Project.*

| <b>Category of Right</b>                                   | <b>Severity of Residual Impact <i>after mitigation</i>, by VC subcomponent and impact pathway</b> | <b>Average of Overall Severity of Residual Impact <i>after mitigation</i></b> |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| x̣wməθḳwəỵəm Title                                       | High — 2<br>Moderate — 0<br>Low — 0                                                               | <b>Negative (High)</b>                                                        |
| Fishing                                                    | High — 0<br>Moderate — 1<br>Low — 2                                                               | <b>Negative (Low/Moderate)</b>                                                |
| River Shoreline and Terrestrial Plant Harvesting           | High — 0<br>Moderate — 0<br>Low — 2                                                               | <b>Negative (Low)</b>                                                         |
| Hunting                                                    | High — 0<br>Moderate — 0<br>Low — 2                                                               | <b>Negative (Low)</b>                                                         |
| Cultural Continuity, including Sense of Place and Identity | High — 0<br>Moderate — 1<br>Low — 2                                                               | <b>Negative (Low/Moderate)</b>                                                |
| Health                                                     | High — 0<br>Moderate — 0<br>Low — 2                                                               | <b>Negative (Low)</b>                                                         |



## 7.2 Summary of LNG Expansion and TMJ Project Combined Impacts

As characterized in Table 8 and summarized in Table 9 above, residual impacts of the LNG Expansion Project, after mitigation is considered, is expected to result in:

- High residual impacts on xʷməθkʷəy̓əm Title;
- Low/Moderate residual impacts on Fishing and Cultural Continuity; and
- Low residual impacts on River Shoreline and Terrestrial Plant Harvesting, Hunting, and Health.

When the TMJ Project is incorporated into the analysis, the seriousness of the impacts on xʷməθkʷəy̓əm categories of rights are increased. While a detailed assessment for the proposed TMJ Project was not undertaken, Section 5.4.1 describes how additional impacts of the TMJ Project are expected to be even more serious than the proposed Project. Section 6.3 shows clearly that available mitigation measures do not address these impacts, indeed, they offer little to reduce adverse effects particularly when compared to the mitigations offered by the proposed Project. It is therefore expected that the combined impacts of the LNG Expansion Project and TMJ Project will likely result in moderate to high residual impacts for all categories of rights.

## 7.3 Additional Mitigation and Offsetting Measures Required to Minimize Impacts to xʷməθkʷəy̓əm

Based on the overall findings of this 19(4) Assessment, summarized in Table 9 above, additional mitigation measures are required by xʷməθkʷəy̓əm to reduce impacts on xʷməθkʷəy̓əm from the Project. Table 10 below includes additional mitigation or offsetting measures that are recommended by xʷməθkʷəy̓əm, connected to impact pathway for each category of right.

*Table 10: Recommended Additional Mitigation and Offsetting Measures*

| Category of Right  | Impact pathway                                                                                                                                                                                                                                                                                                  | Severity of Residual Impact | Additional Mitigation Measure(s) or Offsetting Measure(s) Recommended by xʷməθkʷəy̓əm                                                                                                                                                                                                                                                            |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| xʷməθkʷəy̓əm Title | <b>Crown exclusion of xʷməθkʷəy̓əm from decision-making role</b> in respect to LNG Expansion Project approval; as well as subsequent monitoring and management of cumulative effects stemming from past, present and future Crown permitting decisions within xʷməθkʷəy̓əm territory, including Tilbury Island. | High                        | <ul style="list-style-type: none"> <li>• Capacity training and funding for xʷməθkʷəy̓əm environmental monitors.</li> <li>• FortisBC to provide funding for scoping sessions related to any future cumulative effects assessment in the region and participate meaningfully in any future cumulative effects assessment in the region.</li> </ul> |
|                    | <b>Exclusion from decisions related economic beneficial uses</b> of water and land around Tilbury Island.                                                                                                                                                                                                       | High                        |                                                                                                                                                                                                                                                                                                                                                  |

| Category of Right                                | Impact pathway                                                                                                                                                                                                                                                                                            | Severity of Residual Impact | Additional Mitigation Measure(s) or Offsetting Measure(s) Recommended by x̣ẉṃə̣θ̣ḳẉə̣ỵəm                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                  | Financial losses caused by the Project to x̣ẉṃə̣θ̣ḳẉə̣ỵəm access to commercial fisheries opportunities, including, but not limited to commercial fishing and tourism.                                                                                                                                |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Fishing                                          | <b>Avoidance and displacement of</b> x̣ẉṃə̣θ̣ḳẉə̣ỵəm <b>fishers</b> from fishing sites during the construction phase, including water routes near the LNG Expansion Project Site used for patrolling salmon gillnet fisheries, and any perceived or real quality and abundance changes to fisheries. | Moderate                    | <ul style="list-style-type: none"> <li>FortisBC to engage with x̣ẉṃə̣θ̣ḳẉə̣ỵəm on robust emergency response and spill planning within the CEMP and/or the OEMP, including co-developing an emergency communication protocol.</li> <li>Develop a culturally appropriate communication strategy with x̣ẉṃə̣θ̣ḳẉə̣ỵəm, for informing the community about the risks of LNG accidents and malfunctions (including spills).</li> </ul> |
|                                                  | <b>Declining fish quality and abundance</b> due project construction and operations, including perceived risk of accidents (e.g. LNG transfer)                                                                                                                                                            | Low                         |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                  | <b>Declining fish quality and abundance</b> due project construction and operation activities, particularly along the shoreline where these species and shoreline changes and shipping activities are expected to occur in the same place.                                                                | Low                         |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| River Shoreline and Terrestrial Plant Harvesting | <b>Avoidance and displacement of harvesters</b> from plant harvesting sites upstream from Tilbury Island due to constraints on access and decreased sense of safety largely due to construction barge traffic, but also shoreline changes along Tilbury Island.                                           | Low                         | <ul style="list-style-type: none"> <li>Develop signage and communications materials for x̣ẉṃə̣θ̣ḳẉə̣ỵəm regarding access restrictions at the project site.</li> </ul>                                                                                                                                                                                                                                                                 |
|                                                  | <b>Declining shoreline plant quantity and quality</b> due to construction activities, on Tilbury Island, as well as vessel traffic, and perceived risk of accidents and malfunctions that may cause pollution or severe and irreversible impacts.                                                         | Low                         |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Hunting                                          | <b>Avoidance and displacement from hunting areas (waterfowl)</b> due to reduced access to shorelines and                                                                                                                                                                                                  | Low                         |                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Category of Right                                          | Impact pathway                                                                                                                                                                                                                                                                                                                                     | Severity of Residual Impact | Additional Mitigation Measure(s) or Offsetting Measure(s) Recommended by x̣ẉṃə̣θ̣ḳẉə̣ỵəm                                                                                                                                                                                                              |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                            | increased sensory disturbances from construction and operational activities.                                                                                                                                                                                                                                                                       |                             |                                                                                                                                                                                                                                                                                                            |
|                                                            | <b>Declining quality, and abundance</b> resulting from removal of shoreline habitat and expansion of sensory disturbance during construction and operation.                                                                                                                                                                                        | Low                         |                                                                                                                                                                                                                                                                                                            |
| Cultural Continuity, including Sense of Place and Identity | <b>Decrease in sense of safety due to construction activities and changes to sensory conditions</b> during construction and operations, needed to support knowledge transmission, which has the potential to endure after the Project is no longer operational.                                                                                    | Moderate                    | <ul style="list-style-type: none"> <li>Provide ongoing funding for x̣ẉṃə̣θ̣ḳẉə̣ỵəm cultural programs, at x̣ẉṃə̣θ̣ḳẉə̣ỵəm's discretion, to promote cultural continuity.</li> </ul>                                                                                                                |
|                                                            | <b>Avoidance and displacement from teaching areas</b> primarily resulting from construction activities.                                                                                                                                                                                                                                            | Low                         |                                                                                                                                                                                                                                                                                                            |
|                                                            | <b>Interruption of cultural transmission</b> resulting from access and avoidance behaviours expected resulting primarily from construction activities.                                                                                                                                                                                             | Low                         |                                                                                                                                                                                                                                                                                                            |
| Health                                                     | <b>Decreases in mental and spiritual wellness</b> resulting from physical and psychological barriers to accessing cultural and harvesting areas due to declines in confidence in quality and abundance of harvested resources as well as avoidance and displacement behaviours. This is primarily the result from project construction activities. | Low                         | <ul style="list-style-type: none"> <li>Funding and capacity building for x̣ẉṃə̣θ̣ḳẉə̣ỵəm to: protect, rehabilitate, and re-establish sacred sites and cultural features; identify locations of sacred and cultural features; and establish clean and quiet spaces for cultural activities.</li> </ul> |
|                                                            | <b>Disruption of teaching and ceremonies, and wellness and healing practices</b> resulting from interruption in intergenerational knowledge transfer primarily during construction primarily from construction.                                                                                                                                    | Low                         |                                                                                                                                                                                                                                                                                                            |

## 8. Conclusions

Using the methodology outlined in Section 2, this 19(4) Assessment provides an analysis of historical and current context of x̱m̱əθḵw̱əy̱əm rights (Section 3 and 4), breaking rights down by category. Each right and subcomponent was then assessed using the indicators described in Section 2.5 and a description of the proposed LNG Expansion Project impacts are presented in Section 5. Measures were then systematically analyzed for effectiveness for each impact in Section 6 and residual effects after measures are then characterized in Section 7. The proposed TMJ Project impacts are also assessed using the same steps but presented in a more generalized fashion in the same Sections.

The importance of Indigenous-led assessments such as this 19(4) Assessment cannot be overstated, as stewards of the land x̱m̱əθḵw̱əy̱əm is best equipped to understand the impacts of the project on our rights and title and the broader ecosystem. Further, x̱m̱əθḵw̱əy̱əm has significant concerns with the Crown's methodologies and processes for this assessment. Particularly, the EAO's assessment of the project's biophysical effects was narrowly confined to the project site itself, rather than evaluating the project within its broader ecological context. By siloing its analysis to a highly disturbed site, the EAO concluded that the project's contribution to cumulative effects would be negligible to low and therefore not significant. This approach is both inappropriate and inadequate because it fails to meaningfully assess how the project's impacts will interact with and compound the existing industrialization, habitat degradation, and ongoing environmental pressures in the surrounding area. Limiting the assessment to the immediate project footprint obscures the cumulative effects that arise from multiple existing, past, and reasonably foreseeable activities, while undermining a holistic evaluation of the project's true environmental consequences. Moreover, limiting the scope to the project's footprint increases jurisdictional complexity given the location of the project site and its proximity to waterways. Though federal bodies are confident in their provincial counterparts' ability to mitigate the impacts to federal jurisdiction, specifically marine impacts, x̱m̱əθḵw̱əy̱əm has concerns that unaddressed impacts from construction and operation pose a risk to fish and fish habitat. By not having a federal condition preventing these risks, the federal government can only intervene in the aftermath of an impact that violates federal legislation. To help mitigate such risks, x̱m̱əθḵw̱əy̱əm will remain heavily engaged on the project through communications with the Crown and the proponent. Not y

### 8.1 Conclusions on Severity of Likely Residual Effects

As characterized in Table 8 and summarized in Table 9 above, residual impacts of the LNG Expansion Project, after mitigation is considered, is expected to result in the following severity conclusions:

- **High residual impacts on x̱m̱əθḵw̱əy̱əm Title.** In summary, x̱m̱əθḵw̱əy̱əm's (a) ability to exercise x̱m̱əθḵw̱əy̱əm decision-making authority (with respect to the Project and territorial lands and waters), and (b) ability to derive economic and other benefits is modified by the Project. **This category of right has already declining and considered highly sensitive, prior to the Project, and will be severely diminished as a result of the Project. The proposed TMJ Project is expected to further diminish this right.**
- **Low/Moderate residual impacts on Fishing and Cultural Continuity.** In summary, the Project modifies x̱m̱əθḵw̱əy̱əm's Fishing right and right to Cultural Continuity such as: (a) right to access, harvest, and process fish and (b) sufficient resources for food,

social, ceremonial, as well as economic purposes, and (c) right to continue transmission of knowledge across generations. **These categories of rights have already declined and are considered highly sensitive, prior to the Project, and are expected to be reaching a diminished state. The Project is expected to result in low to moderate changes to the conditions required to meaningfully exercise these x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ rights.**

- **Low residual impacts on River Shoreline and Terrestrial Plant Harvesting, Hunting, and Health.** The Project modifies x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ's rights associated with all three of these categories, such as (a) right to sufficient waterfowl resources, (b) right to access and harvest river shoreline plant foods and materials, and (c) right to maintain social cohesion and community wellbeing. **These categories of rights have already declined and are considered highly sensitive, prior to the Project. The Project is expected to result in little change in the conditions required for the exercise of rights, relative to an established baseline.**

It is important to note that this 19(4) Assessment only considers Project-specific impacts and is not a cumulative effects assessment. x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ people are particularly vulnerable to additional stressors introduced by new projects or disturbances. This Project must be understood within – and as compounding – the broader cumulative impacts described in Section 4. New disturbances do not occur in isolation; rather, their effects on x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ rights combine and can interact in a synergistic way, amplifying existing layers of ongoing losses and traumas imposed by generations of cumulative dislocation from territory and cultural practice. Given the amount of existing damage to x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ lands, waters, culture, and resources in many areas of x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ territory (see Section 4), even low residual impacts on severely diminished conditions may have serious consequences for x̣ẉṃə̣θ̣ḳẉə̣ỵəṃ rights.

This Assessment considers the mitigation measures proposed by the Proponent, most notably the removal of all in-water works, to allow for an easier comparison between conclusions with this Assessment and those provided by the Proponent. It also means that if these or other mitigations are significantly changed, the Assessment may need to be updated to ensure conclusions are still accurate.

This 19(4) Assessment also includes a general assessment of the proposed TMJ Project. Even though these two projects would not exist without the other, the EAO and the Proponent have assessed them separately. This Assessment considers the TMJ Project impacts, mitigation measures, and residual effects and concludes that, with the TMJ Project, the severity of impacts described above would generally be more severe.

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## APPENDIX A – METHODOLOGY FOR MUSQUEAM RIGHTS IMPACT ASSESSMENT

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In the fall of 2017, Musqueam prepared a submission on its views on the Canadian Environmental Assessment Agency's ("the Agency") October 17, 2017, draft document, "Proposed Methodology for Assessing the Seriousness of Impacts on Rights." In this submission, Musqueam set out what it viewed as the appropriate methodology for the assessment of impacts to Musqueam rights. Central to this approach was Musqueam's recommendation that the Agency adopt an approach to the Rights Impact Assessment (RIA) that:

- provides Musqueam a key role in the determination of the severity of project-specific and cumulative infringements on our rights; and
- co-develops with Musqueam an infringement justification framework.

The methodology set out below builds upon Musqueam's 2017 submission to the Agency. It also has taken into consideration the *Methodology for Assessing Potential Impacts on the exercise of Aboriginal and Treaty Rights of the Proposed Frontier Oil Sands Mine Project* (CEAA and MCFN, 2018). Although this project did not proceed, the publication and distribution of this precedent-setting RIA methodology was widespread and became the basis of the guidance for RIA officially adopted by the Agency in 2020<sup>9</sup>.

This Musqueam methodology was used as general guidance during the development of the more detailed methodology used in this Section 19(4) Assessment of Impacts of the Tilbury Phase 2 LNG Expansion Project on x̣ẉṃə̣θ̣ḳẉə̣ỵəm Culture. For an accurate understanding of the methodology used in this 19(4) Assessment, please consult Section 2 in the main body of that Assessment.

## Key Principles

The principles below guide the overall approach to executing the methodology and to support technical staff with Musqueam and the Agency in 2017 to effectively collaborate throughout the process.

**Principle 1:** The methodology for the assessment of impacts on rights should be informed by or, where possible, developed in collaboration with the rights-holding Indigenous group

**Principle 2:** The assessment must consider the nature and scope of rights, as those rights are asserted, and how the rights might be impacted.

**Principle 3:** The focus of the 19(4) Assessment is on potential impacts to Musqueam rights, not on environmental effects

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<sup>9</sup> Government of Canada, *Guidance: Assessment of Potential Impacts on the Rights of Indigenous Peoples, Impact Assessment Agency of Canada*, accessed December 9, 2024, <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/guidance-assessment-potential-impacts-rights-indigenous-peoples.html>.

**Principle 4:** Assessing new project-specific impacts on the exercise of Musqueam rights requires understanding the context of historical and contemporary cumulative effects in which rights are exercised. How conditions supporting the opportunity to exercise rights have changed over time must be evaluated in order to understand the potential severity of new project-specific effects on those rights.

**Principle 5:** The impacts of the Project on the exercise of Musqueam rights should be assessed in a broad sense, inclusive of any type of potential project effect on the conditions that support the continuity of rights and way of life.

**Principle 6:** The assessment must consider Musqueam's perspective and knowledge.

**Principle 7:** The assessment must consider Musqueam values, norms and laws, as provided by Musqueam.

**Principle 8:** Musqueam will lead the selection of methods and indicators for assessing impacts on Musqueam rights.

**Principle 9:** Thresholds and measures to understand the potential severity of effects of a project on the exercise of rights and culture are to be utilized where they have been defined by Musqueam.

**Principle 10:** The potential effectiveness of proposed mitigation and off-setting measures ("mitigation measures") must be determined through a collaborative analysis undertaken by Musqueam and the Agency, based on existing evidence and examples from current projects. Where a proposed mitigation measure is unprecedented, and/or where there is a high level of uncertainty as to its effectiveness, the assessment will include an estimation of its potential effectiveness to reduce residual effects.

**Principle 11:** Consideration of measures to avoid, reduce or offset impacts to rights will be limited to consideration of measures within the scope of the environmental assessment (EA). Non-EA forms of accommodation (e.g., financial compensation) that are not specific to protecting the reasonable opportunity to exercise Musqueam rights must not be included in the 19(4) Assessment. The 19(4) Assessment should be treated as the basis for arriving at a transparency assessment of what immitigable, residual effects on Musqueam rights result from a proposed project and inform discussions regarding what further non-EA forms of accommodation are required to meet the Crown's legal duty to consult and accommodate.

## Methodology

An eleven-step process is proposed to determine the severity of impacts on Musqueam rights as a result of proposed major projects. Details of each step are described in detail below.

*Table 1: Summary of Steps*

| <b>19(4) Assessment Steps</b>        |                                                                                         |
|--------------------------------------|-----------------------------------------------------------------------------------------|
| <b>Establish Context</b>             | 1. Identify potential impacted rights and study boundaries                              |
|                                      | 2. Establish historical context                                                         |
|                                      | 3. Establish current conditions                                                         |
|                                      | 4. Identify future condition and opportunities for future use                           |
|                                      | 5. Identify thresholds of acceptable change                                             |
| <b>Assess Project Effects</b>        | 6. Identify potential project-rights interactions and analyze potential project effects |
|                                      | 7. Identify mitigations and evaluate effectiveness                                      |
|                                      | 8. Identify project-specific residual effects on rights                                 |
|                                      | 9. Identify cumulative effects on rights                                                |
| <b>Determine Severity of Impacts</b> | 10. Characterize net residual impacts                                                   |
|                                      | 11. Determine severity of impacts                                                       |

### 1. Identify potential impacted rights and study boundaries

The first step to any 19(4) Assessment is to identify which rights should be assessed. The rights are identified because of the importance of these rights to Musqueam and the potential for these rights to be impacted by major projects in Musqueam territory.

Table 2 is not a comprehensive list of Musqueam rights, but rather a sub-set of rights prioritized for full assessment.



## Example Musqueam Rights

*Table 2: Example Musqueam Rights for Assessment*

| Right                                   | Description                                                                                                                                                                             | Indicator(s)                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Musqueam Title (Governance)             | Includes the right to decide how the lands/waters will be used; Right to the economic benefits of the lands/waters; and, Right to proactively use and manage the lands/waters           | <ul style="list-style-type: none"> <li>- Changes to Musqueam decision-making authority within and over Musqueam territorial lands and waters</li> <li>- Changes to ability to derive economic benefits from infrastructural development in Musqueam territory</li> <li>- Changes to ability to proactively govern and control Musqueam territorial lands and waters</li> </ul>                                        |
| Cultural Continuity                     | Includes the ability to continue transmission of knowledge across generations, including place-based knowledge through practice, language, and sharing of oral histories and traditions | <ul style="list-style-type: none"> <li>- Changes in access to key teaching cultural areas</li> <li>- Safety—changes in sense of personal and community safety impacting the ability to continue cultural practices and transmission as a result of the project</li> <li>- Physical, environmental and multisensory changes impacting the ability to practice and transmit cultural knowledge and practices</li> </ul> |
| Sense of Place and Identity             | Includes the ability to maintain territorial integrity, continue to access and use places for spiritual purposes safely under preferred timing and conditions                           | <ul style="list-style-type: none"> <li>- Change in access to spiritual locations</li> <li>- Change in quality of experience due to sensory disturbance</li> <li>- Change in sense of safety</li> <li>- Increased psychological and emotional stress from loss of spiritual landscape</li> </ul>                                                                                                                       |
| Marine Fishing and Estuarine Harvesting | Includes the right and ability to access, harvest, and process marine fish and other marine foods and materials for sustenance, social cohesion, and spiritual/ceremonial purposes.     | <ul style="list-style-type: none"> <li>- Change in access to harvesting areas due to physical, temporal, or administrative restrictions</li> <li>- Change in opportunity (current and future) due to impacts on abundance and/or quality</li> </ul>                                                                                                                                                                   |

| Right                  | Description                                                                                                                                                              | Indicator(s)                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                                                                                                                                                                          | and perceived) of harvest (including reduction of suitable habitat to support abundance) <ul style="list-style-type: none"> <li>- Change in opportunity (current and future) due to decreased efficacy and/or increased competition</li> <li>- Change in cultural and sensory experience while marine harvesting</li> <li>- Change in ability to transfer marine harvesting knowledge intergenerationally</li> </ul> |
| Terrestrial Harvesting | Includes the ability to access, harvest and process terrestrial goods and materials for sustenance, social cohesion, and spiritual/ceremonial purposes.                  | - Similar to above                                                                                                                                                                                                                                                                                                                                                                                                   |
| Health                 | Includes the ability to maintain holistic wellness, including mental physical, emotional, and spiritual health.<br><br>Includes social cohesion and community wellbeing. | <ul style="list-style-type: none"> <li>- Change in ability to maintain holistic health and wellness</li> <li>- Change in social cohesion and community wellbeing</li> </ul>                                                                                                                                                                                                                                          |

## Study Boundaries

In any 19(4) Assessment impacts on Musqueam rights should be assessed in the context of the spatial and temporal boundaries. The following examples are proposed examples that should capture the extent of the likely project-specific and cumulative effects on Musqueam rights:

- Local Study Area (LSA): Project footprint plus a buffer around the project footprint and any relevant marine shipping route with 2km buffer
- Regional Study Area (RSA): within the any relevant marine shipping area and within a buffer of the Project footprint

To adequately address the context influencing the impacts of the project on Musqueam rights, the temporal boundary for any 19(4) Assessment should consider a range from the pre-contact period (e.g., prior to 1800) to a future development period (e.g. 2125 and onwards). Any temporal boundaries should be selected to characterize baseline conditions and trends over time with which the proposed major project is anticipated to interact.

## **2. Establish historical context**

For each Musqueam right selected in the Assessment (see Table 2 for examples), Musqueam should provide a description of the historical context of the exercise of the right as drawn from Musqueam knowledge and use studies and added to or supported by additional right-specific historical information. Establishing the historical context of Musqueam's exercise of each right illustrates the overall context within which the project is being proposed, allows for analysis for the trend in ability to exercise the right over time, and establishes the conditions necessary for Musqueam to exercise the right. Establishing the historical context also speaks to the relative importance of the location historically for the exercise of the right.

## **3. Establish current conditions**

To further establish context, Musqueam should describe the current condition of each right. Depending on availability, Musqueam may use quantitative and qualitative data, supported by reports and impressions shared by membership, of how Musqueam is exercising each right today. Establishing this current condition further informs the trend of the exercise of the right, as first established in the description of historical context, and include a description of territorial capacity (e.g. "what's left") for the reasonable expression of the right.

## **4. Identify future conditions and opportunities for future use**

To ensure a full examination of the context within which Musqueam rights are exercised and may be impacted by the proposed major project, any Musqueam 19(4) Assessment should describe high, medium- and low-development future scenarios related to potential constraints on the opportunity to exercise each right, as is permitted by available information and data. The future analysis includes a best estimation of the future trend of the right, as well as identification of future opportunities that could be facilitated and/or impacted by the project (e.g. habitat restoration initiatives, stock enhancement initiatives, etc.). The future condition also describes a description of Musqueam's desired future state of their right, against which project impacts can be measured.

## **5. Identify thresholds of acceptable change**

For each right, Musqueam's 19(4) Assessments should determine a defined threshold against which change in the condition of the right can be measured to support establishing context and determining severity. Thresholds may be qualitative or quantitative, depending on the right and its associated indicator(s), availability of information and the need for specificity to support conclusions.

For example, one option for addressing adverse impacts to the fishery and crab harvest is to adopt a "sufficiency of resources" approach, meaning that the threshold will be established with the underlying assumption that the full practice of Indigenous rights reasonably includes access to marine environments and resources in which the rights can be exercised. "Sufficient" refers not only to quantity but quality and is evaluated from the perspective of what is required to fulfill not only subsistence requirements, but also cultural needs of the Musqueam now and into the future.

However, there are other approaches to setting thresholds, that include:

- **Indigenous laws and norms** (Musqueam laws and standards apply set the threshold of acceptable change)
- **Rights infringement** (The meaningful opportunity to exercise the right sets the threshold of acceptable change)

## 6. Identify potential project-rights interactions and analyse potential project effects

Once context and thresholds have been established, Musqueam's 19(4) Assessments should identify how Musqueam rights and the project may interact, with specific potential effects identified. Data is drawn from all other aspects of the Impact Assessment (e.g. biophysical, socioeconomic impact assessments, etc.), as well as Musqueam knowledge and use studies and data established in the preceding context-setting steps. Musqueam makes efforts to focus on the key predicted project effects to maintain an efficient assessment and attempts to clearly delineate project effects in a summary format as suggested by the table template below.

| Right | Indicators | Project Interaction Pathways | Potential Effects |
|-------|------------|------------------------------|-------------------|
|       |            |                              |                   |
|       |            |                              |                   |

## 7. Identify mitigations and evaluate level of confidence in predicted effectiveness

For any 19(4) Assessment, Musqueam should examine impact assessment materials to determine if any mitigations are committed to that could lessen the potential effects of the project on each Musqueam right. For each mitigation, Musqueam evaluates the potential effectiveness and potential of that mitigation to adequately address the identified effects. Approaches to assessing potential effectiveness of mitigations can include, but not be limited to, considerations of time delays in effectiveness based on past project experience (e.g., offsetting projects), levels of confidence of success based on past experience with similar mitigations on similar projects, etc. Evaluating mitigations and levels of confidence in their predicted effectiveness, and subsequent steps, may need to be iterative and updated should new mitigations arise and/or conditions be developed in the latter stages of the assessment process.

**To note, for the purposes of any 19(4) Assessment, Musqueam does not include any non-EA related mitigations, such as First Nation-proponent accommodations or other complementary measures committed to by the proponent or government, that do not directly address the specific effect impacting a right. Considering such additional measures would only become relevant after an analysis of severity of residual effects is concluded (see "Next Steps" section).**

## **8. Identify project-specific residual effects on rights**

Once potential effects are identified, mitigations identified and effectiveness evaluated, Musqueam can identify the residual impacts on each right that may remain as a result of the proposed major project. Once identified, any residual project effect is be carried forward for further analysis and characterization in the final steps of the 19(4) Assessment.

## **9. Identify cumulative effects on rights**

Once residual project effects are identified and described, the effects will be analyzed within the consideration of past, present and reasonably foreseeable future projects and activities, i.e., the context(s) described in steps 2-5, and in the context of existing and future predicted trends, opportunities, and desired condition.

## **10. Characterize net residual impacts**

For each effect carried forward, the effect will be characterized using the following categories:

- Context and Comparison to Thresholds (using results of step 9 and summarized here)
- Magnitude
- Spatial Extent
- Duration and Reversibility
- Frequency
- Likelihood that the effect will occur
- Confidence that the assessed effect is accurate (aka, “certainty” of effect)

How potential effects on each right are characterized can be determined using a scale associated with the thresholds established for each right; or alternatively using a description of “high”, “medium”, or “low” or similar descriptor of level of impact (e.g. “reversible”/ “permanent” or “infrequent”/ “frequent”/ “continuous”). Ideally, category definitions and weighting are developed collaboratively and agreed upon by Musqueam and the Agency and/or the BC Environmental Assessment Office prior to final characterization to support transparency and agreement in final characterization outcomes.

## **11. Determine severity of impacts**

As a final step, Musqueam’s 19(4) Assessments should look at the characterization for each right across the categories described in Step 10 and determine the overall severity of impacts to the right. Description of severity rankings should be pre-developed and agreed upon by Musqueam and external parties like the Proponent and/or EA regulator before analysis to support transparency and agreement. Rankings may be as follows:

- **Minor:** ability to practice the Musqueam right is modified by the Project, but can continue at or near acceptable levels as determined by Musqueam.
- **Moderate:** ability to practice the Musqueam right is modified by the Project, and is reaching a threshold of acceptable change.
- **Severe:** ability to practice the Musqueam right is modified by the Project, and has or will surpass a threshold of acceptable change.

During the 19(4) Assessment work, Musqueam should determine more specific criteria based on input from harvesters, knowledge-holders and leadership.

## 12. Next Steps

As part of the iterative process, Musqueam, the EA regulators and the Proponent may wish to modify proposed mitigations (i.e., conditions) to address the predicted severity of adverse impacts and then revisit steps 7 through 11 and modify conclusions.

Once mitigations and/or conditions are finalized, the conclusions of the 19(4) Assessment should be carried forward to discussions between the parties (Musqueam, the Proponent and relevant government agencies and departments) regarding complementary measures and any additional accommodations that may be required. The parties should also develop commitments to monitor the impact on Musqueam rights and the effectiveness of mitigations and conditions, should the project proceed.

This information is then carried forward into the framework for analyzing the justification of infringements of Musqueam's *Sparrow* fishing right ("Justification Analysis").

Given the extensive legacy and cumulative effects within Musqueam territory stemming from prior development and land alienation, the justification of further infringements on Musqueam's *Sparrow* right, and the suitability of proposed accommodation measures to address immitigable impacts to Musqueam rights should consider the extent to which the measures contribute to reconciliation.

Finally, the results of the 19(4) Assessment and the Justification Analysis should be presented to Musqueam and decision makers to inform final conclusions on the project.

## 16.6.2 The EAO's Views

### xʷməθkʷəy̓əm's Assessment

Participating Indigenous nations have the opportunity under section 19(4) of the EAA to carry out an assessment with respect to the potential effects of the project on xʷməθkʷəy̓əm and its rights. xʷməθkʷəy̓əm completed an effects assessment under section 19(4), as agreed upon in the Assessment Plan of the Process Order.

The EAO acknowledges and respects that xʷməθkʷəy̓əm's section 19(4) assessment has been undertaken using its own laws, knowledge systems, and decision-making frameworks, and that the assessment reflects xʷməθkʷəy̓əm's perspectives on the nature and severity of potential effects on its Aboriginal rights and title. The EAO also acknowledges that xʷməθkʷəy̓əm's assessment methods may differ in some respects from EAO's assessment methods, and that any characterization of residual effects and determination of significance for this assessment is based on the methods that xʷməθkʷəy̓əm used.

### xʷməθkʷəy̓əm's Involvement and Engagement

xʷməθkʷəy̓əm identified as a participating Indigenous nation for the Project, which provided opportunities to participate in the environmental assessment process, including through development of the Process Order, Application Information Requirements, Assessment Plan, Fortis Application, EAO's Assessment Report and ongoing engagement with the EAO and Fortis.

The EAO worked collaboratively with xʷməθkʷəy̓əm throughout the environmental assessment process. xʷməθkʷəy̓əm participated in technical discussions and iterative engagement opportunities to review project information, identify potential effects on its rights, and provide input on identified mitigation and accommodation measures aiming to mitigate impacts to xʷməθkʷəy̓əm's rights. The EAO and xʷməθkʷəy̓əm maintained ongoing dialogue throughout the process, including regular meetings and discussions to understand, assess, and respond to issues as they arose.

Through engagement during the Process Planning phase, it was identified that xʷməθkʷəy̓əm would undertake an Indigenous led assessment of project effects on its rights and title under section 19(4) of the Act.

### Provincial Conditions and Federal Key Mitigation Measures

The EAO notes that xʷməθkʷəy̓əm recommended additional specific mitigations, and those recommendations were considered and responded to in the development of provincial and federal conditions.

Provincial conditions and federal Key Mitigation Measures were developed to address pathways through which Project effects on xʷməθkʷəy̓əm's rights and interests may occur, including effects on fishing, river and terrestrial plant harvesting, hunting, cultural continuity, and health. The following provincial conditions and federal Key Mitigation Measures also address matters assessed by xʷməθkʷəy̓əm in its section 19(4) assessment.

### xʷməθkʷəy̓əm Title (Governance and Ownership)

The EAO identified the following proposed provincial conditions that could help mitigate potential effects to xʷməθkʷəy̓əm Title (Governance and Ownership) with any management plans from these conditions be developed in collaboration with xʷməθkʷəy̓əm:

- Condition 3 (Document Development) requires plans and programs to include clear objectives, monitoring protocols, reporting requirements, and provisions for evaluating mitigation effectiveness using baseline information (including available Indigenous knowledge). It also requires adaptive management if monitoring shows predicted outcomes are not achieved. These requirements support transparency, accountability, and ongoing refinement of mitigation measures over the Project lifecycle;



- Condition 4 (Consultation) requires the Proponent to be available to meet with xʷməθkʷəy̓əm throughout all project phases and discuss issues or concerns that are related to the Project;
- Condition 15 (Chance Find Protocol) requires procedures to identify and protect archaeological or cultural materials discovered during project activities, to prevent additional cultural disturbance; and
- Condition 10 (Community Feedback Process) ensures a clear and responsive pathway for xʷməθkʷəy̓əm to raise and resolve concerns about project effects. By enabling early identification and timely resolution of issues such as noise, dust, light, or access disruptions, this allows xʷməθkʷəy̓əm more agency over these sensory concerns; and,
- Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan) requires the development and implementation of a plan supporting economic participation of First Nations, and local communities, that would describe employment and contracting strategies and training practices. This plan supports xʷməθkʷəy̓əm economic governance, ownership, and self-determination.

### Fishing, River Shoreline and Terrestrial Plant Harvesting, and Hunting

The EAO identified the following proposed provincial conditions that would help mitigate effects to Fishing, River Shoreline and Terrestrial Plant Harvesting, and Hunting with any management plans from these conditions be developed in collaboration with xʷməθkʷəy̓əm:

- Condition 10 (Community Feedback Process) creates a clear way for xʷməθkʷəy̓əm to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of harvesting and cultural practices;
- Condition 12 (Construction Environmental Management Plan) requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction by reducing disturbance and protecting the environmental conditions that support fish, wildlife, and plants, this condition helps maintain the ability to access, harvest, and experience culturally important areas;
- Condition 13 (Operations Environmental Management Plan) requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation. Maintaining stable and predictable environmental conditions over time helps preserve the integrity and character of the area, supporting ongoing relationships with the land and reinforcing identity tied to harvesting and stewardship practices;
- Condition 14 (Air Quality Management Plan) ensures the Project selects and applies effective emissions control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support harvesting and cultural practices; and,
- Condition 17 (Dry Street Sweeping Report) assesses whether dry street sweeping can reduce 6PPD quinone on project related roads, which may lower impacts on salmon and other fish important to xʷməθkʷəy̓əm.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to harvesting:

- Migratory Bird Protections would require protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting xʷməθkʷəy̓əm's harvesting practices and broader ecosystem conditions important to their way of life.

## Cultural Continuity, including Sense of Place and Identity

The EAO identified the following proposed provincial conditions that would help mitigate potential effects to cultural continuity, including sense of place and identity with any management plans from these conditions be developed in consultation with x̣ṃəθḳẉəỵəm:

- Condition 9 (Public Information and Flaring Notices) requires advance notice of planned flaring and timely notification of unplanned high volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance;
- Condition 10 (Community Feedback Process) establishes a clear and structured mechanism for x̣ṃəθḳẉəỵəm to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, helping maintain environmental conditions that support ongoing cultural use of the area;
- Condition 12 (Construction Environmental Management Plan) requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. By reducing disturbance and protecting the environmental conditions that support fish, wildlife, and plants, this condition helps maintain the ability to access and experience culturally important areas in ways that are consistent with x̣ṃəθḳẉəỵəm values, supporting continuity of cultural practices and connection to place;
- Condition 13 (Operations Environmental Management Plan) requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation. Maintaining stable and predictable environmental conditions over time helps reduce disturbances that could affect cultural use and connection to place;
- Condition 14 (Air Quality Management Plan) ensures the selection and implementation of effective emissions control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites; and
- Condition 15 (Chance Find Protocol) requires procedures to identify and protect archaeological or cultural materials discovered during project activities, to prevent additional cultural disturbance.

## Health

The EAO identified the following proposed provincial conditions that would help mitigate potential effects to health with any management plans from these conditions be developed in consultation with x̣ṃəθḳẉəỵəm:

- Condition 10 (Community Feedback Process) provides x̣ṃəθḳẉəỵəm with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance;
- Conditions 12 and 13 (Construction and Operations Environmental Management Plans), require an emergency communication protocol with x̣ṃəθḳẉəỵəm to be developed by the Holder in consultation with x̣ṃəθḳẉəỵəm. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;

- Condition 14 (Air Quality Management Plan) requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting physical health and overall well-being;
- Condition 15 (Chance Find Protocol) requires procedures to identify and protect archaeological or cultural materials discovered during project activities. This condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being; and,
- Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan) requires the development and implementation of a plan to support economic participation of x̣ṃəθḳẉəỵəm. By outlining employment, contracting, and training strategies, this condition helps support socio economic well-being.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects on mental and emotional well-being:

- Accidents and Malfunctions Reporting; would support reduction of potential impacts on x̣ṃəθḳẉəỵəm's interests by ensuring timely response, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

## EAO Conclusion

Provincial conditions and federal Key Mitigation Measures were developed to address potential effects on x̣ṃəθḳẉəỵəm's section 35 rights, and the EAO is of the view that the seriousness of potential effects on those rights would be reduced through implementation of the proposed provincial conditions and federal Key Mitigation Measures.

In consideration of the above analyses and the proposed provincial conditions, federal Key Mitigation Measures and follow-up programs, the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on the interests of x̣ṃəθḳẉəỵəm has been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with x̣ṃəθḳẉəỵəm on Tilbury Phase 2, as outlined above, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult and accommodate x̣ṃəθḳẉəỵəm.

x̣ṃəθḳẉəỵəm expressed concerns with the EAO's methodologies, processes, and conclusions. Notably, x̣ṃəθḳẉəỵəm considered the EAO's assessment of the project's biophysical effects to be narrowly confined to the project site itself, rather than evaluating the project within its broader ecological context.

From x̣ṃəθḳẉəỵəm's perspective, the EAO's assessment was too narrowly focused on the highly disturbed Project footprint, resulting in a conclusion that the project's contribution to cumulative effects would be negligible to low. In x̣ṃəθḳẉəỵəm's view, this approach does not adequately capture how the project's impacts will interact with and compound the existing industrialization, habitat degradation, and ongoing environmental pressures in the surrounding area.

As x̣ṃəθḳẉəỵəm has demonstrated in its section 19(4) assessment, x̣ṃəθḳẉəỵəm has strong ties to the project site and surrounding areas. x̣ṃəθḳẉəỵəm provided additional mitigation measures that it considered would help offset or reduce the effects of the project on its Section 35 rights and remains concerned that these measures are not fully reflected in the assessment conclusions and draft conditions.

Though the EAO has concluded that Crown consultation and accommodation obligations have been met, x̣ṃəθḳẉəỵəm remains concerned, particularly because some conditions contain ambiguous language and rely on management plans that, while required by the conditions, will not be finalized until later in the process. x̣ṃəθḳẉəỵəm has also indicated that it expects to remain heavily engaged on the Project through ongoing communications with the Crown and the proponent.

# Indigenous-led Assessment of Proposed Tilbury Phase 2 LNG Expansion Project

## Quw'utsun Nation



Quw'utsun Nation  
August 2026

## Foreword

To the Crown, FortisBC, regulators, and all those who read this Indigenous-Led Assessment:

We write as the Chiefs of Quw'utsun Nation.

We speak from the lands and waters of Tl'uqtnus, Shnuwiih, and the South Arm of the Fraser River, where our laws arise from our relationships and responsibilities and have governed since time immemorial. Our authority is inherent and continues to govern our responsibilities in relation to these lands and waters. It is not granted by the Crown or the Proponent. It is inherent, and it endures.

This Quw'utsun Nation (QN) Indigenous-Led Assessment (ILA) is an application of Quw'utsun Law to the proposed FortisBC Tilbury Phase 2 LNG Project. It is an exercise of Quw'utsun Law, Quw'utsun title, and Quw'utsun responsibility. It is not a response to a project application, an appendix to a Crown process, or a record of Indigenous concerns. It is Quw'utsun Nation's assessment of whether the proposed Project is lawful under Quw'utsun Law. It is not a cultural values report, a technical comment, or a mitigation request. It sets out how Quw'utsun Law applies to the lands and waters affected by the proposed Project.

Our laws have governed these lands and waters since time immemorial. Long before Canada, British Columbia, environmental assessment statutes, permits, or industrial approvals, Quw'utsun Mustimuhw lived under laws that ordered our relationships with salmon, waters, winds, lands, plants, animals, ancestors, families, and future generations. Those laws continue. They have not been extinguished. They have not been displaced by colonial jurisdiction. They remain living law.

The Project is proposed in a place where Quw'utsun Nation has longstanding legal responsibilities. Tl'uqtnus, Shnuwiih, Tilbury Island, and the surrounding lands and waters of the South Arm of the Fraser River are not empty industrial space. They are part of a living legal, cultural, ecological, and territorial relationship. They are places of origin, use, occupation, harvest, travel, memory, responsibility, and return. They are also places from which our Quw'utsun Mustimuhw have been unlawfully excluded, but to which our rights, responsibilities, and jurisdiction continue to apply, and where our presence must be re-established.

Our ILA must be read in that context. Quw'utsun Nation is not a stakeholder commenting on development within someone else's jurisdiction. We are the rights and title-holder whose laws, lands, waters, and responsibilities are directly engaged by the Project.

Our ILA proceeds from a different baseline than that applied in the Project Application and the associated regulatory framework. The Application and regulatory assessment evaluate Project effects against existing conditions that are already degraded by long-term industrial activity and colonial displacement. It applies thresholds that treat harm as acceptable where it is incremental, mitigated, or within regulatory limits. Under Quw'utsun Law, these conditions do not establish an appropriate baseline for assessment.

Our baseline is not the present condition of an already impacted landscape. Our baseline is the set of conditions necessary to support the reestablishment of Quw'utsun Mustimuhw at Tl'uqtnus; the restoration of lands, waters, and ecosystems; and the continuation of culturally integral practices grounded in Quw'utsun Law. Effects are therefore assessed not against what remains after generations of dispossession and industrialization, but against the conditions that

must exist for restoration, re-establishment, and the exercise of Quw'utsun rights, title, laws, and responsibilities.

This distinction is fundamental. A project that contributes additional stress to a degraded system may be characterized as minor within a regulatory framework but represents a barrier to restoration and re-establishment under Quw'utsun Law.

For generations, colonial governments and industrial actors have treated our lands and waters as available for use, extraction, development, and regulation without our consent. They have measured value through production, revenue, jobs, emissions, thresholds, and economic indicators. They have repeatedly failed to account for what has been taken from Quw'utsun Mustimuhw: our village lands, our fisheries, our access, our ability to live in place, our ability to teach our children on the land and water, our ability to carry forward the relationships that make us who we are and our ability to exercise our jurisdiction and participate in decision-making.

This is our ILA and it proceeds under Quw'utsun Law.

It begins with Quw'utsun Law. It assesses the Project not only by asking what the Proponent predicts, but by asking what Quw'utsun Law requires. It asks whether salmon can continue to return. Whether waters can continue to support life. Whether families can safely reside at Tl'uqtinus. Whether Elders can teach. Whether children can learn. Whether plants, fish, birds, wildlife, and other kinship beings can continue to sustain and be sustained by these places. Whether permission has been sought and lawfully obtained. Whether benefits taken from the land and water are returned through reciprocity. Whether cumulative industrial harm is being repaired or deepened.

These are not secondary questions. They are the central questions.

The Project Application approaches effects through a colonial assessment structure that separates air, noise, water, fish, vegetation, economy, health, and culture into discrete Valued Components. Quw'utsun Law does not understand the world that way. A change to air quality is also a change to health, residence, ceremony, and teaching. A change to noise is also a change to speech, silence, safety, harvesting, and intergenerational transmission. A change to water is also a change to salmon, plants, restoration, food, and future generations. A change to one relation affects the whole.

Our Assessment therefore considers the Project in its full relational context.

The proposed Project is not occurring within an untouched landscape. It is proposed within a place already affected by industrial activity, colonial displacement, and cumulative ecological degradation. Under Quw'utsun Law, those existing impacts do not reduce the significance of new harm. They increase it. Where restoration is required, further degradation is not neutral. Where return is necessary for reconciliation, new barriers to residence, access, culture, stewardship, and ecological recovery move us further from that objective.

Quw'utsun Nation has articulated a vision for reconciliation at Tl'uqtinus and along Shnuwiih: recovery and restoration of our village lands, re-establishment of residence and river access, revitalization of culturally integral practices, restoration of land and water, and realization of economic opportunities compatible with those goals. This vision is not symbolic. It is a practical expression of our title, rights, law, and responsibility.

The ILA that follows applies that vision through Quw'utsun Law.

It also makes clear that consultation is not consent, mitigation is not restoration, and economic opportunity is not a substitute for lawful relationship. A project cannot be made lawful simply because impacts are predicted to be residual, moderate, mitigated, or economically offset. Under Quw'utsun Law, where required conditions cannot be maintained, where access is impaired, where permission is absent or cannot be sustained, where reciprocity is not met, or where harm further disrupts relationships already under strain, the Project fails.

This ILA is the result of a major undertaking by Quw'utsun Nation. It brings forward our laws, histories, teachings, technical review, community knowledge, and responsibilities to future generations. It does not ask the Crown or the Proponent to validate Quw'utsun Law. It requires decision-makers to grapple with it.

We submit our ILA with the authority and responsibility carried by our Nations and our ancestors. We do so for the people who lived at Tl'uqtnus before us, for the people who were kept from returning, for the children who must still learn who they are on the land and water, and for the salmon and other relatives whose return remains inseparable from our own.

Nothing in our ILA limits, waives, abrogates, or derogates from Quw'utsun title, rights, jurisdiction, laws, remedies, or positions in any legal, regulatory, consultation, or government-to-government process.

This ILA is not provided for information. It is provided as Quw'utsun Nation's assessment of the Project and the conclusions reached under Quw'utsun Law. We expect our ILA to be read as an expression of Quw'utsun Law and as a governing document for decision-making about this Project.

Chiefs of the Quw'utsun Nation:

  
Sulsulxumaat

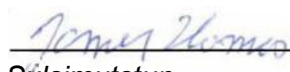
Chief Cindy Daniels  
Cowichan Tribes

  
Thólmen

Chief John Elliott  
Stz'uminus First Nation

  
Chakeenakwaut

Chief Pam Jack  
Penelakut Tribe

  
Sulsimutstun

Chief James Thomas  
Halalt First Nation

  
Laxele'wuts-aat

Chief Shana Thomas  
Lyackson First Nation



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# 1. Introduction

The Quw’utsun Nation-led Assessment of the FortisBC Phase II LNG Expansion on Tilbury Island (the “**Project**”) intends to assess the impacts of the proposed project on Quw’utsun Nation Aboriginal Rights, including Aboriginal title, and way of life (“**Quw’utsun Rights**”) through the lens of our culture, our *snuw’uyulh* (teachings), our values, and our history. The assessment is a formal Nation-led assessment of project effects on QN and its rights, undertaken pursuant to section 19(4), the Assessment Plan, and the Process Order.

On August 7, 2025, the BC Supreme Court granted a declaration that the Quw’utsun Nation holds Aboriginal title to the Cowichan Title Lands directly across from the Project area, as well as a right to fish the entire south arm of the Fraser River for food, year-round and as needed.<sup>1</sup>

## 1.1. Report Roadmap

The basis for the Quw’utsun Nation Indigenous-led Assessment (ILA) of the FortisBC LNG Expansion on Tilbury Island begins with a foundation of **Quw’utsun Nation Legal Order** in **Section 2**. This section details the sources, resources, application, and consequences of Quw’utsun Nation law that underlay the assessment.

The Quw’utsun Nation ILA considers the condition of lands, waters, relationships, and governance at contact, prior to the cumulative effects of colonial dispossession and industrialisation, as the appropriate baseline for understanding effects to Quw’utsun Mustimuhw and our ability to exercise Quw’utsun Rights. The relevant history of the Quw’utsun Nation and our lands and waters at and around the Lands of Tl’uq̓tinus is detailed in **Section 3 - Rights and Title and Colonial Disruption**. This is followed by an **Economic Analysis of Historical Costs** resulting from the Quw’utsun Nation’s unlawful alienation from the lands and waters at and around the Lands of Tl’uq̓tinus in **Section 4** and additional **Ecological Context** in **Section 5**.

The **Project Effects Assessment** specific to the FortisBC LNG Expansion on Tilbury Island begins in **Section 6**, where the effects to Valued Components in the proponent’s Application are considered against the Quw’utsun Nation’s Declaration for Reconciliation in the context of Quw’utsun Nation law. **Section 7** then considers the **Current and Future Market Costs** related to the Project in an economic context.

**Section 8** then summarizes the impacts of the Project based on the Quw’utsun Nation ILA assessment framework and considers the lawfulness of these activities under Quw’utsun Nation law.

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<sup>1</sup> *Cowichan Tribes v. Canada (Attorney General)*, 2025 BCSC 1490 (**Cowichan**)

## 1.2. Scope

To capture the pathway of effects that may result in impacts to Quw'utsun Rights, the temporal boundaries of the Indigenous Led Assessment span from pre-contact period (pre-1846) to future generations. To consider the impacts of the project in a culturally appropriate way, the temporal boundaries must allow for a fulsome understanding of how the Quw'utsun Nation exercised Quw'utsun Rights in absence of the barriers of development, as well as deep consideration for how impacts might be felt in the lives of future generations.

The spatial scope for the assessment will include but is not limited to the lands and waters of Tilbury Island, the lands and waters at and around the Lands of Tl'uqtnus inclusive of Cowichan Title Lands, and the South Arm of the Fraser River surrounding the Tilbury Phase 2 project area from the south to north bank. Areas beyond those outlined above be included if consideration of those areas is required to fully understand the potential impacts of the project.

## 1.3. Non-Derogation

*All descriptions of Quw'utsun Rights presented in this report are for the sole purposes of assessing potential adverse effects on those rights by the proposed Project. The descriptions are not, and should not be considered, comprehensive or exhaustive. This Indigenous-Led Assessment is to be interpreted in a manner which upholds Quw'utsun Nation's existing asserted and proven inherent rights, Indigenous Rights and Aboriginal Rights recognized and affirmed under section 35 of the Constitution Act, 1982, and not to limit, delineate, abrogate or derogate from them.*

## 1.4. Glossary

**"Cowichan Title Lands"** is that portion of the Lands of Tl'uqtnus over which Quw'utsun Nation Aboriginal Title has been declared. The Cowichan Title Lands are depicted in Schedule A of *Cowichan Tribes v. Canada (Attorney General)*, 2025 BCSC 1490 ("**Cowichan**").

**"Lands of Tl'uqtnus"**: the Lands of Tl'uqtnus claim area as set out in Schedule B of *Cowichan*.

**"Quw'utsun Law"**: legal order that arises from and governs Quw'utsun title to lands and waters as fully described in Section 2.

**"Quw'utsun Mustimuhw"**: The Quw'utsun people; members Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson First Nation.

**"Quw'utsun Rights"**: Quw'utsun Nation Aboriginal Rights, including Aboriginal title, and way of life.

**"Quw'utsun Snuw'uy'ulh"**: Quw'utsun Nation teachings and legal order as fully described in Section 2.1.1

**"Project"**: FortisBC Phase II LNG Expansion on Tilbury Island as per FortisBC's Revised Application accepted by the Environmental Assessment Office on March 27, 2026

**"Project-Relevant Title Area"**: refers to the 1607 acres in Richmond and 514 in Delta as shown in Figure 5.

**“Shnuwiilh”**: refers to the south arm of the Fraser River and its connected waters, including areas such as Tilbury Island, as depicted on Figure 2 in Section 3.

**“Tl’uqtinus”**: refers to the village site and associated lands located along the north shore of the south arm of the Fraser River, which form part of the broader Cowichan claim area.



## 2. Quw'utsun Legal Order<sup>2</sup>

### 2.1. Fundamental Quw'utsun Law

Quw'utsun<sup>3</sup> Law is one of the longest-continuing legal orders on these lands. It arises from and governs Quw'utsun title to these lands and waters. It has governed relations among people, salmon and other kinship beings, waters, winds, lands, ancestors, and all our more-than-human relatives since time immemorial. Long before the formation of the Canadian state, long before provincial statutes or federal jurisdiction, our legal traditions were already operating here, ordering community life, preventing and addressing harm, guiding harvesting, resolving disputes, and ensuring the renewal of relationships across generations. For clarity, this chapter uses several place-based terms that reflect different but interconnected aspects of Quw'utsun Territory. "Tl'uqtinus" refers to the village site and associated lands located along the north shore of the south arm of the Fraser River, which form part of the broader Cowichan claim area. "Shnuwiilh" refers to the south arm of the Fraser River and its connected waters, including areas such as Tilbury Island. Together, these places form part of Quw'utsun Territory, where Quw'utsun Mustimuhw hold longstanding relationships of use, stewardship, and responsibility, and where Quw'utsun Law applies to guide decision-making in relation to both village sites and the broader lands and waters affected by the Project.

#### 2.1.1. Quw'utsun Snuw'uy'ulh

Although Quw'utsun Snuw'uy'ulh is foundational to Quw'utsun culture, identity, and ways of being in the world, it is more than just a cultural concept. It describes the conditions of right relationship that are maintained, restored, and lived through Quw'utsun law. Snuw'uy'ulh provides the normative framework that gives meaning to our responsibilities to one another, to our lands and waters, and to our more-than-human relatives. It guides how people ought to conduct themselves, how decisions are made, and how relationships are repaired when harm occurs.

Embedded within Quw'utsun Snuw'uy'ulh is a coherent and legitimate legal order. It generates obligations, legal principles and processes that govern conduct, evaluate whether responsibilities have been met, and restore balance when they have not. While Quw'utsun Snuw'uy'ulh encompasses much more than law, law is one of the primary ways that Snuw'uy'ulh is given practical effect, shaping duties, resolving disputes, and sustaining harmonious relationships. The requirement for permission under Quw'utsun Law is consistent with, but not limited by, the standard of free, prior, and informed consent recognized in international law, and must be understood as a jurisdictional condition grounded in Quw'utsun title and legal authority.

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<sup>2</sup> This chapter was developed through collaborative work undertaken with Dr. Sarah Morales, Su-taxwiye; Rocky James /Qwtiis, Siimultun, Thiyaustun; and Laxele'wuts'aat, Shana Thomas Huy'wu'qw, Hereditary Chief, Lyackson First Nation. Their work was instrumental in identifying, drawing out, developing, and articulating the Quw'utsun laws and legal principles applied throughout this Indigenous-Led Assessment.

<sup>3</sup> Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson First Nation have administered Quw'utsun Law as individual nations and collectively as Quw'utsun Nation. Including Coast Salish women, men, and 2SLGBTQIA+ members.

In this way, Quw'utsun Law is derived from our Snuw'uy'ulh and is a deliberative, interpretive, and living legal system, consistent with the work of John Borrows and other Indigenous legal scholars who affirm that Indigenous law is not static or frozen in the past. It is renewed through:

- story and story-analysis,
- teachings shared by Elders,
- place-based knowledge,
- collective deliberation,
- lived relationships,
- and the ongoing responsibilities we carry to maintain balance in our territories.

This Indigenous-Led Assessment (ILA) is conducted in accordance with Quw'utsun Law, which governs the individual and collective interests and inherent title and rights of its member communities: Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation and Lyackson First Nation.

## 2.1.2. Tree Model

Quw'utsun Law is reflected in the context of a tree-structured legal methodology, grounded in the understanding that law grows from deep roots, is interpreted through a stable trunk, and branches outward into the contemporary decisions that must be made on our lands and waters. This model reflects how Quw'utsun Mustimuhw have always generated, interpreted, and applied law: through continuity, deliberation, and relationship.

### 2.1.2.1. Source

The roots of the tree are the sources of law: our First Ancestor stories; Xeel's teachings—where Xeel's is the Transformer and a central juridical authority in Quw'utsun Law whose actions and teachings reveal lawful and unlawful conduct, obligations, consequences, and the means of restoring balance; ancestral stories such as *The Sockeye That Became a Rainbow*; *The Creator and the Flea Lady*, and *The Marriage of the Seagull and the Crow*; ceremonial law; place-based teachings expressed through rivers, salmon, winds, stones, and the broader natural world; the authority of Elders and knowledge keepers; and the memories held by families and house groups. These sources do not merely contextualize law—they are law, as they reveal the foundational values and the legal obligations that have governed Quw'utsun life since time immemorial. They function simultaneously as legal instruction and historical record, documenting lawful and unlawful conduct and the consequences that follow. Within these teachings, authority is exercised through intervention where conduct disrupts order, and consequences are imposed to restore balance and establish enduring instruction in place. These sources are not exhaustive of Quw'utsun Law; additional legal obligations grounded in land-based practice, harvesting, and environmental stewardship are developed more fully in subsequent sections of this assessment.

### **2.1.2.2. Resource**

The trunk of the tree represents the resources of legal interpretation. This includes story-analysis, Elder teachings, oral histories, Hul'q'umi'num' meanings, place-names, on-the-ground observation, seasonal knowledge, the experiences of harvesters, and community deliberation. These resources enable us to interpret the meaning of law, clarify obligations, determine legal principles, and understand how ancestral teachings apply in present circumstances. This is consistent with the understanding that Quw'utsun law is deliberative and living, continuously renewed through interpretation and practice.

### **2.1.2.3. Application**

The branches of the tree represent application—the legal doctrines, rules, legal tests, obligations, standards, and consequences that flow from the foundational principles. This is where law becomes actionable. Principles such as respect, reciprocity, stewardship, healing, and collective responsibility give rise to specific duties that govern what must (or must not) occur at a place like Tl'uqtinus in relation to salmon and other kinship species who sustain and are sustained by this place. Application also requires that the ecological health of Tl'uqtinus be understood in relationship to the broader ecological health and environmental justice of the Quw'utsun Mustimuhw. Application is where Quw'utsun Law meets contemporary decision-making: each principle is operationalized into a determinative test, supported by explicit relational obligations, and demonstrated through measurable standards.

Through this tree-based method, Quw'utsun Law remains rooted, coherent, authoritative, and living—while fully capable of guiding present-day environmental governance, stewardship, and decision-making

In this ILA, and especially in relation to Tl'uqtinus, Shnuwiilh, Tilbury Island, and the surrounding lands and waters affected by the Project, each legal principle must be articulated not as an abstract idea but as a binding legal constraint on what must and must not occur in these places.

This includes:

- Respect for salmon and other kinship species, waters, currents, and the obligations of this location;
- Reciprocity for what the river, salmon, and lands have given;
- Stewardship as a responsibility inseparable from any proposed use;
- Interconnectedness, requiring cumulative and relational assessment;
- Healing and restoration, where harm is present;
- Collective responsibility, carried by families and related Nations; and the full suite of other Snuw'uy'ulh-grounded principles that structure Quw'utsun Law.

Each principle becomes a determinative requirement for assessing what must happen at and around the Lands of Tl'uq̓tinus to remain within Quw'utsun Law. These principles govern:

- how decisions must be made,
- what evidence is required,
- what standards must be met,
- and how to determine whether a proposed activity is lawful.

In this way, Quw'utsun Law — the oldest legal tradition on these lands — provides a coherent, enforceable, place-based framework through which all decisions at and around Tl'uq̓tinus must be evaluated and must be applied in ways that maintain broader ecological health and lawful conditions of environmental justice.

At and around the Lands of Tl'uq̓tinus, Respect requires the preservation of salmon migration integrity, the acknowledgement of helpers that sustain currents and orientation cues, and the maintenance of the cultural and spiritual conditions that bind Quw'utsun families to this shoreline. Reciprocity requires that any benefit sought from this place is matched by restoration, repair, and contributions to the lifeways of salmon, waters, winds, and people. Stewardship requires that conditions necessary for salmon renewal—including flow, temperature, turbidity, sediment balance, salinity, water quality, and energetic harmony—are maintained or strengthened; no project may lawfully proceed where these foundational relations are put at risk.

### 2.1.3. Method

Quw'utsun Law is multi-sourced and applied according to established legal principles. Its sources include sacred teachings associated with our First Ancestors and Xeel's, duties discerned in the natural world, customary practices carried by families and house groups, community deliberation about how we treat one another, and norms expressly posited by recognized Quw'utsun authorities. To bring law forward in contemporary decisions, we work with legitimate resources (Elders' teachings; story and story-analysis; place-names and oral histories; language, practices and artifacts; memories; and new ground-truthing at the place in question) and move through a consistent sequence: (1) frame the legal question; (2) analyze the resources; (3) deliberate and ground-truth; (4) synthesize principles into clear rules and measurable standards; and (5) implement, monitor and correct where obligations require it.

The following principles—drawn from Quw'utsun Laws and teachings and affirmed in Snuw'uy'ulh—are the legal foundation for determinations in this assessment.

## 2.2. Application of Quw'utsun Law

### *The Story as Source of Law*

Within Quw'utsun Territory, including Shnuwiih (the South Arm of the Fraser River), the Lands of Tl'uq̓tinus, the Project area, and interconnected lands and waters, Quw'utsun Law requires that each legal principle be interpreted and applied in relation to place, beings, and relationships. At the Lands of Tl'uq̓tinus, these obligations apply with particular force due to its role as a permanent village site and lifeline location connected to broader territorial responsibilities. This place-specific application is part of a broader system of territorial responsibility and ecological governance extending across the

South Arm of the Fraser River and throughout Quw'utsun Territory. Law is not abstract; it is territorial and relational, and its application depends on the responsibilities specific to the lands and waters across from our village and connected to Shnuwiih. These same legal obligations apply to all areas within Quw'utsun Territory affected by the Project, including Tilbury Island and the surrounding lands and waters, where Quw'utsun Nation holds legal responsibilities and exercises jurisdiction grounded in title, relationship, and long-standing use.

### 2.2.1. Source (Roots) at and around Lands of Tl'uqtnus

The sources of Quw'utsun Law arise across Quw'utsun Territory, including Shnuwiih (the South Arm of the Fraser River) and interconnected lands and waters. These sources include the river systems themselves, the salmon and other beings who move through their currents, the winds and tides that shape their passage, the stories and teachings tied to these places, and the multi-generational memory of families who have harvested, taught, and lived within these territories. At Tl'uqtnus, these sources are particularly concentrated, reflecting long-standing occupation, use, and responsibility within this broader system. These place-based sources reflect a broader system of territorial knowledge in which named places encode use, occupation, and the responsibilities that arise from long-standing relationships to lands and waters.

Across Quw'utsun Territory, Quw'utsun Law is grounded in multiple ancestral stories that operate as authoritative legal sources, each governing a distinct category of obligation. At the Lands of Tl'uqtnus and the surrounding lands and waters, these same teachings are directly engaged and applied within the relationships present at this place. Each story is tied to specific places and relationships within Quw'utsun Territory, and in this way establishes legal obligations while affirming jurisdiction over the lands and waters to which those teachings belong.

*The Sockeye That Became a Rainbow* establishes binding legal outcomes governing conduct, access, and relationship at Tl'uqtnus, rather than merely expressing values or teachings. *The Creator and the Flea Lady* governs authority and lawful process, setting out who may act, when permission is required, and how intervention must properly occur. *The Marriage of the Seagull and the Crow* governs lawful entry, access, and use of lands and waters across relationships, including the conditions attached to permission, sharing, and restitution between groups. *The Boys Who Became a Killer Whale* governs the legal consequences that arise when authority is ignored or power is used without permission, including transformation, loss of standing, and the need for recognition and correction following unlawful action. These teachings do not operate in isolation; taken together, they reflect a coherent and consistent legal order in which principles of authority, permission, reciprocity, and consequence are expressed across multiple stories and applied in relation to place.

### 2.2.2. Resource (Trunk) at and around Lands of Tl'uqtinus

The interpretive resources for Quw'utsun Law arise across Quw'utsun Territory, including interconnected lands and waters. At and around the Lands of Tl'uqtinus, these resources are engaged through the following:

- the salmon monitoring knowledge held by Quw'utsun Mustimuhw;
- the Hul'q'umi'num' language that describes kinship among beings;
- the experience of Elders who have witnessed ecological change along this channel;
- place-names and oral histories tied to the Lands of Tl'uqtinus;
- intergenerational harvesting practices;
- the stories that teach how helpers—currents, winds, gravels, and energies—must be acknowledged and supported; and,
- place-based knowledge systems, including place names that record ongoing relationships, use, and stewardship responsibilities.

These teachings situate those outcomes within the lifeways of salmon and other kinship beings, whose return and continuity are protected and sustained through Quw'utsun Law at and around the Lands of Tl'uqtinus and across the interconnected lands and waters within Quw'utsun Territory, where relationships, obligations, and authority are carried across places rather than confined to a single site.

Elders' teachings and story analysis clarify that in Quw'utsun Law, action is never assumed and authority must be recognized before intervention occurs. Lawful action also requires right conduct in advance of action, including careful preparation, truthful disclosure, and an orientation of respect toward the beings, relationships, and obligations already present at this place. Lawful action arises through relationship, consultation, agreement and permission, rather than unilateral decision-making. That consistency is evident across multiple stories, which repeatedly establish that authority must be recognized, permission must be obtained, and consequences follow where those obligations are not met.

Stories such as *The Creator and the Flea Lady* are interpreted as establishing that those who act without recognized authority, or without seeking permission from those who hold responsibility for a place, act unlawfully even if their intentions are not harmful. Standing to act is therefore relational: it depends on one's role, responsibilities, and connections to others, including to the lands and waters themselves. Where authority is shared or held collectively, lawful action requires consultation and agreement before proceeding.

The same interpretive teachings clarify that Quw'utsun Rights, inclusive of title, and territorial authority arise through ongoing caretaking relationships, naming, use, and responsibility, rather than through entitlement or free availability.

These relationships constitute the basis of territorial authority, through which Quw'utsun Mustimuhw hold lands and waters collectively, with enduring responsibilities of care that extend across generations.

These relationships are grounded in genealogy, place, and historical knowledge, rather than fixed or surveyed boundaries. Stories such as *The Marriage of the Seagull and the Crow* are understood to establish that lands and waters are not open for unrestricted entry or use; permission must be sought

and conditions attached to that permission must be respected. Entry into another's territory or into shared places creates obligations to act respectfully, to share benefits, and to respond appropriately if harm is caused. Where permission is breached or authority ignored, other stories—including *The Boys Who Became a Killer Whale*—are interpreted as establishing that recognition of unlawfulness and accountability are necessary to restore balance, and that transformation may follow from failure to act within lawful authority.

These resources clarify how principles such as respect, stewardship, environmental justice and interconnectedness must be understood in this particular location.

### 2.2.3. Application (Branches) at and around Lands of Tl'uqtinus

Within Quw'utsun Territory, including its interconnected lands and waters, Quw'utsun Law is applied through determinative legal tests that a proponent must meet. At and around the Lands of Tl'uqtinus, these tests are applied in relation to the specific ecological, cultural, and relational conditions of this place. These tests determine whether a proposed activity is lawful under Quw'utsun jurisdiction. Application is not discretionary or contextual; it is the point at which binding legal obligations are enforced.

Each legal test governs whether a proposed activity:

- maintains the salmon lifeline and the lifeways of related kinship species;
- upholds reciprocal balance with the river, lands and waters;
- respects and supports helpers such as currents, winds, tides, gravels, and shared energy;
- avoids foreseeable ecological, cultural, spiritual, and relational harm;
- protects the conditions necessary for the intergenerational transmission of law and teachings under Elders' authority; and,
- upholds collective responsibilities carried across the Quw'utsun Nation.

Each legal test is paired with Snuw'uy'ulh-grounded obligations and measurable standards that define the evidence needed to demonstrate lawfulness within Quw'utsun Territory. The ecological health at and around the Lands of Tl'uqtinus is inseparable from the broader ecological health and environmental justice of the Quw'utsun Mustimuhw. Where the obligations of a principle cannot be met at this place, the proposed activity is unlawful under Quw'utsun Law.

#### 2.2.3.1. Outcome Required by Story

*The Sockeye That Became a Rainbow* establishes binding obligations under Quw'utsun Law when applied to the Lands of Tl'uqtinus. It requires that the salmon's lifeline home remain intact and open, that helpers such as currents, tides, winds, and gravels be supported and not disrupted, and that kinship relations among beings be upheld through both intention and conduct.

The story establishes that transformation is lawful only where it restores or sustains balance. Any activity that disrupts lifelines, interferes with helpers or undermines relational continuity is unlawful under Quw'utsun Law. Failure to uphold relational duties renders the conduct unlawful and constitutes a breach of Snuw'uy'ulh.



The story further establishes that species living in relation to salmon – those who share their waters, timing and habitats – must not be harmed, displaced or placed at risk through interference with salmon lifeways. These duties are inseparable from the obligation to maintain the intergenerational continuity of harvesting, teaching and return.

Applied to the Lands of Tl'uqtinus, Quw'utsun Law therefore requires that a proposed project:

- does not interfere with salmon migration, return pathways or homing cues;
- does not degrade water quality, flow, temperature, turbidity, salinity, sediment balance or orientation conditions;
- does not disrupt helpers that sustain migration, renewal, shared energy systems and ecological balance; and,
- does not impair the ability of the Quw'utsun Mustimuhw to return to, harvest from, teach at, and maintain lawful relationships with this place across generations.

These legal outcomes are determinative. They are operationalized through the principles, legal tests, relational obligations, and measurable standards set out in the framework below and govern all legal determinations at and around the Lands of Tl'uqtinus in their relationship to Quw'utsun-wide ecological and justice obligations.

## 2.2.4. Proponent Obligations Under Quw'utsun Law: Access, Permission, and Reciprocity

The following obligations arise directly from the application of the legal principles, tests, and relational duties set out above, and define the conditions under which access, use, and benefit from lands and waters in Quw'utsun Territory may lawfully occur.

### 2.2.4.1. Access and Permission as Threshold Legal Requirements

These access and permission obligations arise from Quw'utsun Laws governing authority and lawful process, including those expressed in ancestral stories such as *The Creator and the Flea Lady*.

Under Quw'utsun Law, access to lands and waters is not presumed. Entry, use, occupation, or interference within Quw'utsun Territory, including the Lands of Tl'uqtinus and the surrounding lands and waters requires prior permission grounded in right conduct and lawful relations. Permission is not a procedural formality, consultation step, or regulatory checkpoint; it is a jurisdictional requirement that determines whether an activity may lawfully proceed at all. It is not satisfied by consultation processes or procedural engagement but requires the establishment of lawful authority to proceed in accordance with Quw'utsun Law. These requirements operate as a system of governance that regulates access to and use of lands and waters.

Permission under Quw'utsun Law is relational and conditional. It arises through respectful engagement, truthful disclosure, careful preparation, and demonstrated understanding of obligations to salmon, waters, helpers, families, and future generations. It must be actively established and cannot be assumed; it may be granted, withheld, or withdrawn where the conditions of lawful relationship are not met. Permission is specific in scope, limited in duration, and revocable where conduct breaches the conditions under which it was granted. Where permission has not been sought, has not been granted, or cannot be maintained because obligations cannot be met, access is unlawful.

These access and permission laws apply with particular force at and around the Lands of Tl'uqtinus, a permanent village site and lifeline location. Activities that interfere with migration of salmon (and related kinship species), return pathways, harvesting access, teaching routes, or the ability of the Quw'utsun Mustimuhw to return to and live at this place cannot be authorized through mitigation or accommodation alone. Where the foundational relationships of this place cannot be upheld, permission cannot lawfully be granted.

#### **2.2.4.2. Conditions Governing Lawful Access**

Where permission is granted, Quw'utsun Law imposes strict conditions on access and use. Use of lands and waters is governed by principles of restraint, such that only what is needed and what can be sustained may be taken, and any excess or unnecessary taking constitutes unlawful conduct.

These conditions flow from Snuw'uy'ulh-grounded principles, including respect, stewardship, interconnectedness, and the duty to maintain lifelines.

Lawful access requires, at a minimum, that:

- Lifelines remain intact, including salmon migration routes, water quality, orientation cues, and human access routes necessary for harvesting, teaching, and return;
- Helpers—such as currents, winds, gravels, sediments, and shared energy—are acknowledged and not disrupted;
- Access for the Quw'utsun Mustimuhw to harvest, teach, conduct ceremony, and re-establish residence is not diminished, blocked, rendered unsafe, or made unhealthy or unusable;
- Cumulative effects are assessed relationally, recognizing that multiple small interferences can together render access unlawful.

Certain forms of interference are categorically prohibited, regardless of proposed mitigation, because they sever lifelines or undermine the conditions necessary for renewal across generations. In such cases, the absence of lawful access is determinative.

#### **2.2.4.3. Reciprocity and Benefit-Sharing as Legal Obligations**

These reciprocal obligations reflect Quw'utsun Laws governing permissioned access and use between groups, including duties of restitution where access is taken or misused without consent.

Under Quw'utsun Law, any party seeking to benefit from the lands and waters within Quw'utsun Territory, including the Project Area, bears a legal obligation of reciprocity. This obligation is not contingent on harm, wrongdoing, or compensation claims. It arises from the act of use itself.

Reciprocity requires that benefits derived from lands and waters be shared in proportion to what is taken or gained, in ways that support:

- the renewal of salmon and other kinship species,
- the restoration and stewardship of lands and waters,
- the re-establishment of Quw'utsun residence, access, and culturally integral practices, and
- the intergenerational transmission of law and teachings.

This obligation arises alongside limits on use, requiring that extraction or benefit does not exceed what can be lawfully sustained within the relationships that govern this place.

Benefit-sharing is therefore a condition of lawful presence, not an economic offset or discretionary accommodation. Where a proponent extracts value without reciprocal contribution to these relationships, the resulting imbalance constitutes a breach of Snuw'uy'ulh and renders the activity unlawful.

Together, these principles establish a system of territorial governance grounded in authority, relationship to place, and enforceable obligations governing access, use, and conduct.

#### **2.2.4.4. Consequences of Breach**

Failure to obtain permission, maintain lawful access, or uphold reciprocal obligations results in unlawfulness under Quw'utsun Law. In such circumstances, Quw'utsun Nation permission cannot be granted or must be withdrawn, and the legal consequences that follow are governed by the relational and restorative framework set out in Section 2.3.

**Table 1: Quw’utsun Legal Framework: Snuw’uy’ulh Based Principles, Tests, and Duties in the Context of Development Projects**

| Quw’utsun Legal Principle and Snuw’uy’ulh Teaching                                                                                                          | Quw’utsun Legal Test                                                                                               | Relational Obligation (Legal Meaning/Snuw’uy’ulh Duty)                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Sts’elhstuhw tu mukw’ stem</b><br><i>—Respect all beings.</i><br>Respect                                                                                 | Does the action uphold respect toward all beings and relations?                                                    | Respect is the root that governs conduct toward all beings and throughout all stages of decision-making.                                                                                                                                                                                                                                                                                                                                   |
| <b>Qwal’tuhw’ch</b><br><b>Nutsamat kws yaay’us tth qa’</b><br><i>—We come together as a whole to work together to be stronger.</i><br>Reciprocity           | Does the project return benefit proportionate to what it receives?                                                 | When salmon and kinship beings, waters, plants, and other relatives sustain us, we owe reciprocal care, restoration, and sharing to maintain lawful balance.                                                                                                                                                                                                                                                                               |
| <b>Sh’tiwan / Sh-tiiwn</b><br><i>—Right relationship with natural beings such as salmon, ecological respect.</i><br>Stewardship                             | Does the project uphold inseparable responsibilities of care tied to use?                                          | Any right to use or occupy land and water is inseparable from the responsibility to look after them; these responsibilities are inherited, inalienable, and non-negotiable.<br><br>Helpers such as winds, waters, currents, gravels, earth, and energy must be supported and not disrupted. Intention and acknowledgement activate relational duties; lawful conduct must recognize and uphold the work of helpers in maintaining balance. |
| <b>Hiiye’yutul tst’u to’ mukw’ stem ’i’u tun’a tumuhw</b><br><i>—Everything in nature is part of our family—we are all relatives.</i><br>Interconnectedness | Are impacts understood across the full web of relations (including salmon and species living in relation to them)? | People, salmon, plants, animals, winds, waters and stones participate in one lawful ecology; ‘speaking to’ and honouring them is required. Actions affecting one relation affect the whole web.                                                                                                                                                                                                                                            |

| Quw'utsun Legal Principle and Snuw'uy'ulh Teaching                                                                                                                                                                                                                                                                                             | Quw'utsun Legal Test                                                                      | Relational Obligation (Legal Meaning/Snuw'uy'ulh Duty)                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Lal'um'uthut</b><br><b>Lhq'il ch 'u kwthun' suluthut 'i tun' sqwal</b><br><b>Ts'iiyulh ch 'u tuni' s-aamustham-mut</b><br><i>—Preparing oneself/ making things right / readiness</i><br><i>—Be honest and truthful in all you do and say.</i><br><i>—Give thanks for what you have been given.</i><br>Preparation, Prayer and Right Conduct | Has the proponent demonstrated readiness, right mind, right heart, and honesty?           | Right mind, gratitude and careful preparation are conditions of lawful action; rushed or careless processes breach relational obligations.                                                |
| <b>Ti' tul' atul' tst</b><br><b>Stsielhstuhw tu S-ul'hween</b><br><b>Ts'i'ts'uwatul'</b><br><b>Nu'tsiit</b><br><i>—Learn from one another.</i><br><i>—Honour the Elders.</i><br><i>—Act for long-term continuity.</i><br>Transmission of Teachings and Intergenerational Obligation                                                            | Does the project protect conditions needed for Elders to teach and youth to learn?        | Elders hold authority to teach, and the community must ensure that the conditions—places, practices, and species—necessary for intergenerational learning and transmission are protected. |
| <b>Hwial'asmut tu tumuhw</b><br><i>—Take care of the earth.</i><br>Healing and Restoration                                                                                                                                                                                                                                                     | Does the proposal repair existing harm and avoid creating new harm?                       | Where harm occurs—ecological, cultural, social, or spiritual—the lawful response requires repair, restoration, and rebalancing, not mitigation alone.                                     |
| <b>Ts'its'uw' atul. Nuts'umat kwun' syaays sh-hwuys kwtho' mukw'</b>                                                                                                                                                                                                                                                                           | Does the project reflect duties shared among families, house groups, and related Nations? | Responsibilities are held collectively among families, house groups, and with related Nations; decisions and remedies must reflect those shared duties.                                   |

| Quw'utsun Legal Principle and Snuw'uy'ulh Teaching                                                                                                                                                  | Quw'utsun Legal Test                                                                    | Relational Obligation (Legal Meaning/Snuw'uy'ulh Duty)                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mukw' tu shhw'a'luqw'a' 'o' tth'ele's tu shhwuli</b><br><i>—Help one another and work together for the good of all.</i><br><i>—The family is the heart of life.</i><br>Collective Responsibility |                                                                                         | Community, family and collective support shape outcomes; relational obligations are shared. In Coast Salish law, family is not limited to nuclear or residential forms, but includes extended kin, house groups, Elders, descendants, and chosen relations, including queer and heterosexual families, who together carry shared legal responsibilities. |
| <b>Tl'i' to' mukw' Mustimuhw</b><br><i>—Each person is important.</i><br>Compassion / Acceptance / Avoid Harm                                                                                       | Does the project avoid foreseeable emotional, cultural, ecological, and spiritual harm? | Acceptance and compassion across difference (species, families kinship networks and chosen relations, including both queer and heterosexual Coast Salish families, cultures) is a legal requirement; foreseeable emotional, cultural, ecological or relational harms must be avoided.                                                                    |
| <b>To'mukw' 'i' 'u tun'u tumuhw 'i' 'o' la'lum'utul tst</b><br><i>—Live in harmony with nature.</i><br>Lawful vs. Unlawful Change                                                                   | Does the project restore or maintain balance rather than unravel relations?             | Transformation is a lawful pathway when it restores balance; destructive change that unravels relations, lifeways or continuity is unlawful.<br><br>Acting outside of teachings causes harmful change.                                                                                                                                                   |

If these rules and standards are not met, the project does not meet the requirements of Quw'utsun law.

These Snuw'uy'ulh-grounded principles, legal tests, relational duties, and measurable standards form the Quw'utsun legal framework governing any proposed activity at and around the Lands of Tl'uqtinus. In this chapter, we set out the law: its sources, interpretive resources, binding principles, and the specific requirements that must be met for any project to be lawful under Quw'utsun jurisdiction.

In the chapters that follow, this framework is the foundation for considering the evidence, technical assessments, and on-the-ground realities of the proposed Project. The legal standards articulated here are determinative: if a test cannot be met, the project is unlawful under Quw'utsun law. The assessment that follows evaluates the project against these standards and provides the Nation's legal determination. Section 2.3 sets out the consequences that follow when the determinative tests and standards in Section 2.2 are not met.

### 2.3. Consequences

Under Quw'utsun Law, legal consequences are restorative and relational. These consequences arise directly from the breach of lawful relationships and are not dependent on external enforcement or negotiated response. When a project fails a legal test in Section 2.2, it does more than violate a technical requirement — it disrupts the balance that salmon, waters, winds, lands, helpers, families, and future generations. These consequences reflect longstanding Quw'utsun Laws, including those expressed in *The Boys Who Became a Killer Whale*, which establish that acting without authority or permission gives rise to loss of standing and transformative consequences that follow from the breach itself, not from negotiated response.

Unlawfulness therefore triggers obligations to repair relationships, restore harmed systems, and reinstate the conditions required for renewal across generations. These obligations fall on the proponent and with the Crown, who must work with Quw'utsun Nation to make things right in accordance with our Snuw'uy'ulh.

The consequence of failing a determinative legal test is that permission cannot be granted. In Quw'utsun Law, there is no concept of “partial compliance” or “mitigation” where core relationships or lifeline pathways are harmed. A single breach weakens the whole legal order, just as one broken cedar strand weakens the rope. Where unlawful impacts occur, the proper response is restitution, ceremony, reintegration of relationships, and—if harm cannot be repaired—refusal or revocation of consent to the proposed activity.

The legal obligations set out in Section 2.2 establish the governing framework for assessing the Project under Quw'utsun Law. These obligations include threshold requirements of permission and access, binding conditions governing lawful use, and reciprocal obligations arising from the use of lands and waters.

This framework governs the interpretation of the historical, evidentiary, and effects-based analysis that follows in this ILA. Where later sections demonstrate that permission has not been obtained or cannot be maintained, that access and lifelines are impaired, or that reciprocal obligations are unmet, the Project fails the applicable legal tests and is unlawful under Quw'utsun jurisdiction.



### 3. Rights and Title and Colonial Disruption in Project Area

**A note on citations:** *This is a summary document. The following information has been sourced from the evidence provided to the Court in Cowichan, the Court’s conclusions in Cowichan, and our own oral history and Indigenous knowledge. The citations should not be thought of as a complete listing of all available sources for any given statement, nor are the citations to Cowichan exhaustive. We encourage the reader to take the time to read through the Cowichan judgment for further details relevant to each section of this report. The citations specific to Section 3 are found in Section 11: Endnotes.*

#### 3.1. Identity of Quw’utsun Nation c. 1846

Since time immemorial, the Quw’utsun Nation has had a distinct collective identity, has shared a common way of life, and has lived together in the same geographic area of southeast Vancouver Island, the southern Gulf Islands, and the South Arm of the Fraser River.<sup>1</sup> The Quw’utsun people or nation is the continuation of eleven local groups:

- i. Taatka (T’et’qe’; Tu’etqe’);
- ii. Quamichan (Kwa’mutsum; Kwamutsun; Qwamutsun);
- iii. Chemainus (Stz’uminus);
- iv. Penelakut (Pun’e’luxutth’; Pune’luxutth’);
- v. Clemclemaluts (Lhumlhumuluts’);
- vi. Yekwolas (Yuxwul’a’us; Yuxwula’us);
- vii. Halalt (Xul’el’’t’hu);
- viii. Somenos (Somena’; Somuna);
- ix. Comiaken (Qu’umiqun);
- x. Lamalcha (Hwlhumelhtse’; Hwlumélhtsu); and
- xi. Koksilah (Xwul’qw’selu; Hwulqw’selu).<sup>2</sup>

All along the coast Indigenous people used the term “Quw’utsun” to refer to us.<sup>3</sup> Our local groups are connected through shared origin stories explaining the origins of the world and of our people. We also had (and continue to have) a shared system of customary law, including property law (see Chapter 2),<sup>4</sup> which was recognized by Crown officials such as Hudson’s Bay Company (“HBC”) Chief Factor and Governor James Douglas.<sup>5</sup>

Our 11 local groups had separate winter villages but came together for resource harvesting and defence. Our oral history confirms that the Quw’utsun were a large group of people. One of the places we lived was Tl’uqtinus, directly across the river from the Project site. We harvested there together, lived there together, and we defended our territory together. The origin stories of our local groups differ, but they have similar central themes.

There is an extensive written historical record from 1824-1858 establishing that we had a distinct collective identity as an Aboriginal tribe, people and nation prior to, at and after the Crown's conclusive assertion of sovereignty in 1846. This record includes the perspective of Quw'utsun and other Indigenous persons and the express observations of the Crown's representative James Douglas.<sup>6</sup>

### 3.2. The Quw'utsun Nation c. 1846 are Continued today by Cowichan Tribes, Stz'uminus, Penelakut, Halalt, and Lyackson

The current members of the Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Halalt First Nation, and Lyackson First Nation bands are the descendants of the historic Quw'utsun people or nation existing in 1846. The Cowichan Tribes, Stz'uminus, Penelakut, Halalt and Lyackson became "bands" within the meaning of the *Indian Act* by virtue of the Crown's Indian reserve creation processes absent treaty in British Columbia before and after Confederation in 1871. These bands are collectively the continuation of the eleven local groups or communities comprising the Quw'utsun in 1846,<sup>7</sup> are the modern-day successor groups within the Canadian legal order to the Quw'utsun as an Aboriginal people, and are holders of the Quw'utsun Aboriginal title to the Lands of Tl'uqtnus.<sup>8</sup>

During its Indian reserve creation processes in British Columbia, the Crown bifurcated the Quw'utsun people by colonial land district. Consequently, an artificial distinction was officially drawn between the "Chemainus Indians" to the north – i.e., the Quw'utsun associated with the Chemainus District of land in the lower Chemainus Valley – and the "Cowichan Indians" to the south – i.e., the Quw'utsun associated with the Cowichan District of land in the lower Cowichan Valley. This bifurcation of the Cowichan people permeates much of the subsequent historical record and ethnographic literature, including as it relates to Indian bands and reserves. Most apparently, it appears in British Columbia Order-in-Council #1036 issued in 1938 transferring the administration and control of lands of and for Indian reserves within the province to Canada. In identifying reserve lands, following the Joint Indian Reserve Commission, the order-in-council classifies bands of the "Chemainus Tribe" (Halalt, Lyackson (part of the Taatka), Penelakut, Yekwolas, Lamalcha, Stz'uminus) and those of the "Cowichan Tribe" (Quamichan, Clemclemaluts, Somenos, Koksilah, Comiakén).

### 3.3. Quw'utsun Use, Ownership, Occupation and Influence in Project Area

This Part describes the Quw'utsun Nation's historic dominance and influence on the lower Fraser River delta, exercise of aboriginal title to the Lands of Tl'uqtnus and the Project area, and the traditional practices that the Quw'utsun engaged in in the Project area.

#### 3.3.1. Overview

Since ancient times, we have had a waterfront village on the Lands of Tl'uqtnus which we physically occupied with at least 108 Quw'utsun-constructed bighouses using permanent post and beam frames set into the ground. The bighouse frames extended about a mile (1.6 km) along the riverbank in rows with multiple neighbourhoods which housed over 2,250 Quw'utsun people in season.<sup>9</sup> This place is our *stl'ulnup* (a place where one is embedded; our sacred ancient homeland). The Lands of Tl'uqtnus was and is a *huliitun* – a place that sustained our people and kept us alive. *Huliitun* in Hul'qumi'num is something that sustains you. It is your food; it is your place, your *stl'ulnup*; it is your children. Our *stl'ulnup* at the Lands of Tl'uqtnus is part of what sustains us as a people. Along with the resources

that we were able to harvest there and at the Project area, it was a place that brought our people together and it is where we lived together.

The Lands of Tl'uq̓tinus are situated on the Fraser River's main channel and South Arm (known prior to and at contact by the local people as the "Cowichan River")<sup>10</sup> where a predictable abundance of fish, such as salmon and sturgeon, was readily available prior to, at and after 1846.<sup>11</sup> During this period, the Lands of Tl'uq̓tinus also provided a diversity of plant habitats and plants, such as grasses, stinging nettle, moss, ferns, cedar, hardhack, red alder, and pine, as well as blueberries, cranberries, crabapple, salmonberries, blackberries, raspberries, and red huckleberry, on good level, dry land in season.<sup>12</sup> These lands in turn were nested within a broader landscape that provided these and other resources, including the Project area which provided a variety of subsistence, material and medicinal resources easily accessible from our village site.

As a collective of at least 2,250 people, we regularly used the village lands at Tl'uq̓tinus to launch our canoe-based fisheries by the hundreds, to conduct our shore-based fisheries, to land, clean and dry our winter supply of fish by the thousands, and to feed ourselves with fresh food resources.<sup>13</sup> We physically etched ourselves into the village lands with trails accessing areas we regularly and intensively used for daily living. The village lands at Tl'uq̓tinus were our base of operations on the lower Fraser River.

Lands which were at 1846 dry land comprising our village are now covered with water (the "**Submerged Lands**") and a portion of those Submerged Lands now comprise the Cowichan Title Lands. We regularly used the Submerged Lands for a number of purposes: to harvest resources and as an access point for our village and surrounding lands, and as the place where we landed the trees that constituted the posts and beams for the infrastructure of the housing that was prominent along the waterfront. We also used the Submerged Lands as the point from which we launched our canoes to go from Tl'uq̓tinus to our winter villages and we used the Submerged Lands as the point where we landed our canoes when we returned from our winter villages to Tl'uq̓tinus and from which we launched and landed our canoes in pursuit of our traditional fishery. We used the Submerged Lands as a harbour for our canoes by the hundreds and it was the point from which we departed and returned upon our many military outings and our voyages up and down the Fraser River.<sup>14</sup>

We regularly used our village and surrounding areas, including the Project area, for plant harvesting, as well as game and bird hunting. We worked the lands, harvesting in immense volumes resources that we depended upon to sustain ourselves throughout the year. We cultivated and managed our village, settlement lands and surrounding lands to maximize resource production through practices such as landscape burning and plant pruning.

Tl'uq̓tinus was a base of operations for our presence on the South Arm, including the Project area. We had a defined land and water regime that involved repetitive visits to particular camps and fisheries or resource gathering areas within Shnuwiih, including hunting, trapping and plant harvesting on Tilbury Island, and fishing along the Tilbury Island shoreline (see Figure 1).

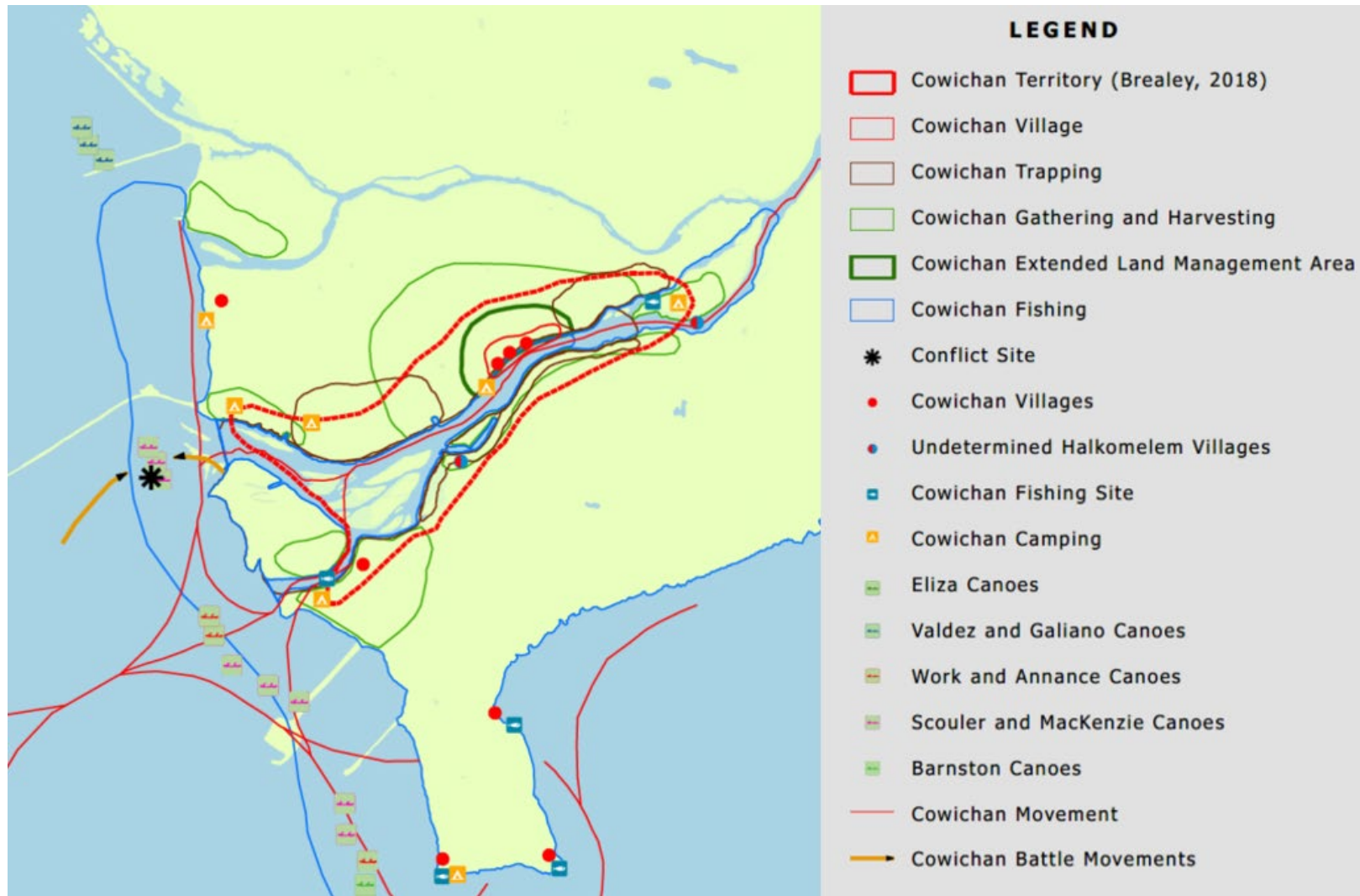


Figure 1: Portion of Map 5: Cowichan on the Lower Fraser River, including legend in Brealey, Dr. Kenneth, *Historical Geography of Cowichan Land Use and Occupancy Lower Fraser River: Map Series and Report*. This map series and report was admitted as an expert report in Cowichan and relied on by the Court.

### 3.3.2. The Village

We had a permanent village at the Lands of Tl'uq̓tinus prior to, at and after 1846 that existed as a Quw'utsun *stl'ulnup* – a named, ancient, and sacred Quw'utsun homeland with *s-thaw't-hw* (bighouses). The Hul'qumi'num word *stl'ulnup* has two root words - *tl'el* and *stl'etl'ul'*. *Tl'el* is to embed in something. *Stl'etl'ul'* is to be embedded. A *shhwa'mut* is where your house is within the *stl'ulnup*. The Quw'utsun were embedded at their *stl'ulnup* on the Lands of Tl'uq̓tinus.<sup>xv</sup> Tl'uq̓tinus is a Quw'utsun *stl'ulnup* and *shhwa'mut* and is a very important place to our people.

Despite having been unlawfully alienated from our village at Tl'uq̓tinus, the village remained well-known and discussed within our Quw'utsun Nation communities throughout the 20<sup>th</sup> century and through to current times. Quw'utsun Elder and knowledge holder Luschiim mapped our village as on the South Arm and main channel of the Fraser River at Lulu Island, on a bend in the river and directly across from Tilbury Island. He located it within Shnuwiih, which he mapped as encompassing the South Arm delta below Annacis Island. He obtained that information by means of our traditional methods of intergenerational knowledge transfer from his Elders and others who had gone before him.



Figure 2: Quw'utsun Elder and knowledge holder Luschiim mapping of the Lands of Tl'uq̓tinus and Shnuwiih

Ken Thomas (Sum'q̓inim), a Penelakut Tribe Councillor, testified in *Cowichan* that his grandfather and great uncle taught him when he was young that Quw'utsun people had a village site on the Fraser River.<sup>xvi</sup> Councillor Thomas explained his experience seeing Tl'uq̓tinus from the water while navigating the South Arm by boat. This included a trip with late Elder Florence James when she was discussing and identifying our village site with longhouses.<sup>xvii</sup> Another trip to the Lands of Tl'uq̓tinus

was with late Roy Edwards, a Penelakut Elder who told Councillor Thomas about the village site at Tl'uqtnus, with longhouses all along the shore.<sup>xviii</sup>

X'tli'li'ye' (former Cowichan Tribes Chief Lydia Hwitsum) learned from her mother, Wutth'iinthut and Sxe'wul't-hw about the Quw'utsun peoples' big village on the mainland that was accessed by canoe through Georgia Strait and the mouth of the Fraser River.<sup>xix</sup>

Stz'uminus Chief John Elliott learned from late Quw'utsun Elder and knowledge-keeper Willie Seymour that the Quw'utsun had a village site at Tl'uqtnus" and that his ancestors travelled to the Fraser River to fish.<sup>xx</sup>

The late Quw'utsun Elder and leader Qwestenuxun (Wes Modeste) deposed that his late Quw'utsun father Suhiltan (Elwood Modeste, b. 1902) often reflected with him on the Cowichan village sites on the lower Fraser River, across from the Gulf Island passes of Cowichan Gap (Porlier Pass) and Active Pass. The villages had cedar-planked houses with permanent house frames.<sup>xxi</sup> The late Squxulenuhw (William Seymour Sr.), Cowichan Tribes Chief (former), first learned of a Cowichan village or presence on the mainland from Qwestenuxun, whom he recognized as a traditional knowledge holder.

### 3.3.3. Fishing, Harvesting, Hunting, and Trade

The Quw'utsun people conducted myriad traditional activities at and around the Lands of Tl'uqtnus and Tilbury Island and all along the South arm of the Fraser River. The following section provides an overview of these practices and demonstrates the integrality of the area to the Quw'utsun way of life.

#### 3.3.3.1. The Quw'utsun Seasonal Round

We followed a shared consistent and regular seasonal round of resource harvesting which took place each year, following seasonally-specific rhythms. This seasonal round took us to the lower Fraser River and to our village lands at the Lands of Tl'uqtnus, where we availed ourselves of resources not readily available on southeast Vancouver Island or the Gulf Islands. We migrated as a collective to the Fraser River with our house planks to our village and settlement lands at the Lands of Tl'uqtnus as part of our seasonal round or annual pattern of movement between resource sites each year by late June. This pattern seasonal movement was consistent from time immemorial until through at least the 1870s, when colonial interference became stronger. Our annual pattern of movement included residing at our village on the South Arm of the Fraser River at the Lands of Tl'uqtnus.<sup>xxii</sup>

There were resources available to us in abundance at the Lands of Tl'uqtnus or on the lower Fraser River main channel that are either not available in abundance or not available at all on southeast Vancouver Island or the Gulf Islands, such as *lha'lus* (oolichans (eulachons)), *thuqi'* (sockeye), *haan* (pink salmon), *qwtaythun* (sturgeon), *maal'sum* (a type of blueberry), and *qwum'tsal's* (bog cranberry). Some Quw'utsun people would catch eulachon on the South Arm of the Fraser River around March. Sockeye and pink salmon would generally run in July and August. There were also resources available to the Quw'utsun in abundance on southeast Vancouver Island or the Gulf Islands that were not available on the Fraser, such as *saxwu* (clams and cockles) and *speenhw* (blue camas).<sup>xxiii</sup>

Our journey to the Lands of Tl'uqtnus would follow set routes. Families would travel to specific locations throughout the Gulf Islands harvesting camas, clams and other resources in preparation for the journey. At a designated time, the families would gather at designated "jump-off points", usually

at or near Sqtheq and Sqtheq'alh (Active Pass and Porlier Pass). The crossing of Sutl'qa'lus (Georgia Strait) depended on the wind and tide, and when the weather was *sliqwul* (calm). We camped at Active Pass, waiting for the tide and wind, and would cross over to the Fraser with many, many canoes. We travelled to and from our village at the Lands of Tl'uqtinus across the open water of Sutl'qa'lus (Georgia Strait) with our *siil'tuhw*, the wide, long cedar house planks, and cedar woven baskets to transport fish and berries back to Vancouver Island and the Gulf Islands, where we had our winter villages.<sup>xxiv</sup>

The *siil'tuhw* were placed across two or more canoes and tied on to create catamarans or trimarans (called *ta'la'quum*). This was done so our ancestors could carry more goods or cargo, and for safety and stability on the open water that was subject to wind and current. At the Lands of Tl'uqtinus, we used the *siil'tuhw* for the purpose of putting up walls at our dwellings or smokehouses, constructed with post and beam frameworks permanently in the ground.<sup>xxv</sup>

The pattern of Quw'utsun seasonal movement was consistent from early times until the 1870s, and our on Lulu Island on the south arm of the Fraser River was regularly occupied by Quw'utsun families through the 1800s.<sup>xxvi xxvii</sup>

The ethnographic record from Cowichan, Tsawwassen, Musqueam, and Katzie sources, also shows that the majority of Quw'utsun people annually migrated back and forth across the Georgia Strait to and from the Lands of Tl'uqtinus with their house planks as part of their traditional seasonal round prior to and at 1846.<sup>xxviii</sup> The ethnographic record confirms the annual pattern of Quw'utsun movement that was observed and documented by the HBC in the 1820s-1830s, as including movement to the Fraser River each June, continued through 1846. Every year members of our local groups moved to the Fraser River at the Lands of Tl'uqtinus with their house planks as a consistent, regular practice.<sup>xxix</sup>

### 3.3.3.2. Fishing and Harvesting

The Quw'utsun *stl'ulnup* at the Lands of Tl'uqtinus is a very important place where our people went to live and harvest together. We regularly used the Lands of Tl'uqtinus to 'aluxut (harvest) resources, namely, *s-tseelhtun* (fish, including salmon, sturgeon), *stthoom* (berries, including blueberries and cranberries), *tu ts'i'ts'usum* (plants, including trees) and *ma'uqw* (fowl). It is where we made *st'el* (dried salmon) to secure us through the winter.<sup>xxx</sup>

While resident at the Lands of Tl'uqtinus, we would *yuqwunup* (burn the ground) to provide soil fertilization, allow the *maal'sum* (bog blueberry) and other plants to grow better, provide new shoots of vegetation to attract animals and birds such as *ha'put* (deer) and *sti't-hwum* (willow grouse), and control unwanted vegetation.<sup>xxxi</sup> We would *lukwetsus-t* (break the branches) of *stthoom* (berry) bushes as pruning to ensure greater growth with more and better berries the following year. We cultivated the land.

Our true stories and histories inform our knowledge of salmon migrating to the Fraser River, beginning when Sockeye, king of the salmon, from the north followed his baby from the north around the west coast of Vancouver Island with the hired help of Steelhead and Spring Salmon and Humpback (Pink) Salmon who followed the next day.<sup>xxxii</sup> They also provide information about each of the salmon species that are found in the Fraser River.<sup>xxxiii</sup> We have an old story about the Thunderbird travelling across



*Sutl'qa'lus* (Georgia Straight) to share fish heads with his family.<sup>xxxiv</sup> Our true stories and histories also connect us to the *qwtaythun* (sturgeon) in the lower Fraser River.<sup>xxxv</sup>

The salmon were once so plentiful at Shnuwilh, the lower Fraser River, you could almost walk across the river on their backs.<sup>xxxvi</sup> Our people had their own conservation practices to ensure abundance. Different species were harvested at different times throughout the year so as not to overharvest.<sup>xxxvii</sup> Some Quw'utsun practiced a first salmon ceremony, which included prayers to call the salmon to the mouth of the river.<sup>xxxviii</sup> A mixture of sockeye salmon oil and red earth (*tumulh*) is used in the ceremony.<sup>xxxix</sup>

We regularly used the Lands of Tl'uqtinus to launch our canoe-based harvest of *s-tseelhtun* (fish), to conduct our shore-based harvest of *s-tseelhtun*, and to land, clean and dry our fresh and winter supply of *s-tseelhtun* by the thousands.<sup>xl</sup> The written records of the earliest non-Indigenous travellers to the area beginning in 1791 support that there was a Quw'utsun practice of fishing the south arm for food prior to and at first European contact.<sup>xli</sup>

In support of our fishing and fishing processing, we regularly harvested the Lands of Tl'uqtinus and surrounding areas for a multitude of tree and plant species, including:

- *tth'ux tth'ux* (stinging nettle), *swel'ulhhp* (willow), used to make fishing nets and fish traps;
- *quts'i* (mosses) for wiping fish;
- *suqeen* (bracken fern leaves) for cleaning and smoking salmon;
- *xpey'* (red cedar), *t'eets'ulp* (hardhack) for "fish spreaders", small sticks that hold the salmon fillet open during the smoking process;
- *kwalalu-ulhp* (red alder), and to a lesser extent *tsuw'nulhp* (cottonwood) for firewood when smoke drying salmon; and
- *qw'uyulushulhp* (lodgepole pine) as a fire starter when smoking salmon and for securing bindings and waterproofing fishing canoes and fishing implements.

The Fort Langley journals of 1827-30 also confirm that our people were on the Fraser River for various purposes, throughout the year. The journals show that our Quw'utsun village land and environs was a place for resource harvesting, feasting and trading. From the village, our ancestors also ventured upriver for fishing, trading, and for hostile encounters farther up the river and also on Puget Sound.<sup>xlii</sup> During the salmon fishing season, large numbers of Quw'utsun resided in the Quw'utsun village at the Lands of Tl'uqtinus. The Fort Langley journals describe that from June to October, women and children, as well as slaves, accompanied men to the fishery, for the women and slaves took on the majority of the fish, game, plant foods and material processing as well as the majority of the plant harvesting. Thus, at the height of the salmon season, around 2,250 Quw'utsun were present at Shnuwilh and on our settlement lands at Tl'uqtinus. At other times of the year, smaller Quw'utsun groups would reside periodically at the Lands of Tl'uqtinus for harvesting food available at that time, especially sturgeon.<sup>xliii</sup>

We harvested *qwtaythun* (sturgeon) at Shnuwilh and Tl'uqtinus; sturgeon was *'ulhtuneen* (a special, favorite food). There was a good spot for fishing *qwtaythun* at the *thii hwq'aq'uyum* (a big, slow, calm back eddy) across from Tl'uqtinus (i.e., at Tilbury Island). The Quw'utsun people would fish for sturgeon at Tilbury Island, where the water was calm and shallower. We would *p'ep'utl* (feeling with a spear) for the fish there.<sup>xliiv</sup> Luschiim learned from his great grandfather about another sturgeon

fishing site *tsuwmuns* Tl'uqtinus (down below in the water in front of Tl'uqtinus).<sup>xlv</sup> There were more sturgeon fishing sites in shallow water downstream from Tl'uqtinus.<sup>xlvi</sup> This oral history is corroborated by the written historical record which provides evidence of direct observation in December 1824 of Cowichan people at the entrance of the south arm in canoes, armed with long sturgeon spears.<sup>xlvii</sup> The surviving Fort Langley Journals of 1827-1830 also record Cowichan supplying the fort with fresh sturgeon<sup>xlviii</sup> and engaging in sturgeon fishing activities.<sup>xlix</sup>

We fished the South Arm year-round. Luschiim was told by his uncle-in-law that shortly after the coldest part of the winter in late February or early March, Quw'utsun people would go to Tl'uqtinus and wait for the eulachon to come.<sup>l</sup> Eulachon enter the Fraser River between March and May.

We also harvested trees and plants such as cottonwood, alder, willow, crabapple, hardhack, cedar, and spruce for material, medicinal and subsistence purposes. These species are all documented to have been present at Tilbury Island based on surveys conducted from 1858-1880, years when the Quw'utsun were resident at their village mere metres away from Tilbury Island.<sup>li</sup> The court in *Cowichan* acknowledged the Cowichan's lived reality that if a plant species required for material, medicinal or subsistence purposes was located in an area where the Cowichan were living out day-to-day life, then they would naturally have harvested those species in that area while they were there.<sup>lii</sup> Thus, while we were resident at Tl'uqtinus, the Project area served as a type of front yard where we could gather nearby resources needed for everyday living. Such regular and seasonal use coupled with very close proximity to a massive Quw'utsun village supports the expert conclusions that Tilbury Island was exclusive Cowichan territory (discussed below).

### 3.3.3.3. Fishing Methods, Fishing Technology, and Fish Processing

We had various traditional methods to fish salmon, including different methods with *swultun* (nets) such as using a *huw'qw'e'yun'* (drift net), *qwse'yun* (stationary net), and *'uxtim'tun* (dip net).<sup>liii</sup>

As a boy, Luschiim fished with his father Hwiinumetse' using the *huw'qw'e'yun* (drift net) on the lower South Arm to fish for *thuq'i* (sockeye salmon), *haan* (pink salmon) and *stth'a'qwi* (spring salmon). His father taught him the Quw'utsun traditionally fished this way using one or two canoes. An appropriate place to practice this form of fishing was in the section of the main river channel by Tl'uqtinus, their home, and part of Shnuwilh.<sup>liv</sup>

The *qwse'yun* (stationary net) has its roots in the words *qwse* (to fall in the water) and *yun* (referencing the net). One end of the net was tied to the shore or to a stationary object such as a pole set into the muddy riverbed. The net would be angled out, somewhat across the current to catch more migrating fish, the bottom anchored with rocks and the top floated with wood. Luschiim was taught by Hwulqwimut that some parts of the river opposite the Quw'utsun village site at Tl'uqtinus were good places to *qwse'yun* salmon (i.e., along Tilbury Island).<sup>lv</sup> Cowichan would also fish by stationary net from the shores of Tl'uqtinus.<sup>lvi</sup> *Chmutth'um* (muddy color) water like the main channel of the Fraser River can be fished by dip net anytime because the water is muddy and makes the dip net invisible to fish.<sup>lvii</sup>

Historically, our people would fish for sturgeon with a 3-pronged spear called *sh-tl'e'lhun'um'* made of a Douglas fir pole with *qethulhp* (oceanspray) as the prongs. The spear would have a weight attached to the bottom, and feathers attached to the prongs, which would act as 'feelers'. They would

feel the bottom of the river until they hit a sturgeon, a method called *p'ep'utl'*. When they located a *qwtaythun*, they would *thq'ut* (spear) it.<sup>lviii</sup>

The spinal cord (notochord) of the sturgeon, called *qw'ulhunu*, was considered a particular delicacy and was eaten raw. One end of the *qw'ulhunu* was put in the one's mouth and the other end was held in both hands. Then, using a squeezing motion, starting from the end held in the hands, the inside of the *qw'ulhunu* was squeezed into the mouth. A Quw'utsun oral tradition about Xeel's describes how the sturgeon came to have this cord. The story was told by Siamtunaat (Mary Rice of Penelakut) to Beryl Cryer in the 1930s.<sup>lix</sup>

Our late Elder Florence James' grandfather Qwulthimult-hw taught her about *tqép*, a round underwater net anchored from shore, used at the mouth of the river. Mrs. James's ancestors had this type of net for thousands of years. It was a friendly, kind, way to catch salmon.<sup>lx</sup> Sturgeon was also caught in large tidal traps<sup>lxi</sup> and fished with a bone hook baited with eulachon roe or a bag net woven of nettles.<sup>lxii</sup>

We would clean and dry the fish we caught on the South Arm of the Fraser River mainly at the waterfront at the Lands of Tl'uqtinus.<sup>lxiii</sup> We would have to dry fish on the Fraser River, because if we left it fresh it would go spoiled.<sup>lxiv</sup> We could dry salmon like *thuqi'* (sockeye) there by hanging it over a slow fire in the *s-thaw't-hw* (bighouses) we were living in or in *q'i'law't-hw* (plank smokehouse structures).

### 3.3.3.4. Hunting Mammals and Fowl

The Quw'utsun regularly hunted the Lands of Tl'uqtinus, for example, for *ha'put* (deer)<sup>lxv</sup> and *sti't-hwum'* (willow grouse), and used it as a base of operations to prepare for hunting or trapping *sqwaqwis ma'uqw* (waterfowl) downriver at Shnuwiilh.<sup>lxvi</sup> Tilbury Island was also used as a trapping area.

When an area has been *yuqwunup* (burned), new shoots come up at the *spuliipxun* (small meadows) where the berries come up. The deer go there to eat the new shoots or even the berries.<sup>lxvii</sup> Since we burned the *maal'sum* areas at the Lands of Tl'uqtinus, the small meadows there were a good place in terms of being deer hunting grounds.<sup>lxviii</sup> Fishing hooks and needles made of deer bone were used in mending fishing nets.<sup>lxix</sup>

The *qwa'upulhp* (crabapple tree) was habitat for the *sti't-hwum'* (willow grouse), which would eat the crabapples.<sup>lxx</sup> Luschiim's father taught him to hunt at night for *sti't-hwum'* that landed in *qwa'upulhp* and that long ago the Quw'utsun people hunted grouse this way using a pole or bow and arrow.<sup>lxxi</sup>

Our people regularly used the Lands of Tl'uqtinus to get to and from work hunting and trapping waterfowl at Shnuwiilh. We harvested ducks downriver and upriver from Tl'uqtinus, including during the fall and winter.<sup>lxxii</sup> The Lands of Tl'uqtinus were a base of Quw'utsun operations and a source for plant materials in our hunting technologies. Ducks would be caught using airborne nets. *Ma'uqw* would be hunted in streams and boggy areas, as well as intertidal areas within Shnuwiilh.<sup>lxxiii</sup> Our people had a specific process for preserving immense quantities of ducks to create *sq'i'lu* (preserves) for later use.<sup>lxxiv</sup> Waterfowl and seabirds are used for longhouse ceremonies and funerals for Elders.

### 3.3.3.5. Trade and Social Practices

Our people regularly used the Lands of Tl'uqtinus for trading and as a base of operations for travel to trade.<sup>lxxxv</sup> We would collect clams and sea resources on our way through the Gulf Islands to Tl'uqtinus, which would be dried and cured to become *sq'i'lu* (preserved foods) to share with the Quw'utsun families who stayed at Tl'uqtinus all year-round. Some *sq'i'lu* would also be traded or *hwayum* (sold).<sup>lxxxvi</sup> We traded clams and dried *t'eqe'* (salal) berry cakes at the Fraser River.<sup>lxxxvii</sup> The *s-tseelhtun* (fish) harvested from the south arm and preserved at the Lands of Tl'uqtinus would be brought back to trade, share and sell with our people who had stayed on Vancouver Island.<sup>lxxxviii</sup> While at our villages on the lower Fraser River, we would trade camas and clams for things like goat wool.<sup>lxxxix</sup>

While resident on the Fraser River harvesting fish, we could also work on arranging marriage and other social connections. In a region where marriage was an economic union between families of high status living in separate areas, occasions to meet and discuss such arrangements were of crucial importance. Since it would have been known that we would be at our village at the Lands of Tl'uqtinus village during the salmon season and have large quantities of a diversity of fresh and dried food fish, it was an opportune time for ceremonial occasions, including marriages and potlatches, to occur. Wealthy families depended upon having a surplus of salmon to use for ceremonies at which their escalating status would be both apparent and acknowledged.<sup>lxxx</sup> Large aggregations of Quw'utsun people living and working together at their Lulu Island village also provided Quw'utsun families with the opportunity to connect with other Quw'utsun families for trade, marriage, and sharing information.<sup>lxxxi</sup>

### 3.3.3.6. Cultural Importance

Culturally, fish are critical to us; they are both food and a gift from the Creator to sustain us through life.<sup>lxxxii</sup> When there are cultural events, communities really want traditional foods because traditional food is part of our culture: it is who you are and where you come from.<sup>lxxxiii</sup> It gives people power to know they have traditional foods to share with Elders and families and are treating them right. In Quw'utsun culture, when hosting a gathering, you are obligated to provide food for your guests.<sup>lxxxiv</sup> For Quw'utsun children to learn their culture, they need access to traditional foods.<sup>lxxxv</sup>

Salmon were and are used in Quw'utsun ceremonial practices, including burning, naming, initiation and memorial ceremonies. The number of fish required in this context is significant. For example, a Quw'utsun initiation ceremony takes four days and might require a good hundred or so salmon.<sup>lxxxvi</sup>

Our oral traditions indicate that we are a people connected to the Fraser River, and that we are fishers. Fishing implements were among the cultural arts that the First Ancestors brought to earth.<sup>lxxxvii</sup> Our practice of fishing for food such as salmon, prior to and at contact was a means of survival as well as part of our social fabric. It was, and is, culturally integral.<sup>lxxxviii</sup> Salmon, as a food resource that could be turned into wealth, allowed for Quw'utsun social stratification; titleholders could trade salmon for items such as blankets and canoes to be given away at ceremonial distributions.<sup>lxxxix</sup>

Different species of salmon are special for food and health. Sockeye salmon was and is generally the most favoured salmon of the Quw'utsun. One of the reasons is the most valuable and important resource is because it has more beneficial oils than all the other salmon.<sup>xc</sup>

### 3.3.3.7. Plant Harvesting

Our people regularly harvested and used approximately 120 different species of plants from the lands at and surrounding our village on the Lands of Tl'uqtinus, including the Project area. This includes 38-57 species used for food, 49-64 used for materials in technology, and 31-46 species potentially used as medicine.<sup>xcj</sup> Plants used for medicine, material and subsistence were, and are, highly important.

Our people harvest plants and berries for food and medicine. Important species include blueberries, cranberries, crabapples, salmonberries, blackberries, raspberries, and red huckleberries, grasses, stinging nettle, moss, ferns, cedar, hardhack, red alder, pine, cattails, tule, skunk-cabbage, willows, cottonwood, salal and labrador tea.

Tilbury Island was a harvesting area just a short row across the river from the Lands of Tl'uqtinus. Late Penelakut Elder Florence James described the Hul'q'umi'num name for Tilbury Island, Xupi'xunum, with reference to the prefix "Xup" and "pix" which means to scratch. She talked about how the Quw'utsun harvested berries from Tilbury Island, and presented a tool used as a traditional berry scraper (i.e., "scratching" the berries off) (Figure 3).<sup>xcii</sup>



Figure 3: Traditional Berry Scraper

### 3.3.4. Influence, Dominance, and Exclusive Occupation

We exclusively occupied our village and settlement lands at the Lands of Tl'uqtnus.<sup>xciii</sup> The Court confirmed in *Cowichan*:

[1535] The evidence demonstrates that a number of Coast Salish groups were present on the lower Fraser River, including the Musqueam, Tsawwassen, and Cowichan. The lower Fraser River was a place of abundant resources and fish runs. The evidence also shows that while many groups lived on the lower Fraser River, there were places that belonged to specific groups. The Cowichan established a large, permanent post and beam village along the waterfront of the south arm of the Fraser River. This was the Cowichan village. It belonged to the Cowichan, and other groups respected that it was on Cowichan land.

[1536] The Cowichan occupied their village *en masse* in the summer and maintained a periodic presence throughout the year. The evidence shows that the Cowichan had a perpetual right to their land at Tl'uqtnus, established through occupation, as a matter of Coast Salish and customary law.

[1537] The Cowichan exercised effective control over their land. There is no evidence of other Indigenous groups occupying this village. At the relevant time period, in the first half of the 18th century, **the Cowichan were the dominant Indigenous group on the lower Fraser River, in terms of size and strength.** They had many warriors and strength in numbers. They used intimidation and force to deter challenges from other groups. They established a reputation as a dangerous Nation with fierce warriors. These were strong messages to other Indigenous groups, who tended to avoid the Cowichan, and unless they were invited, they should not enter the Cowichan village and surrounding lands. [emphasis added]

As the Court recognized, we were the dominant indigenous group on the lower Fraser River. In terms of size and strength, we had many warriors and strength in numbers. We used intimidation and force. To deter challenges from other groups, we established a reputation as a dangerous nation with fierce warriors. These were strong messages to other indigenous groups who tended to avoid us.

As noted, the Quw'utsun had the capacity and intention to control their village and some surrounding areas on the South arm of the Fraser River prior to and as of 1846; this was a central finding of the court in *Cowichan* and a key component of the test for aboriginal title.<sup>xciv</sup> The Court in *Cowichan* also accepted the evidence that the Quw'utsun regarded the land on the south arm as our own.<sup>xcv</sup>

Quw'utsun Nation exclusive control over and occupation included Tilbury Island; expert evidence, oral history and the written record confirmed this (e.g., see Figure 4). The full delineation of exclusive Cowichan territory on the south arm by Dr. Kenneth Brealey is set out below:

*In my opinion, and as per the terms of my retainer, an hermeneutically informed historical geographic analysis that evaluates empirical data in context, incorporates oral historical evidence, is sensitive to the real socio-political constitution of Island Halq'eméylem society, and recognizes that the disruptions of colonization and the civilizing mission affect continuity, demonstrates that Cowichan nation territory on the lower Fraser River at first contact in 1792 and as of the Oregon Treaty in 1846 extended from approximately the west end of Annacis Island and down both sides of the south arm of the Fraser River to its mouth. It included all of the settlement at Tl'uq̓tinus as on Map 4, both sides of Canoe Pass about as far as the end of River Rd. W., and both sides of the main channel of the south arm to about the foot of No. 1 Rd., **Deas and Tilbury Islands**, and the half dozen islets in the south arm between Woodward's and Ladner Reaches. It therefore included the village of Hwlh̓its'um mapped as Island Halq'eméylem by the HTG on Map 2, and those Penelakut, Chemainus, and Cowichan Tribes fishing, gathering and camping places in what is now south Steveston reported by Dewhirst's and Thom's informants in the early 2000s. 722 As such, and over and above DgRs17 at the Tl'uq̓tinus settlement, it would have included Borden sites DgRs26 to 28 in the Woodward's Slough; and DgRt 8 and DgRs15. It would have also included the villages of Suwq̓w'eq̓sun and Pulhx̓uneewmuhw mapped as 'undetermined' by the HTG on Map 2, and so also Borden sites DgRs39 ('cultural material, fishing weir', foot of Nelson Rd. at the south arm); DgRr59 and possibly 23; and in what is now downtown Ladner DgRs41 ('cultural material, shell middens', north end of Cohilukthan Slough). In short, and in my opinion, Duff and Ham were correct to map the upper reaches of the south arm of the Fraser River as Cowichan. But even on the basis of an ethnographic record that does not, in the main, fully engage the ethnohistorical accounts, I conclude that the lower reaches were neither Tsawwassen (as in Ham) nor Musqueam (as in Duff). Territorially, they were Cowichan also.*





Figure 4: Map 5, Cowichan (and Coast Salish) Boundaries, legend in Brealey, Dr. Kenneth, *Historical Geography of Cowichan Land Use and Occupancy Lower Fraser River: Map Series and Report*. Exclusive Cowichan territory is outlined in red. This map series and report was admitted as an expert report in Cowichan and relied on by the Court.

### 3.4. Unlawful Alienation from Lands of Tl'uqtnus, Project Area, and South Arm of Fraser River

This Part describes how we were unlawfully alienated from our village at the Lands of Tl'uqtnus and our fishery, and the Project area, as a result of the Crown's failure to create a reserve for us at Tl'uqtnus and the subsequent disposition of those lands to private parties through unlawful Crown grants. Because of this theft, our people were unable to continue to live at our village on the Lands of Tl'uqtnus and to utilize the Project area. This section describes how the theft occurred, and how the harmful effects of this alienation have reverberated through multiple generations of Quw'utsun people and continue today.

### 3.4.1. Crown Promise, Appropriation, and Disposition

In 1853, Governor James Douglas, on behalf of Queen Victoria, promised the Quw'utsun that the Crown would treat them with justice and humanity so long as they remained at peace with settlers (the "**1853 Crown Promise**").<sup>x cvi</sup>

In September 1849, Douglas wrote to Barclay and recommended that, as a matter of justice and in order to keep peace in the colony, "the Indians Fishere's [sic] Village Sities [sic] and Fields, should be reserved for their benefit and fully secured to them by law". Barclay subsequently instructed Douglas "to consider the natives as the rightful possessors of such Lands only as they occupied by cultivation, or had houses built on, at the time when the island came under the undivided sovereignty of Great Britain in 1846".<sup>x cvii</sup> Douglas therefore pursued a policy of entering into treaties with Indigenous peoples that protected the lands about their village sites as reserves. After reaching agreements with neighbouring tribes, Douglas acknowledged that Quw'utsun wished to also enter into land disposition agreements, but he "declined their proposals in consequence of [their] not being prepared to enter into possession..."<sup>x cviii</sup> Douglas also wrote to James Yale, HBC Clerk, Fort Langley, on the lower Fraser River in May 1850 and advised, "I have been lately engaged in buying out the Indian right to the lands in this neighbourhood and to the westward. It is rather a troublesome business, but we are getting on very well. ... I mention this circumstance as your Indians will no doubt be claiming payment for their lands also; but that can be settled by and bye."<sup>x cix</sup>

Between 1850 and 1854, Douglas concluded fourteen treaties with various Indigenous groups, including the WSÁNEĆ and Snuneymuxw. In each instance, the terms of the treaty provided that village sites and cultivated fields were reserved for the Indigenous signatories' benefit.<sup>c</sup>

In January 1853, Governor Douglas travelled to Cowichan Bay where he met Quw'utsun chiefs and sought to establish rules for peaceful colonial relations with the Quw'utsun people. Specifically, he attended to arrest a murder suspect from Clemclemaluts. When confronted by a Quw'utsun war party, Douglas reported that he "assembled the Indians and spoke to them long, and seriously on the subject of their relations with the Colony, and the rules which must govern their conduct, in future." He noted that the Quw'utsun expressed "a sincere desire to live in peace with the Colony" and that the subsequent surrender of the murder suspect without bloodshed "may be considered, as an epoch, in the history of our Indian relations, which augers well for the future peace and prosperity of the Colony."<sup>ci</sup>

As to "the rules" the Governor sought to establish with the Quw'utsun, Douglas recorded them contemporaneously in his journal entry of January 7, 1853:

I afterwards addressed the Indians who were there assembled, on the subject of their relations with the Colony, and the Crown. I informed them that the whole country was a possession of the British crown, and that Her Majesty the Queen had given me a special charge, to treat them with justice and humanity and to protect them against the violence of all foreign nations which might attempt to molest them, so long as they remained at peace with the settlements. I told them to apply to me for redress, if they met with any injury or injustice at the hands of the Colonists and not to retaliate...<sup>cii</sup>  
[emphasis added]

That 1853 Crown Promise, in combination with English common law, translated to executive and legislative acts, resulting in the appropriation of “Indian” villages, settlements and cultivated lands therearound (collectively referred to herein as “Indian Settlement Lands”) from the Colony of British Columbia’s disposition processes, starting in 1859/60.<sup>ciii</sup> The Lands of Tl’uqtnus were, in fact, Indian Settlement Lands in 1859/60.<sup>civ</sup> Even though the Indian reserve creation process was not finalized for the Lands of Tl’uqtnus, steps taken by Governor Douglas in 1859/60 set aside all Indian Settlement Lands as anticipatory Crown reserves.<sup>cv</sup> Douglas’ policy in this regard was to set aside reserves “in conformity with the wishes of the natives”.<sup>cvi</sup> Later Crown agents geographically truncated the area in which reserves were to be marked out; subsequent instructions omitted the lands about the mouth of the Fraser River, and thus the Quw’utsun village, cultivated lands, and fishing station at Tl’uqtnus.<sup>cvii</sup> Rampant land speculation<sup>cviii</sup> by colonial officials on the lower Fraser River, including Chief Commissioner of Lands and Works (“**CCLW**”) Richard Clement Moody’s concealed acquisition of two sections of the Lands of Tl’uqtnus for himself, explains why the Lands of Tl’uqtnus were not demarked as an Indian reserve, as instructed by Governor Douglas in 1859/60.<sup>cix</sup> Just days before Governor Douglas set aside and reserved for the Crown all Indian Settlement Lands, Joseph W. Trutch certified as accurate the colonial survey, completed under contract to CCLW Moody in early October 1858.<sup>cx</sup> The Trutch survey identified the Cowichan village at the Lands of Tl’uqtnus (see Part III.B(2)).<sup>cxii</sup> In other words, the village was noted on the Trutch Survey conducted for Moody, which was the very basis for the survey description of the lands he covertly acquired.

The Crown’s policy of setting aside Indian Settlement Lands continued right up to 1871, when the Colony of British Columbia joined Confederation.<sup>cxiii</sup> The Crown was well-aware of the village and fishing station at Tl’uqtnus but failed to take the administrative steps required to finalize Indian reserve creation.<sup>cxiii</sup> The earliest Crown Grants to the Lands of Tl’uqtnus were issued just months before Confederation. The Cowichan continued to occupy and possess the Lands up to 1871 (and beyond),<sup>cxiv</sup> and consequently, the 1871 Crown Grants were made without authority.<sup>cxv</sup>

The appropriation of Indian Settlement Lands was carried forward into Confederation, with both BC and Canada assigned constitutional roles for the continued protection of appropriated Indian Settlement Lands, such as the Lands of Tl’uqtnus, with a view to finalizing Indian reserve creation.<sup>cxvi</sup> After several years of back and forth between BC and Canada on how to implement Article 13 and give effect to Indian reserve creation, the governments established the JIRC in November of 1875. Its objective was to “visit, with all convenient speed, in such order as may be found desirable, each Indian nation... in British Columbia, and...to fix and determine for each nation separately, the number, extent and locality of the Reserve or Reserves to be allowed to it.”<sup>cxvii</sup> The Commission’s work was carried out under Malcolm Sproat between 1876 and 1880.

In 1876-77, JIRC Commissioner Sproat met with the Quw’utsun who complained about the sale of the Lands of Tl’uqtnus to an absentee settler. Writing in January 1878, Sproat described the Lands of Tl’uqtnus and its continued occupation as follows:

As regards complaint No 5, it is stated to be true that the old fishery station on the Fraser known as the ‘Cowichan Fishery’ and annually used by them from time immemorial in getting fish for winter food, has been sold many years ago. The owner being an absentee, there has been no trouble about the land as yet. About one thousand Indians enamped there last season.<sup>cxviii</sup>

In January 1878, Sproat wrote to Albert N. Richards, Lieutenant Governor, British Columbia:

It is extremely inconvenient to the Province to have lands locked up from pre-emption or sale in fine districts, owing to the non-settlement of the Indian claims but this is a necessity, otherwise the Province might have to buy out the interest of the white settlers.

This is true in many parts of the country. I may mention one instance which will come up by and bye. The ancient fishing ground on the Lower Fraser of the Cowichan nation, ... has been sold and now belongs to a white nonresident. What can be done in such a matter?<sup>cxxix</sup>

On April 22, 1878, Sproat again noted the Quw'utsun complaint, this time to Indian Superintendent Powell, in relation to "an old fishing place on Frazer River frequented by the Cowichan... [that] has been sold some time ago over their heads."<sup>cxx</sup>

Neither the JIRC nor the Crown governments it represented addressed our complaint.<sup>cxxi</sup> There is no evidence that JIRC even visited the Lands of Tl'uqtinus.<sup>cxxii</sup>

Our people continued to occupy the Lands of Tl'uqtinus and the *Land Act*, as in force, prohibited Crown grants in relation to occupied or appropriated lands and Indian Settlement Lands, including at Tl'uqtinus.<sup>cxxiii</sup> Article 13 of the *BC Terms of Union*, 1871, constitutionally constrained BC's authority to sell these lands.<sup>cxxiv</sup> Despite the commitments of Article 13, Indian Reserve creation at the Lands of Tl'uqtinus stalled shortly after Confederation. Instead of properly protecting the Lands from disposition pending conveyance to Canada for the benefit of the Quw'utsun, as he was obliged to do, Lt. Governor Joseph Trutch and his successors continued to issue Crown Grants to the Lands of Tl'uqtinus starting with former CCLW Moody. The 1874 Crown Grants were made to well-connected land speculators and government officials,<sup>cxxv</sup> despite Federal Indian Superintendent Powell warning Trutch (and others) in 1873/74 that various Indigenous groups along the lower Fraser River were complaining that settlers were taking their land without compensation and that the BC government was not adequately protecting those lands as promised.<sup>cxxvi</sup> By 1914, the Crown had issued fee simple grants blanketing the entirety of the Lands of Tl'uqtinus.<sup>cxxvii</sup> Each of the post-Confederation Crown Grants were made without statutory authority because the *Land Act* did not authorize the sale of lands that were occupied, appropriated, or Indian settlements, all of which the Lands of Tl'uqtinus were. The Crown Grants were made without constitutional authority because Indian Settlement Lands, like the Lands of Tl'uqtinus, enjoyed constitutional protection from disposition by sale under Article 13.<sup>cxxviii</sup>

Additionally, BC later statutorily vested Richmond with (1) the fee simple interests to most of the Lands of Tl'uqtinus by operation of the *Municipal Act*, and (2) the soil and freehold of highways on the Lands of Tl'uqtinus by operation of the *Community Charter*, both of which occurred without constitutional authority.<sup>cxxix</sup>

As of approximately December 2017, there were 150 estates of fee simple interest in relation to the Lands of Tl'uqtinus.<sup>cxxx</sup> Each of these derive, through subdivision over time, from the 18 originating Crown Grants in the Lands of Tl'uqtinus. About half of the Lands of Tl'uqtinus are now held by a combination of Canada, the Vancouver Fraser Port Authority,<sup>cxxxi</sup> and the City of Richmond, though some of those lands are now being returned to the Quw'utsun as a result of the *Cowichan* decision.

The Crown's transfer of property rights to third parties at Tl'uqtnus and the Project area has and continues to adversely interfere with our ability to benefit from our own homelands and to use them in a way that upholds our obligations to those lands and to each other.

We were essentially made trespassers on our *st'l'unup*, our sacred ancient homeland. It follows that this interfered and infringed our access to our big houses, cultivated berry fields, canoe landing, fishing station, and fish drying racks. This, in turn, diminished our access to a variety and volume of plants, fish, and other resources used for technological, ceremonial, and spiritual purposes that were once cultivated, gathered, harvested, or otherwise collected at the Lands of Tl'uqtnus. A vital mainland trading station was lost and all the wealth, variety, and benefits associated therewith. Once a major participant in berry trading,<sup>cxxxii</sup> the loss of these foods and other resources also impacted our trading capacity and increased their dependence on non-traditional food sources. The loss of access to these things, which were housed/sourced at the Lands of Tl'uqtnus, represents a severe economic, cultural and spiritual loss, one which will take many, many generations to recover from.

Cascading reputational effects were equally profound. By depriving our people of legal access to the Lands of Tl'uqtnus, the control we once exercised over the South Arm has been heavily impacted. This has had significant knock-on effects for our modern fishing access, discussed in Section 3.4.2.

### 3.4.2. Fishing Regulations and DFO Policies

Prior to contact and the assumption of exclusive federal jurisdiction over “Sea Coast and Inland Fisheries” in 1867, we managed the fisheries we used – including the South Arm – in accordance with our own legal system and resource management practices. Beginning in the late 1800s, Canada's fisheries regime significantly disrupted the continuity of the Quw'utsun practice of fishing the South Arm for food.

Post-sovereignty Crown policy was originally not to interfere with Indigenous fisheries because fish was considered an inexhaustible staple of their diet.<sup>cxxxiii</sup> This policy changed after British Columbia joined Confederation and many of its fisheries came under federal jurisdiction. Through the remainder of the 1800s and into the early 1900s, Canada exerted increasing control over these fisheries<sup>cxxxiv</sup> until its regime dictated all aspects of fishing practices in the South Arm, including the practices of the Quw'utsun, and penalized those who did not comply.<sup>cxxxv</sup> By the mid-20th century, Canada's fisheries regime had effectively shut the Quw'utsun out from the South Arm fishery because it did not consider them “local” to the area since they did not have a reserve there.

In 1890, Canada began restricting the total number of licenses for salmon fishing on the Fraser River to 500 – 350 of which were allotted to the canneries.<sup>cxxxvi</sup> That same year, Canada refused to license our people to fish the South Arm because we were not “White men” nor recognized by Crown agent to be “River Indians” (because Crown had failed to finalize reserve lands for the Quw'utsun at the Lands of Tl'uqtnus and confined the Quw'utsun to Vancouver Island and the Gulf Islands.).<sup>cxxxvii</sup> Our fishermen resisted this decision, asserting they had a right to fish the Fraser because their fathers had harvested salmon there since before the canneries.<sup>cxxxviii</sup> They said they had a reserve on the Fraser River upstream from the Deas Island Cannery at “Kluck-tins” [Tl'uqtnus]<sup>cxxxix</sup> and this ought to entitle them to renewal of their licences.<sup>cxl</sup>

In 1894, Canada adopted new regulations which required Indigenous persons to get a “permit” to food fish.<sup>cxli</sup> Indigenous food fishing was now considered a privilege to be doled out by Crown agents. In 1895, our people complained about the loss of our ability to fish. They were concerned about the new permit requirement and wanted Canada to acknowledge the promise made by the JIRC, which was their right to fish as formerly.<sup>cxlii</sup> We petitioned the federal Minister of Fisheries about our lack of fishing rights in 1896.<sup>cxliii</sup>

In 1910, Canada adopted new regulations regarding Indian Food Fishing permits. Now the Fisheries Inspector would issue permits on the advice of the local Indian Agent.<sup>cxliv</sup> In 1917, Canada amended its regulations to empower the federal fisheries department to fix the place, method, and timing of any Indian food fishery<sup>cxlv</sup> and thus ushered in what became the status quo for Indigenous fisheries regulation: a default prohibition on Indigenous food fishing, subject to Crown permission on a wide variety of terms and conditions, with no change in its erroneous view that the Quw’utsun were not Fraser “River Indians.”

From 1978-1990, Canada formalized its status quo into written policies that continued to alienate us from the South Arm fishery, accessible only with “local” band permission. In 1978, DFO formalized its longstanding practice of only licensing Indigenous persons to fish for food in areas their band had fished in the previous 25 years.<sup>cxlvi</sup> The policy stated that DFO would only include a new area on a band’s licence if DFO deemed them “local” or “resident” to the area. A local/resident band was defined as bands with reserves near or adjacent to a specified area.<sup>cxlvii</sup> This was DFO’s “Adjacency Policy”. As we never had a reserve allotted to us at the Lands of Tl’uq̓tinus, we were never deemed local/resident to the Fraser River and remained excluded from fishing the South Arm for food.

The 1978 policy formalized existing DFO policy in which Indigenous fishers looking to fish in an “extraterritorial” area must get authorized by the “local” band (sometimes referred to as ‘protocol’).<sup>cxlviii</sup> Any fish caught would be counted against the “local” bands’ allocation.<sup>cxlix</sup> In 1982, Canada told the Musqueam Indian Band (“**MIB**”) it would not license members of non-local bands to fish in MIB fishing areas without their permission.<sup>cl</sup> Then, when Cowichan Tribes asked DFO for access to the Fraser River food fishery, DFO told them they had to get MIB’s permission.<sup>cli</sup> While Cowichan Tribes did not agree they needed permission, they complied so they could get enough fish to satisfy their community’s food fish needs.<sup>clii</sup> Thus, Canada formalized its treatment of the Quw’utsun as extraterritorial to the South Arm.

In 1992, DFO released its Aboriginal Fisheries Strategy which governed Indigenous food, social and ceremonial (“**FSC**”) fisheries. Comprehensive Fisheries Agreements (“**CFA**”) developed under the AFS determined fishing areas and other conditions listed on a band’s annual communal licence. MIB and Tsawwassen First Nation (“**TFN**”) had the South Arm included in these CFAs while the Quw’utsun bands did not.<sup>cliii</sup> In 1993, DFO released its “Policy for the Management of Aboriginal Fishing” (the “**1993 Policy**”). The 1993 Policy has never been amended and remains DFO’s primary policy governing FSC fisheries.<sup>cliv</sup> The 1993 Policy introduced DFO’s “Historic Use Policy”: Indigenous groups should fish, and have priority of access to food fish, in areas they historically (pre-contact or at contact) used.<sup>clv</sup> The 1993 Policy does not expressly incorporate the Adjacency Policy or its policy requiring “extraterritorial” bands to get protocol from “local” bands, however DFO continued to follow this approach.<sup>clvi</sup>

Following the Supreme Court of Canada decision in *R. v. Sparrow*,<sup>clvii</sup> Cowichan Tribes, Penelakut Tribe, Stz'uminus First Nation and Halalt First Nation all asserted their Aboriginal right to fish the South Arm to DFO and provided DFO with supporting documentation.<sup>clviii</sup> DFO responded by confirming that their Adjacency Policy, and its "local" band permission requirement still applied.<sup>clix</sup> If the Quw'utsun wanted to fish the Fraser River, according to DFO the only other options were to negotiate a treaty or establish their rights in court, both lengthy and expensive processes that would not provide near-term fishing access.<sup>clx</sup> Over the next 14 years, DFO applied its Adjacency Policy, which required us to get "local" band permission to fish the lower Fraser River, and failed to assess whether the Quw'utsun met the Historic Use Policy.<sup>clxi</sup> We repeatedly told DFO we disagreed with the permission requirement and informed them of our traditional practice of fishing the South Arm for food.<sup>clxii</sup> DFO did not change its approach through to 2006,<sup>clxiii</sup> though during this time it was also internally questioning the conflict between DFO's policies and how they applied to our South Arm fisheries, noting potential legal risk in their approach "particularly in the face of persuasive evidence of settlement in the Fraser by many Coast Salish First Nations".<sup>clxiv</sup>

In 2006, we took a united stance against DFO's requirement that we get "local" bands' permission before fishing the South Arm.<sup>clxv</sup> We pointed to historical records substantiating our historic use of the South Arm for fishing and asserted we were local to the South Arm.<sup>clxvi</sup> Discussing the issue internally, DFO staff recommended the following position:

"We should indicate that we have a concern for safety and proper management and as a result it is vitally important that Cowichan develop protocol with [Musqueam and Tsawwassen]."<sup>clxvii</sup>

This position was regional policy.<sup>clxviii</sup>

DFO followed this recommendation<sup>clxix</sup> and in later years often continued to take this position.<sup>clxx</sup>

Despite notice of the fact that the Quw'utsun were local to the South Arm, Canada maintained its prior approach to our detriment. Canada did so from 2008 to 2019, notwithstanding a series of new policies.<sup>clxxi</sup>

As of March 31, 2019, DFO still treated us as "extraterritorial" to the South Arm. DFO maintained that protocol discussions and agreements are desirable for safety<sup>clxxii</sup> and protocol remained important to DFO in deciding whether to license the Cowichan to fish the South Arm.<sup>clxxiii</sup> Thus, for over a century, Canada has maintained a fisheries regime that disrupted the Quw'utsun's practice of fishing the South Arm for food.

However, on August 7, 2025, the Court in *Cowichan* declared that the Quw'utsun Nation has the Aboriginal right to fish the South Arm for food, for any species, at any time of year. The Quw'utsun Nation have since that day been working steadfastly to get our boats back on the river beside our village and the Project area.



### 3.5. Colonial Disruption

Colonial harms over and above the unlawful alienation from the Lands of Tl'uq̓tinus and being prevented from fishing the south arm have caused extreme hardship and suffering for our people and impacted all aspects of Quw'utsun life, resulting not only in a disconnect from the Lands of Tl'uq̓tinus and the surrounding lands and waters, but also in disparate health, economic and other outcomes for our people. This section describes some of the main colonial policies and actions which have impacted the Quw'utsun people and provide a critical aspect of the context through which we assess proposed further interference with our ability to exercise our Quw'utsun Rights and carry out our way of life.

#### 3.5.1. The Indian Act

The *Indian Act, 1876* consolidated previous colonial Indian<sup>clxxiv</sup> legislation into one Act, with power over Indians centered in the federal Superintendent General of Indian Affairs.<sup>clxxv</sup> Its purpose was to “prepare [Indians] for a higher civilization” by encouraging them “to assume the privileges and responsibilities of full citizenship.”<sup>clxxvi</sup> In the *Indian Act, 1876* and subsequent iterations,<sup>clxxvii</sup> the federal government gave itself the power to unilaterally control every aspect of life on reserves and create whatever infrastructure it deemed necessary to achieve its desired end of assimilation through enfranchisement.<sup>clxxviii</sup> As shown below, Canada controlled where ‘Indians’ lived and worked, where they could go, and supervised the education of ‘Indian’ children.

##### 3.5.1.1. Confinement on *Indian Act* Reserves

The Quw'utsun were not fixed in space;<sup>clxxix</sup> they moved around their lands and waters and changed residences by season. Canada disrupted this movement by imposing residency requirements. The federal government wanted ‘Indians’ to stay on reserves. Douglas’ pre-confederation system of anticipatory reserves was intended to settle tribes permanently in villages.<sup>clxxx</sup> Post-confederation, the Crown continued its work by creating *Indian Act* reserves.

Then, in 1885, without legal authority or lawful foundation, Canada instituted a “pass system,” requiring permission from the Indian Agent before ‘Indians’ could leave their reserve. The pass system “was used, without any basis in law, to monitor, control, and limit the activities of Indigenous peoples.”<sup>clxxxi</sup>

#### 3.5.2. Prohibition on Raising Funds for Land Claims

In 1927, Canada amended the *Indian Act* to prohibit ‘Indians’ and their supporters from raising funds to pursue land claims without the consent of the Superintendent General.<sup>clxxxii</sup> This prohibition existed until 1951.<sup>clxxxiii</sup> Thus, in 1930, when Quw'utsun Chief Modeste, Chief George, and John Elliott sought to fund a legal claim to Aboriginal title, Indian Affairs directed the RCMP to investigate them for trying to raise money to hire a lawyer.<sup>clxxxiv</sup>

### 3.5.3. Residential Schools

Canada began formally funding residential schools in 1883.<sup>clxxxv</sup> The legislative intent of Canada's residential school system was to separate Indigenous children from their families "to minimize and weaken family ties and cultural linkages, and to indoctrinate children into...the legally dominant Euro-Christian society."<sup>clxxxvi</sup> Children were placed in residential schools far away from their reserves to discourage parents from visiting them.<sup>clxxxvii</sup> The idea was to assimilate Indigenous peoples by "kill[ing] the Indian in the child."<sup>clxxxviii</sup>

In 1894, *Indian Act* amendments empowered the Governor in Council to make regulations for compulsory attendance at school of any Indians of any province or named band. These regulations allowed the arrest and conveyance of children to school and the creation of summary conviction offences for parents or guardians who prevented children from attending.<sup>clxxxix</sup> Canada then passed regulations in 1894 which required all children between the ages of 7 and 16 to attend a day school on their reserve for the full school year. Indian Agents or justices of the peace could force children to attend a residential school if they thought the child was not being properly educated. If a child left a residential school without permission, or did not return at the promised time, school officials could get a warrant authorizing them to "search for and take such child back to the school in which it had been previously placed."<sup>cxc</sup>

In 1920, Canada amended the *Indian Act* to require all Indian children between the ages of 7 and 15 to attend day, industrial or boarding school. Previously, a child could only be committed to residential school if Canada determined they were not being properly cared for or educated, but now all Indigenous children had to attend. Truant officers could be appointed to enforce attendance and were authorized to "enter any place where he has reason to believe there are Indian children between the ages of seven and fifteen years." Parents who refused to send their children to school after being given notice could be fined or imprisoned and the child arrested without a warrant and brought to school.<sup>cxc</sup>

There were seven industrial residential schools and two boarding schools in British Columbia.<sup>cxcii</sup> Kuper Island Industrial School (on what is now called Penelakut Island) opened in 1890.<sup>cxciii</sup> Many Quw'utsun children attended it, as well as other residential schools.<sup>cxciv</sup> It closed in 1975.<sup>cxcv</sup> The last residential school in British Columbia closed in 1996.<sup>cxcvi</sup>

### 3.5.4. Impacts of Colonial Disruption on Quw'utsun Way of Life

The history of colonization in this country, "suppressed Aboriginal culture and languages, disrupted Aboriginal government, destroyed Aboriginal economies and confined Aboriginal people to marginal and often unproductive land."<sup>cxcvii</sup>

By the time the Colony of British Columbia was established in 1858, the Crown's attitude toward Indigenous peoples was shifting from "benevolent imperialism" to "administrative colonialism." Administrative colonialism continued with Confederation. The Crown forcibly exerted control over our lives through reserve creation, Indian Agent control, banning cultural practices, customs, and traditions, and implementing the residential school system.<sup>cxcviii</sup>

Colonialism displaced Indigenous peoples physically, denying them access to their traditional territories. It also displaced Indigenous peoples socially and culturally by subjecting them to intensive missionary activity and residential schools, imposing male-oriented Victorian values, and attacking

activities such as dances and ceremonies, all of which undermined their ability to pass on traditional values to their children. Colonialism displaced Indigenous peoples politically through colonial legal systems, forcing them to “abandon or at least disguise” traditional governing structures and processes “in favour of colonial-style municipal institutions.”<sup>ccix</sup>

The ongoing impacts this displacement has had on us and our way of life, our sense of identity as a people, and our ability to maintain a physical connection to our territory on the lower Fraser River, is profound.

#### **3.5.4.1. Confinement to Vancouver Island and Gulf Islands**

Colonial disruption physically and socially fragmented our people and disrupted our traditional practice of fishing the South Arm for food.

Our people moved around their lands and waters seasonally as a collective.<sup>cc</sup> However, *Indian Act* reserves and their predecessors sought to confine us to one location, interfering with the seasonal round we relied on for our nutritional foods, international trade, and maintenance of our kinship relations. The pass system further confined the Quw’utsun to reserves. The government’s push to keep us on reserves impacted our ability to harvest resources.”<sup>cci</sup>

For a while, even in the face of government policies aimed at confining us to reserves, our Elders and ancestors continued their seasonal round, harvesting fish and other resources on the South Arm. In the words of former Cowichan Tribes Chief X’tli’li’ye (Lydia Hwitsum), “They would try to continue to go out and harvest based on the cycles... [Y]ou couldn’t just let it go. They kept trying and trying to keep connecting with the ways of harvesting and connecting with each other...They tried really hard to keep that lifestyle going.”<sup>ccii</sup> But ultimately, we were largely confined to Vancouver Island and Gulf Island reserves. As Quw’utsun knowledge holder Ernie Elliott explained, in the 1970s, most of the Quw’utsun members lived on reserves; “that’s all they knew. That was their world.”<sup>cciii</sup> X’tli’li’ye’s grandmother needed a card signed by an Indian Agent or Superintendent of Indian Affairs to be “legitimately off the reserve.” X’tli’li’ye’s mother told her about the various ways in which the government tried to force our people to stay on their reserves. She described how our people tried to keep harvesting, but these systems made it difficult for them to “live their natural life...They couldn’t go and follow the cycles that they’d been following.”<sup>cciv</sup> The consequences for leaving their reserve without a pass were harsh. X’tli’li’ye described a tree in her village that used to be called “the hanging tree” because the government would hang people on it.<sup>ccv</sup>

Late Quw’utsun Elder Florence James described her deep connection to the South Arm and the Lands of Tl’uq̓tinus. She was taught that this area is a part of her. As a child, she used to row across the river from Tl’uq̓tinus to Tilbury Island with her sister. She had vivid memories of playing on the shoreline at Tilbury Island, watching the trembling aspen leaves shake in the wind and trying to catch sucker fish with homemade hooks and pieces of bread.<sup>ccvi</sup> Her ancestors were the same way: “That was their homeland.” She described the impact of feeling “cut off” from that homeland and “what you know and what you feel there” due to government trespass laws. She recounted how her family was afraid of going to jail for trespassing.<sup>ccvii</sup>

Racism in settler society also kept our people separate and confined to their reserves. X'tli'li'ye said that growing up: "we faced ridicule and racist comments." Her mother told her not to speak her language around *hwunitums* (non-Indigenous persons), and her brothers were regularly beaten up: "it was not safe by any stretch of the imagination."<sup>ccviii</sup> Ernie Elliott, late Chief Seymour, and late Sulipt'un (Norbert Sylvester) all testified in *Cowichan* about racism they experienced growing up. They were not allowed to go to bars or liquor stores, enter certain restaurants or stores, and the single movie theatre Indigenous people were allowed to attend was segregated.<sup>ccix</sup> When the Quw'utsun were allowed to go see doctors other than Indian Health doctors, there were separate waiting rooms for them.<sup>ccx</sup> They were not allowed downtown after 9:00pm. When Quw'utsun people travelled to the mainland by ferry, they had to stay on the car deck. They were not allowed upstairs.<sup>ccxi</sup> Chief Seymour described getting used to hearing racist comments while attending public school in Duncan: "Right up until grade 11 always hearing about the colour of our skin, that we were dirty, we were dumb."<sup>ccxii</sup> Even today, some Quw'utsun students drop out of school because of the racism they experience.<sup>ccxiii</sup>

### 3.5.4.2. Residential Schools

Residential schools had grievous impacts on Quw'utsun society and their way of life. Many members of the Quw'utsun Nation attended residential schools, including Kuper Island Industrial School.<sup>ccxiv</sup>

**A word of caution to the reader:** in *Cowichan*, Quw'utsun witnesses courageously shared with the Court their experiences at residential school and the resulting intergenerational trauma. We respectfully set out portions of their stories below.

The residential school system stripped Indigenous children of their language and identity and if they returned home, they had few useful trades, no parenting skills, and a deeply ingrained contempt for their own culture and traditions. In its Statement of Apology, Canada recognized "the consequences of the Indian Residential Schools policy were profoundly negative and that this policy has had a lasting and damaging impact on Aboriginal culture, heritage and language."<sup>ccxv</sup> But, as Stz'uminus Chief John Elliott testified, an "apology doesn't make it go away. It still exists and still lives in your community."<sup>ccxvi</sup>

One-way residential schools impacted the Quw'utsun's way of life was by severing family connections. Pahalicktun (Lyackson hereditary Chief Richard Thomas (past)) was separated from his siblings and didn't see his sister for years after that.<sup>ccxvii</sup> Students at Kuper Island Industrial School were punished if they were caught talking to any of their relations who were not at the school.<sup>ccxviii</sup>

Chief John Elliott's mother was removed from her family when she was seven. His grandfather's desire to fish was severely impacted by losing his children: "when they came and took his kids away... to residential school, my grandpa didn't fish anymore. And that's the hardest story to hear. To be a fisherman and to have it taken away from you, your children taken away from you... it's your family." John Elliott's grandfather stopped fishing: "His boat sat on the beach, and it never went in the water again. You know, it rotted on the beach."<sup>ccxix</sup>

When Sulipt'un was young, he remembered boats anchored all over places like Cowichan Bay, Kuper Island, and little *shts'uts'mi'nus*.<sup>ccxx</sup> When he returned from residential school circa 1955 there were hardly any boats remaining. Sulipt'un's uncle told him they were taken by the government.<sup>ccxxi</sup>

Ernie Elliott directed Cowichan Tribes' residential school recovery program until Crown funding was cut off. He described some of the stories survivors told about the abuse they experienced: "There was, you know, physical abuse, sexual abuse, psychological abuse." One survivor told him about having a piece of wood jammed into his mouth for speaking his language, breaking his jaw in two or three places.<sup>ccxxii</sup>

X'tli'li'ye's mother told her about being harshly punished for speaking her language. Her mother told her a story about sneaking away to see her brothers who were separated from her at Kuper Island Industrial School: "They'd go up, and they'd look at each other, and they'd go "we, we, we; we, we, we". They were trying to pretend they were speaking English because they had no idea how to speak English."<sup>ccxxiii</sup> The police removed Sulipt'un from the Halalt reserve and forced him to attend Kuper Island Industrial School. While there, he was only allowed to speak English: "If we spoke our language, we either got strapped real bad or we had to kneel in the hallway all night."<sup>ccxxiv</sup> Decades after leaving residential school, he was still trying to relearn his language.<sup>ccxxv</sup>

The late William Seymour, former Cowichan Tribes Chief, testified about the lasting impacts residential school had on the loss of language: "Today I can speak a few words in my language, but I can't carry on a conversation. I speak a word here and there. I'm 69 years old now, and I'm still struggling to learn my language, so I would say that the government did a good job."<sup>ccxxvi</sup> Loss of language is inextricably connected to loss of culture. In the words of Mr. Seymour, "[l]anguage and culture, you can't learn one without learning the other."<sup>ccxxvii</sup> Sulipt'un's father shared a similar sentiment: "He said that without our language, how are we going to teach our children our culture? How are they going to learn our culture without our language? Our language and culture go hand in hand."<sup>ccxxviii</sup> Mr. Seymour's inability to speak Hul'qumi'num impacted his relationship with Quw'utsun Elders. He does not understand what Elders are saying when they share stories and teachings in Hul'qumi'num. He considers "the loss of those stories from my Elders or a loss of those teachings is the biggest downfall of not being able to speak or understand my language." The impacts on his ability to learn harvesting knowledge were significant.<sup>ccxxix</sup>

Quw'utsun Nation member Larry George testified in *Cowichan* about how his inability to speak his language has also impacted his ability to learn about his culture. The bighouse is an important space for cultural knowledge transmission. However, bighouse work is conducted in Hul'qumi'num and many words used in ceremonies cannot be translated into English. Not being able to understand Hul'qumi'num means he cannot fully understand the ceremony's intent or purpose.<sup>ccxxx</sup>

Loss of language impacted the ability of generations of our people to learn from their Elders.<sup>ccxxxi</sup> Some Quw'utsun residential school survivors refused to teach their children their language and culture because of the negative stigma associated with it during their school years<sup>ccxxxii</sup> and/or because they did not want their children to go through what they did at residential school.<sup>ccxxxiii</sup>

Another way the residential school system fragmented our access to our own traditions and history was to take children away from their community while there were Elders still alive who could pass their knowledge on.<sup>ccxxxiv</sup> John Elliott said the few Elders left are disappearing and the Quw'utsun cannot get all their language and traditional teachings back without them.<sup>ccxxxv</sup>

Infrastructural and supervisory neglect and abuse at the schools led to frequent injuries, illness, and death. The work students were subjected to was inadequately supervised and often dangerous, and the badly built and poorly maintained schools constituted serious fire hazards. Inadequate water supply and firefighting equipment were noted at the Kuper Island Industrial School in 1958.<sup>ccxxxvi</sup>

The buildings were incubators of disease like tuberculosis.<sup>ccxxxvii</sup> In 1908, Kuper Island Principal P. Claessen described his school as “insanitary [sic]” and “ruinous” and there were reports of poor water supply or unsanitary sewage conditions in 1931 and 1934.<sup>ccxxxviii</sup> In 1921, Indian Agent Lomas alerted Indian Affairs to the need to segregate “children of tubercular tendencies” at the Kuper Island Industrial School. In 1922, a school inspector noted that 11 students at the Kuper Island school were out on sick leave: “The Indians...are inclined to boycott this school on account of so many deaths.”<sup>ccxxxix</sup> In the 1947-1948 school year, 13 of the 100 students at the Kuper Island Industrial School were hospitalized with tuberculosis. An Indian Affairs official described the method of medical examinations as “ineffective from the point of detecting any latent disease.”<sup>ccxli</sup>

Residential school students were not fed properly. Ernie Elliott described his father’s experience with the food at residential schools, providing a nuanced example of the impacts of the residential school system on his family. He once asked his mother why they could not have tomatoes. His mother told him a story of his father at residential school, where “the food was spoiled, and there was never enough.” His father and his friends would sneak into the tomato field at night and “gorge himself on tomatoes because he was hungry.” Since then, tomatoes triggered unpleasant memories for his father about residential school.<sup>ccxlii</sup>

Many children died at residential school or otherwise never returned home.<sup>ccxliii</sup> Three of Florence James’s great grandmother’s children died while attending residential school.<sup>ccxliv</sup> Her great grandmother never received an explanation for their deaths. Two of Sulipt’un’s aunts never returned home: “The priest and the nuns said they ran away. But I don’t think they did, though, because Kuper Island’s an island, and [it] would be hard to get off of there...”<sup>ccxlv</sup> Loneliness often drove students to take desperate and destructive measures, including suicide.<sup>ccxlv</sup>

The government did not regulate or monitor discipline at the schools. Both physical and sexual abuse often went unaddressed.<sup>ccxlvi</sup> Former students spoke of being locked up in dormitories, broom closets, basements and even crawl spaces. Corporal punishment was often coupled with public humiliation.<sup>ccxlvii</sup> Chief Seymour described being strapped with leather and wood while at St. Mary’s Residential School. He had friends who told him about the sexual abuse they endured.<sup>ccxlviii</sup> Chief Seymour also experienced abuse at the St. Catherine’s Indian Day School. He described the pain of having dental procedures done without freezing or painkillers. He testified that the nuns “would use a wire brush to scrub you with to try and get rid of your brown skin...”<sup>ccxlix</sup>

Pahalicktun described his experience at Kuper Island Industrial School:

It was like a prison...They took all of our belongings... They cut all our hair off like a pig shave. My first day in class, they had me sit in the front. We started the -- started doing our schoolwork. The nun, she come up to my desk and slapped her pointer on my desk to make it snap. Told me to stand up, so I stood up, and she told me to turn around, so I turned around and faced the rest of the class. She very loudly said -- and I'm never going to ever forget those words. She said, this is the disciple of the devil. Only because I was left-handed. They tried to make me use my right hand. When I said no, they tied my left hand behind my back and told me to use my right. I said no. And after not listening to her, I got sent down to the main office. Got down there, and I guess the nun probably already told the priest why I was there. Made me get on my knees, hold my hands out, and got the strap. While I was heading to the office, other students...commented to me, don't let him make you cry because that makes him happy. I tried hard not to make him happy. But I went down that office so many times. Every day I'd get sent down there and get strapped.<sup>ccli</sup>

Education at residential schools was simply repetitious drill, without development of tangible skills.<sup>ccli</sup> Mr. Seymour's parents, who attended Kuper Island Industrial School, only received a grade one education; most of the day was spent doing chores or farm work.<sup>cclii</sup> X'tli'li'ye's mother only received a grade two education at Kuper Island Industrial School, despite being there until the age of 12.<sup>ccliii</sup> Mrs. James's grandfather attended Kuper Island Industrial School but did not receive an education there.<sup>ccliv</sup> The same was true for her mother-in-law who went to residential school but did not even learn how to write her name. Pahalicktun testified, "residential schools weren't there to teach us; they were there to take the Indian out of us."<sup>cclv</sup>

### 3.5.4.3. Resulting Social Conditions

Colonial disruption has caused, and still causes, serious social and infrastructure issues in Quw'utsun communities.<sup>cclvi</sup> The impacts of residential schools did not cease with their closing. The effects of seven generations of residential schools are ongoing. The residential school system created poverty, poor housing, substance abuse, family violence and ill health for Indigenous peoples.<sup>cclvii</sup> John Elliott noted these ongoing effects on the Cowichan: "Some people say, why can't you get over it? It's not that easy. You can't get over it because it still lives within us and it's still something that you'll never - it'll take us generations to recover."<sup>cclviii</sup>

The Quw'utsun are still recovering from residential schools and intergenerational trauma.<sup>cclix</sup> Mr. Seymour testified that "even though today's children never went to residential school, they still suffer because of the loss of parenting skills that their parents are going through." Cowichan Tribes enacted a state of emergency in 2013 to address skyrocketing youth suicide rates in the community because "we were losing our kids one at a time almost on a daily basis... Those social issues are still there today..."<sup>cclx</sup> Ernie Elliott, Mr. Seymour, Councillor Thomas and Sulipt'un testified substance abuse is one method survivors and their families have used to dull their pain.<sup>cclxi</sup>



In 1969, Canada said “too often, to be an Indian is to be without – without a job, a good house, or running water.”<sup>cclxii</sup> Ernie Elliott noted, “it’s not our fault we’re in those conditions... [s]omeone else put us in those conditions.” Before the *Indian Act* and government interference, Indigenous peoples were totally self-sufficient.<sup>cclxiii</sup> As a result of the *Indian Act* and other colonial interference, housing shortages and extreme overcrowding is rampant on reserves. It was noted in the 1960s on Cowichan Tribes reserves, extended families lived in Indian Affairs houses approximately 24-by-48 feet, without running water, central heating, or insulation. Neither Cowichan Tribes nor its members could borrow money from the banks because they had no real property as security.<sup>cclxiv</sup> Decades later, the housing shortage has not improved, “We still need 4- or 500 housing units in Cowichan. We experience a lot of overcrowding. A lot of our people [are] living off reserve because there isn’t housing.”<sup>cclxv</sup> There is also a deficit of clean water on many reserves. Some reserves are under boil water orders and Stz’uminus was allotted reserves without fresh water sources.<sup>cclxvi</sup>

Poor quality education at residential schools led to chronic unemployment or underemployment.<sup>cclxvii</sup> Indigenous people have lower median after-tax income and are more likely to collect employment insurance and social assistance benefits.<sup>cclxviii</sup> For example, Mr. Seymour estimated approximately 70% of Cowichan Tribes members are receiving social assistance.<sup>cclxix</sup> The other Quw’utsun Nation communities experience similar challenges with unemployment, education, social services, poverty, and poor housing.<sup>cclxx</sup>

### 3.6. Resilience: Quw’utsun Substantial Connection to Shnuwiih, the Lands of Tl’uqtinus, and Fishing South Arm of Fraser River

#### 3.6.1. Persistence of Quw’utsun South Arm Fishery

Our people have continued our practice of fishing for food, even on the South Arm, notwithstanding the effects of colonial disruption to our way of life by continuing our seasonal round into the 1900s<sup>cclxxi</sup> and attempting to maintain our connection to the South Arm fishery through the limited legal means available to us (i.e., participating in commercial fishing); preserving and passing on our traditional knowledge; and continuing to fish for food throughout our traditional territory, as best we could.<sup>cclxxii</sup> The Court stated in *Cowichan*:

[3391] The Cowichan have faced over a century of colonial disruption that has interfered with their ability to fish the south arm for food. Yet, I accept that fishing the south arm for food still has a profound significance to their core identity and way of life, and remains an essential element of their culture.

The evidence of Quw’utsun witnesses in *Cowichan* confirms our practice of fishing for food, and the adaptations we made to keep our connection to the lower Fraser River, to the practice of fishing, and to fish as a source of food, into the 20<sup>th</sup> century. In *Cowichan*, many Quw’utsun witnesses testified about their personal recollections of learning to fish, and specifically their recollections of trips to fish the South Arm with family members, several of whom worked as commercial fishers. They also recalled learning how to prepare and eat traditional foods, including foods specific to the South Arm, like certain kinds of salmon, eulachon, and sturgeon.

Late Quw'utsun Elder Florence James testified that during her childhood (ca. 1950s) her father fished the Fraser River commercially with gillnetting and trolling equipment. He was obliged to sell his fish to BC Packers but would keep the good salmon he caught for his family. He also kept sockeye heads for the family to eat.<sup>cclxxiii</sup> Mrs. James's mother also fished and worked at the Fraser River canneries when Mrs. James was a child.<sup>cclxxiv</sup> Mrs. James learned to fish from her father when she was as young as six, and travelled to Shnuwiih to fish with him (ca. 1950s).<sup>cclxxv</sup> When they arrived at Tl'uqtinus to fish, her father would say "*ni tse' wulh tus 'utl Tl'uqtinus*" (we have arrived at Tl'uqtinus).<sup>cclxxvi</sup> Mrs. James returned to the Fraser River often as an adult with her late husband to practice their traditional way of fishing, up to about 1989.<sup>cclxxvii</sup>

Luschiim remembers fishing with his father Hwiinumetse' using the *huw'qw'e'yun* (drift net) on the lower South Arm to fish for *thuqi'* (sockeye salmon), *haan* (pink salmon) and *stth'a'qwi* (spring salmon).<sup>cclxxviii</sup> He recalled other Cowichan working at the canneries on the Fraser River.<sup>cclxxix</sup>

Both before and after Sulipt'un was taken to residential school (c. 1940s), he recalls Quw'utsun Nation members engaged in commercial fishing and longshoring and observed many family members fishing wherever they were not denied the ability to fish. He also recalled eating Fraser River sturgeon caught by his uncle Bob Thomas.<sup>cclxxx</sup>

Qwestenuxun learned to spearfish from his father and older cousins (ca. 1940s/50s). Qwestenuxun, X'tli'li'ye, and Councillor Thomas were all taught their families' process of smoking fish to preserve it for later use.<sup>cclxxxi</sup>

X'tli'li'ye learned how to fish with her brothers when she was a child (ca. 1960s/70s) and recalls there was always fish, including Fraser River sockeye, in the community. She testified that when she was young, the Cowichan people were still going to the Fraser and trying to have access to their traditional foods.<sup>cclxxxii</sup> She continues to fish wherever she can find them.<sup>cclxxxiii</sup>

John Elliott started to fish with his dad at 6 years old (ca. 1972), fished the Fraser River with his dad around age 13 or 14, and started to fish the Fraser River alone when he was 17 or 18.<sup>cclxxxiv</sup> He holds the important role of *hwkwunkwunlhnénun* (food gatherer)<sup>cclxxxv</sup> for his family and community,<sup>cclxxxvi</sup> which entails fishing in and around the Fraser River. In this role he needed to know where and when the fish will be in different locations. His father, grandfather and uncles taught him about where and when different species of fish are present.<sup>cclxxxvii</sup>

Despite over a century of colonial disruption interfering with our ability to fish the South Arm for food, fishing for food within our territory, including the South Arm, remains an essential element of our culture and identity. To the Quw'utsun, fishing and food fish signify who you are and where you come from. The Quw'utsun are a fishing people—we rely on fishing to sustain us. Fishing was, and is, integral to Quw'utsun culture. We teach our children about Quw'utsun culture through foods such as salmon because it ties them to tradition.<sup>cclxxxviii</sup> Salmon are part of the Quw'utsun people.<sup>cclxxxix</sup>

We take pride in being able to provide for our community and share traditional foods with Elders, family, and guests.<sup>ccxc</sup> The ancient Quw'utsun role of *hwkwunkwunlhnénun* (gatherer) involves gathering traditional foods, including fish and shellfish, for bighouses, dances, funerals, and other cultural events.<sup>ccxci</sup> This work is very important to Quw'utsun culture.

Seafood remains a staple of our diet. Traditional foods also play a dominant role at our cultural events, such as burning, naming, initiation, and memorial ceremonies. Such events require large quantities of salmon.<sup>ccxcii</sup> These gatherings connect us to our ancestors, as an open fire and traditional foods invite the ancestors to attend.<sup>ccxciii</sup> Spiritual wellness requires all attendees, including the ancestors, to be fed. The ancestors prefer salmon, clams, and other traditional foods.<sup>ccxciv</sup> We always set aside fish, particularly salmon, for cultural events and ceremonies.<sup>ccxcv</sup> We continue to be obligated to provide food for their guests.<sup>ccxcvi</sup> Each Quw'utsun Nation band spends considerable time and money applying for, and conducting, food fisheries for their thousands of members.<sup>ccxcvii</sup>

### 3.6.2. Maintenance of Substantial Connection to Lands of Tl'uqtinus and South Arm

Despite all of the disruptions imposed on them beginning in the mid-1800s, the Quw'utsun have nonetheless maintained a substantial cultural connection to our *stl'ulnup* at the Lands of Tl'uqtinus. Our spiritual connection to the Lands of Tl'uqtinus still exists. In *Cowichan*, Florence James described how when travelling to the Lands of Tl'uqtinus she felt a spiritual connection to the land.<sup>ccxcviii</sup> X'tli'li'ye described the powerful experience of fishing at Lands of Tl'uqtinus and how she felt the presence of the ancestors.<sup>ccxcix</sup> Penelakut Councillor Ken Thomas spoke of how fishing at Tl'uqtinus is important to the community, and also spoke of a spiritual connection to the land.<sup>ccc</sup> Councillor Thomas described the good feeling of being at the village site where his ancestors paddled, fished, harvested and went about their daily business. John Elliott described the importance to the community of fishing at the Lands of Tl'uqtinus where his ancestors fished, and, the few times he was able to fish at Tl'uqtinus, how special and meaningful that was.<sup>ccci</sup>

We are committed to continuing our fishing way of life, as evidenced by our desire to transfer fishing knowledge to our new generations. For example, Councillor Thomas teaches Penelakut youth how to fish and shares teachings from his Elders about respecting and sharing resources.<sup>cccii</sup> He testified that he would like to pass his ancestor's tradition of fishing on the South Arm down to his children and grandchildren and any other children who want to learn.<sup>ccciii</sup>

Notwithstanding lack of access, fishing the South Arm for food has profound significance to our sense of identity and way of life, as it has since time immemorial. Living at the Lands of Tl'uqtinus gave us an opportunity to practice our culture so that their children and grandchildren could apply the knowledge they had learned. To Luschiim, a Quw'utsun Elder and knowledge-holder, one of the reasons why recovering the Lands of Tl'uqtinus is important is because Elders share place-based knowledge with youth.<sup>ccciv</sup> John Elliott similarly spoke about how proper knowledge transmission involves hands-on experience to learn about the South Arm and to receive accompanying cultural and traditional teachings.<sup>cccv</sup>

Fishing on the South Arm is *huliitun* – it is what sustains us.<sup>cccvi</sup> As we explained to DFO in 2016:

Fishing the south arm of the Fraser River is our preferred means of exercising our culturally integral aboriginal right to fish for food. The south arm of the Fraser River is our homeland. It is where we were embedded at our permanent village at Tl'uqtnus, and it is where we obtained fish that sustained us as a people, at all legally relevant times. Fishing the area together is part of what makes us who we are as a nation. As a people we need to be able to practice who we are, fishers of the south arm of the Fraser River. Our Elders need the opportunity to teach the next generation of our people their fishing knowledge of the south arm; to be whole our fishers and people need the opportunity to engage in their ancestral custom of fishing the south arm of the Fraser River. Every single day that Canada prohibits us from fishing the south arm... [interferes with] the continuity of our culture.<sup>cccvii</sup>

After being told by the Crown that the Lands of Tl'uqtnus were not available to recover through the BC Treaty Process,<sup>cccviii</sup> we were forced to commit to the only other recourse available to us: a lengthy and costly trial process spanning over 5 years to recover our homeland at the Lands of Tl'uqtnus and our right to fish as our ancestors did. It was the longest trial in Canadian history. The Quw'utsun faced six defendants, two of whom were the Crown, and we told our story to the Court in hopes of having what was stolen returned to us. This alone demonstrates the continued and unshakeable connection that we have to the Lands of Tl'uqtnus and to the Project area, and the importance that it has to us.

### 3.7. Vision for Future: Cowichan Declaration for Reconciliation

On August 7, 2025, the Supreme Court of British Columbia handed down its judgment in *Cowichan* and granted declarations that the Quw'utsun have Aboriginal title to the Cowichan Title Lands and an Aboriginal right to fish the south arm of the Fraser River for food within the meaning of s. 35(1) of the *Constitution Act, 1982*. With this judgment, we can finally return home to our village and to our river.

The contemporary Quw'utsun perspective on Aboriginal title at the Lands of Tl'uqtnus, and our vision for the future, is articulated in the Cowichan's 2016 Declaration for Reconciliation (**Appendix "A"**) for the Lands of Tl'uqtnus, which declared that reconciliation should be consistent with the following land and resource use objectives:

- a. recovery and restoration of the Cowichan Nation owned village and surrounding lands at and about Tl'uqtnus on the South Arm of the Fraser River;
- b. reestablishment of Cowichan Nation permanent residence and river access at the village;
- c. reestablishment of Cowichan Nation culturally integral practices (e.g., harvesting fish, waterfowl, plants) on the South Arm of the Fraser River and mouth, including at and about Tl'uqtnus;
- d. realization of Cowichan Nation revenue, economic and employment opportunities, and benefits that are compatible with the above; and

promotion of education regarding the Cowichan Nation presence and interests on the South Arm of the Fraser River and its mouth.<sup>cccix</sup>

This vision guides how the Quw'utsun assess the compatibility of any proposed project or activity in the area with Quw'utsun Rights. In all cases, the following questions must be asked:

***How does the proposed project impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation?***

The evidence demonstrates continuous occupation, use, and governance of the Lands of Tl'uqtnus and the South Arm of the Fraser River, and confirms that these lands and waters are held under Quw'utsun Law through enduring relationships of responsibility and care.

These lands and waters are not open for unrestricted entry, use, or benefit. Any proposed activity must be assessed in light of existing lawful relationships, including obligations to maintain salmon lifelines, uphold stewardship responsibilities, and ensure that use does not exceed what can be lawfully sustained.

The cumulative effects of colonial disruption, ongoing constraints on land and water use, and the continued exercise of rights and responsibilities by Quw'utsun Mustimuhw establish the legal context in which the Project must be assessed. Where these conditions result in imbalance or overuse, the Project engages obligations of reciprocity and limits on use that must be satisfied under Quw'utsun Law. These constraints and obligations are applied in the sections that follow to determine whether the Project can lawfully proceed.

## 4. Economic Analysis of Historical Costs

The unlawful alienation of the Quw'utsun Nation from the Lands of Tl'uqtnus and the surrounding lands and waters, as described in Section 3, imposed costs on the Nation. Understanding and characterizing these historical costs is a precondition for assessing whether the proposed Project is likely to perpetuate or worsen the conditions that created these costs, or whether it is likely to improve on them by providing benefits to the Nation or aligning with the Nation's aspirations for the Project area (see Appendix A).

Some of these costs have a clear monetary value ("market costs"), such as forgone land revenues and the cost of replacing food that could have been fished. Others, including effects on cultural practices, governance, health, and wellbeing, are difficult to quantify in monetary terms ("non-market costs"), either because there is no market for the goods and services concerned or because data on prices are unavailable. Section 4.1 estimates historical market costs in monetary terms where possible, and Section 4.2 describes historical non-market costs using qualitative methods. Technical details are provided in Appendix B.

### 4.1. Historical Market Costs

This section estimates the monetary value of two historical market costs resulting from unlawful alienation, recognizing that these capture only a portion of total costs to the Quw'utsun Nation.

The first is the market cost of interference with the Nation's ability to exercise its title to the Project-Relevant Title Area, which comprises the Lands of Tl'uqtnus claim area as defined in *Cowichan* and Tilbury Island (Section 4.1.1, Figure 2A). This cost is estimated in monetary terms by looking at the historical revenues the Nation has been forced to forgo from use of this land since unlawful alienation began ("loss of use") and the land's value as an asset today ("current value").

The second is the market cost of interference with the Nation's ability to exercise its fishing rights in and around Shnuwilh (on the South Arm of the Fraser River; see Figure B.1.2.1) (Section 4.1.2, Figure 2B). This cost is estimated based on what it would have cost to replace the sockeye the Nation would otherwise have fished for food.

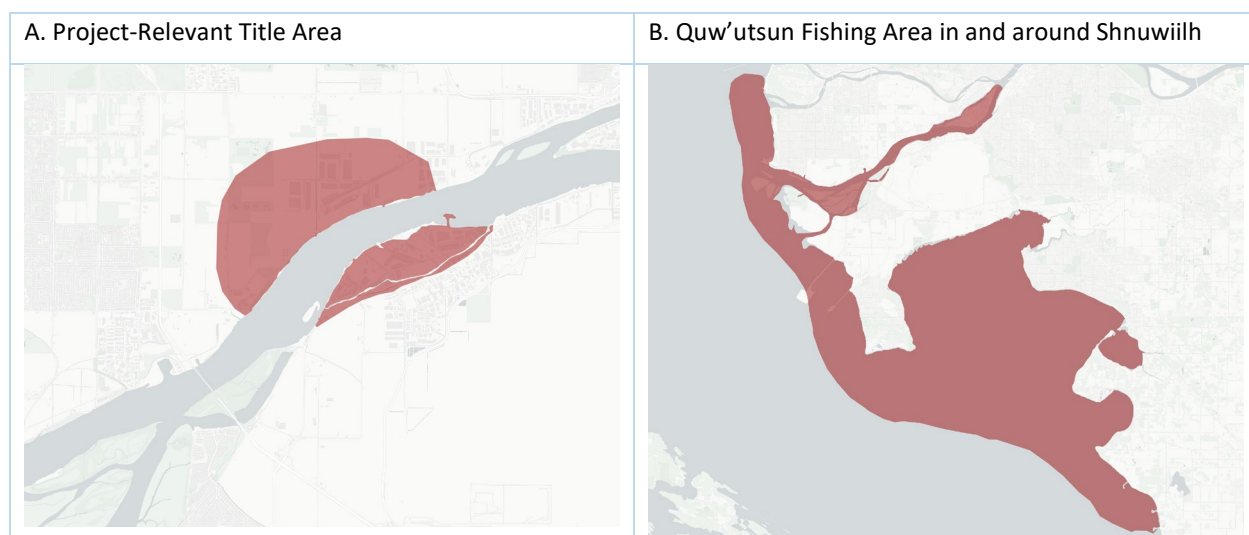


Figure 5: Project-Relevant Title Area and Fishing Area (Brealey, 2019). Source: A. Lands of Tl'uqtnus Claim Area from Schedule A of the Fifth Further Amended Notice of Civil Claim, plus Tilbury Island and B. The "Cowichan Fishing" mapped by Dr. Kenneth Brealey (Brealey, 2019).

## 4.1.1. Title to Project-Relevant Title Area

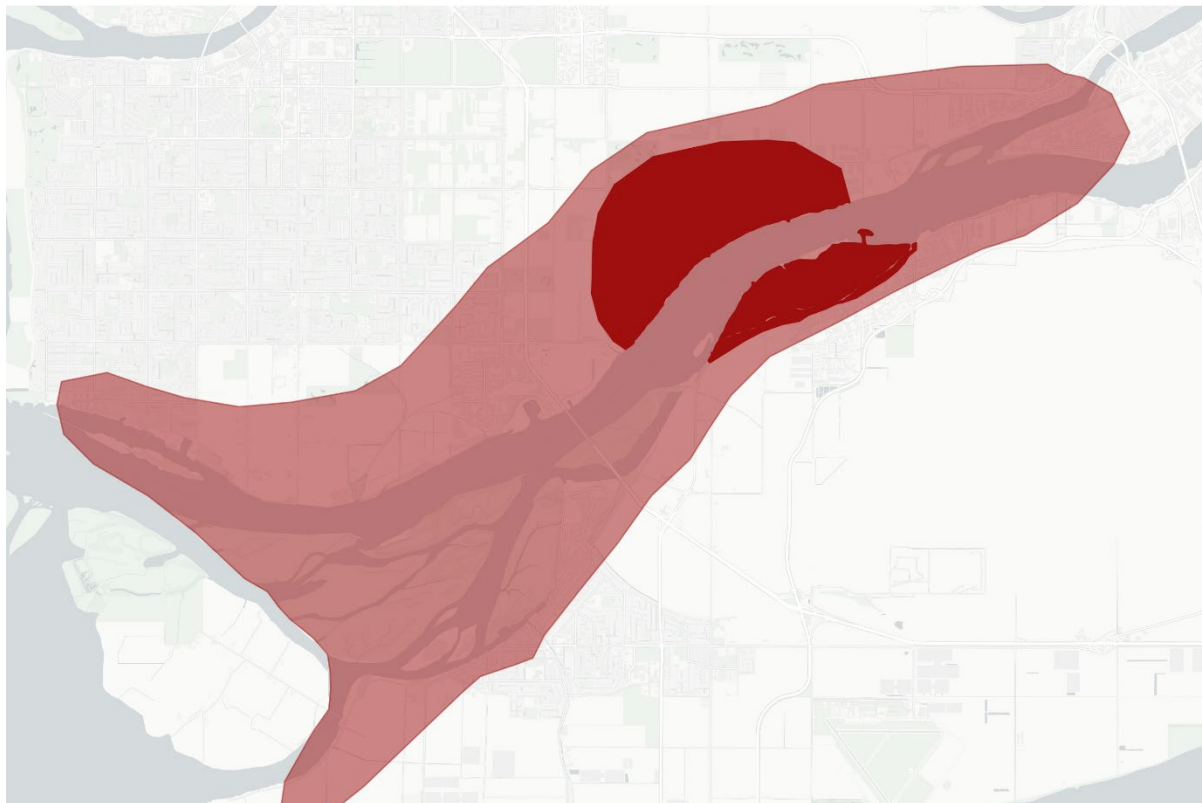
### 4.1.1.1. Scope and Key Assumptions

**Geographic scope:** Loss of use and current value were estimated for the Project-Relevant Title Area, which covers the settlement uplands of the Lands of Tl'uqtnus<sup>4</sup> and Tilbury Island.<sup>5</sup> The Project-Relevant Title Area comprises 1607 acres in Richmond and 514 in Delta (see Figure 5).

<sup>4</sup> The "settlement uplands of the Lands of Tl'uqtnus" are the Lands of Tl'uqtnus as shown in Schedule A to the Fifth Further Amended Notice of Civil Claim, but excluding the submerged riverbed at the settlement riverfront.

<sup>5</sup> The boundaries of Tilbury Island are based on the spatial extent of the island as shown on OpenStreetMap, including land on the south side of Tilbury Slough. Since the analysis estimates loss of use and current value for land only, the Fraser River (in its current boundaries) is excluded.





*Figure 6: Map of the Project-Relevant and Overall Title Areas. Source: The overall title area (light red) is “Cowichan Territory” on the South Arm of the Fraser River and adjacent uplands, from Map 5 in Brealey (Brealey, 2019), and the Project-Relevant Title Area (dark red) is the “Cowichan Extended Land Management Area” from Map 5 in Brealey (Brealey, 2019) and Schedule A of the Fifth Further Amended Notice of Civil Claim, plus Tilbury Island.*

**Temporal scope:** Loss of use was estimated for the “loss of use period,” starting on the date of the first Crown grant for each parcel in the Project-Relevant Title Area (grant dates range from 1871 to 1914), and ending in 2022. Current value was estimated as of 2022.

**Key assumptions:** Both loss of use and current value were estimated based on actual historical land values and land uses in the Project-Relevant Title Area.

Loss of use was estimated using a leasing approach: for each year in the loss of use period, the analysis estimated the lease income the Quw’utsun Nation could have earned from the Project-Relevant Title Area, had it leased the land for its actual uses. Three inputs were estimated for each land use category (agricultural, industrial, commercial, and residential) and year (details in Appendix B):

- *Land use area* was estimated from Crown grant records, historical zoning maps, official community plans, land use plans, and land use maps for Delta and Richmond.
- *Per-acre value* was estimated by fitting historical land-price indices to both contemporary land values (from BC Assessment (BCA) 2013 to 2023 rolls and sale data) and historical anchor points (from census records, title searches, and archival sources).

- *Capitalization rates*, which convert land values to annual lease payments, were estimated from contemporary rates backcasted using historical bond yield and real estate price series.

Annual lease payments were then calculated as land use area multiplied by per-acre value and capitalization rate, summed across land uses. Deductions were made for one-time costs associated with subdivision and servicing and non-recoverable landlord expenses (see Appendix B.1.1.1). Nominal lease payments were brought forward to 2022 values using the Band Trust Account rate with annual compounding.

Current value was estimated by multiplying per-acre values by land use areas for 2022 and summing across land uses.

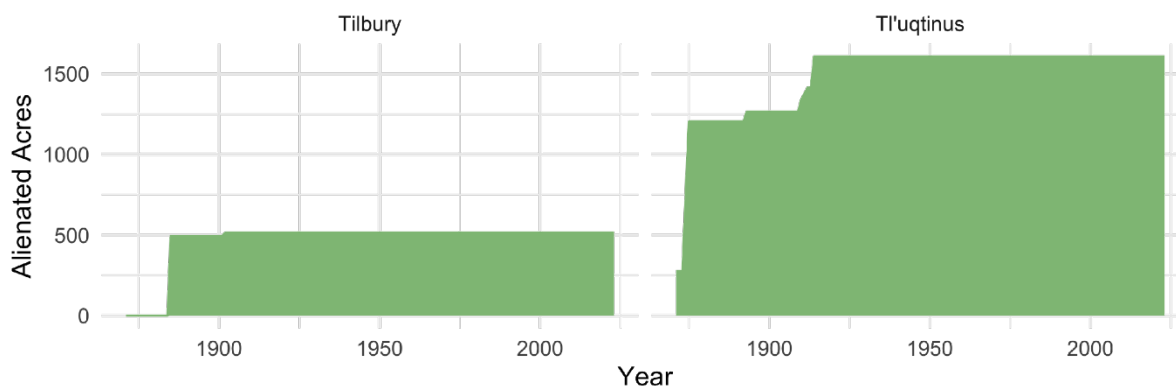
#### 4.1.1.2. Results

Loss of use and current value estimates are shown in Table 2. Loss of use is estimated at \$4.00 billion and current value at \$7.64 billion as of 2022. In total, the market cost to the Quw'utsun Nation of interference with their ability to exercise their title to the Project-Relevant Title Area is estimated at \$11.65 billion.

**Table 2: Market Cost of Interference with Title as of 2022, in Billions of Dollars**

| Section of Project-Relevant Title Area       | Loss of Use (Nominal \$) | Loss of Use (2022 \$) | Current Value (2022 \$) |
|----------------------------------------------|--------------------------|-----------------------|-------------------------|
| Tilbury Island                               | 0.68                     | 1.21                  | 2.78                    |
| Settlement uplands of the Lands of Tl'uqtnus | 1.78                     | 2.79                  | 4.86                    |
| Total                                        | 2.46                     | 4.00                  | 7.64                    |

These estimates reflect the fact that land in the Project-Relevant Title Area was unlawfully granted to settlers between 1871 and 1914 (see Figure 4). Most of Tilbury Island was granted in 1885 and the rest in 1902, while grants on the settlement uplands of the Lands of Tl'uqtnus started in 1871 and covered three quarters of the area by the late 1890s and the rest by 1914.



**Figure 7: Project-Relevant Title Area Grant Timeline**

Figure 5 shows the share of the Project-Relevant Title Area dedicated to each land use over time. Agricultural use (or uses treated as agricultural for the purpose of estimating land value) dominated for most of this period; industrial use grew from the 1970s onward; and residential and commercial development appeared from the early 2010s. See Appendix B for a detailed chronology of land use transitions.

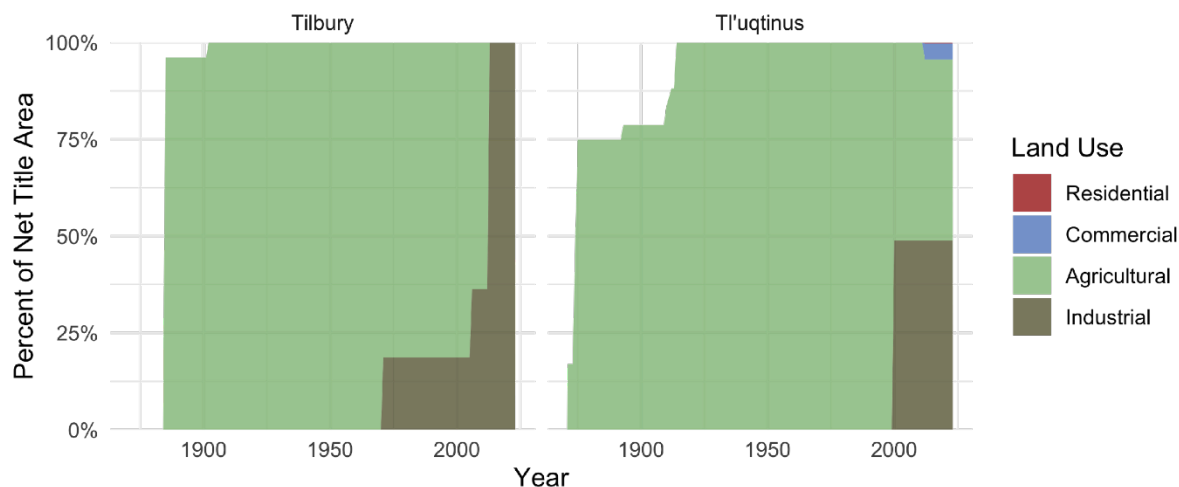


Figure 8: Land Uses Over Loss of Use Period

#### 4.1.1.3. Limitations

While data from the Project-Relevant Title Area were used wherever available, data from elsewhere were used to fill gaps. Capitalization rates were backcasted using data from elsewhere in BC, Canada, and the United States (see Appendix B.1.1.1.4), and historical land values were taken from elsewhere in the Lower Mainland and interpolated using land price indices from elsewhere in BC, Canada, and the United States (see Appendix B.1.1.1.3). Site-specific factors such as port suitability, environmental remediation costs, or specialized zoning restrictions may not be captured by these data.

The land use history of the Project-Relevant Title Area was constructed using available maps rather than a detailed parcel-by-parcel history. This means that the timing of transitions from agricultural to industrial, residential, or commercial uses are in some cases approximate, and conservative in the sense that transitions to higher-value land uses were only recorded when they could be verified on available maps, even if they occurred earlier.

Finally, loss of use and current value were estimated based on the Project-Relevant Title Area's actual use, rather than its highest and best use (HBU) if the Quw'utsun Nation had been able to exercise its title. As discussed in Section 7, several factors suggest that the Project-Relevant Title Area's actual uses have generally fallen short of its HBU, meaning this is a conservative approach. In reality, the Nation would likely have chosen to use the area in fundamentally different ways than settlers actually

used it. However, the Nation was entitled to the option of using it in the same way.<sup>6</sup> Appendix B discusses these and other limitations in more detail.

#### **4.1.1.4. Connections to Non-Market Costs**

If the Quw'utsun Nation had received lease revenues from the Project-Relevant Title Area during the loss of use period, these revenues might have alleviated the non-market costs of alienation (discussed in Section 4.2): for example, by enabling spending to improve health and wellbeing, fund governance capacity, or fund programming to strengthen language, culture, and community. But revenues would not have addressed the root cause of these costs: alienation from the Lands of Tl'uqtinus and the surrounding lands and waters would still have disrupted cultural practices tied to place, severed connections to harvesting areas and medicinal plants, excluded the Nation from land use planning and stewardship, and hindered the intergenerational transmission of knowledge that depends on being present on the land.

### **4.1.2. Sockeye Food Fishery in and around Shnuwiilh**

#### **4.1.2.1. Background: Traditional Diet and Fishing Context**

Interference with the Quw'utsun Nation's ability to exercise its fishing rights in and around Shnuwiilh (see Figure 2B) began with the first application of federal fisheries regulations in BC in 1878. Quw'utsun Nation communities were not legally allowed access to food, social, and ceremonial (FSC) fisheries in and around Shnuwiilh until 2008, and, until early 2026, some months after the BC Supreme Court in *Cowichan Tribes v. Canada* declared that the Quw'utsun Nation had an Aboriginal right to fish the South Arm of the Fraser River for food, continued to be treated as "extraterritorial" bands with limited fishing rights that denied them the predictable access needed to feed Quw'utsun communities and fully develop fishing and processing capacity.

This interference limited access to key species in the Quw'utsun Nation's traditional diet. The area in and around Shnuwiilh is the Nation's primary source for species like *thuqi'* (sockeye), *haan* (pink salmon), and white sturgeon, which are *'ulhtuneen* (special or favourite food) for the Quw'utsun Nation and central to the Nation's mythology and way of life (Direct Examination of Arvid Charlie (Luschiim): Proceedings at Trial, Day 18, Court transcript, *Cowichan Tribes v. Canada* (Attorney General), 2019) (Direct Examination of Arvid Charlie (Luschiim): Proceedings at Trial, Day 16, Court transcript, *Cowichan Tribes v. Canada* (Attorney General), 2019).

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<sup>6</sup> This assumption aligns with principles articulated by the Specific Claims Tribunal, describing rights to equitable compensation in the event of a breach in fiduciary obligation, whereby the party is owed not just the loss of the property, but also the forgone opportunity to use the property (*Beardy's & Okemasis Band #96 and #97 v. Her Majesty the Queen in Right of Canada*, 2016 SCTC 15).

#### 4.1.2.2. Scope and Key Assumptions

The market cost of this interference was approximated based on the monetary value of the sockeye that the Nation would otherwise have fished, from 1878 to present. Although the Quw'utsun Nation fished all available species as desired, sockeye was selected as a representative species because the Nation obtained it almost exclusively from in and around Shnuwiilh and because historical price data were available (Brealey, 2010) (Direct Examination of Arvid Charlie (Luschiim, 2019).

The analysis estimated the quantity of sockeye required to sustain a traditional Quw'utsun diet from 1878 to 2025, based on per-capita consumption estimates and historical population data, and valued those quantities at commercial sockeye prices. See Appendix B for full data and methods.

#### 4.1.2.3. Results

The value of the sockeye that the Quw'utsun Nation required to meet food needs in a traditional diet from 1878 to 2025 is \$787,807,857 (in 2025 dollars). This value represents what it would have cost the Nation to procure the required quantities communally at commercial prices.

Figure 6 shows the required quantities of sockeye, in kilograms. These quantities far exceed both the food, social, and ceremonial (FSC) limits the Nation holds today and those that other Nations in the area would have held since 1878 (Schubert, 1986).

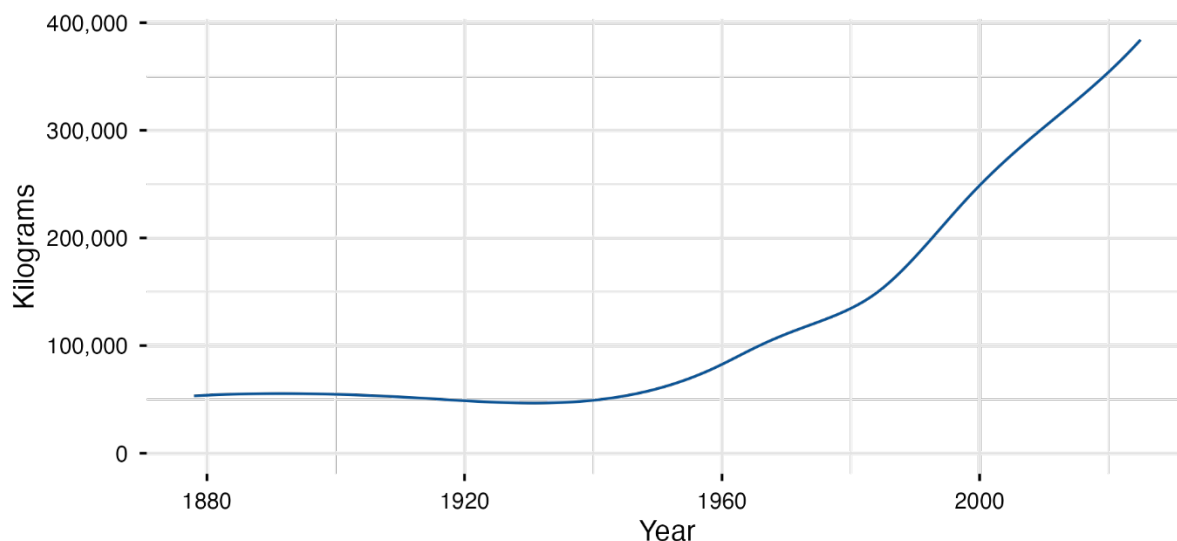


Figure 9: Total Quantity of Fish Required to Meet Community Sockeye Food Needs. Source: Per-capita quantities from Erika R. Gavenus et al. and population data from Appendix C of Joan Lovisek and federal reports on registered membership of the five Quw'utsun Nation communities

#### 4.1.2.4. Limitations

The analysis covers only the sockeye fishery due to data limitations, leaving out *haan* (pink salmon), white sturgeon, and other species that would have supported a traditional Quw'utsun diet. In addition, the per-capita harvest rates from Gavenus et al. are coast-wide estimates for all coastal BC First Nations, not specific to the Quw'utsun Nation. Nation-specific rates would differ based on local salmon abundance, species preferences, and cultural practices.

Any quantities of sockeye that the Quw’utsun Nation has been able to harvest in spite of unlawful alienation should be deducted from estimates, though these quantities have been minor relative to total food needs. Further, the costs incurred by the Quw’utsun Nation in participating in DFO’s fishing process from 2008 onwards would offset the value of any sockeye obtained through that process. These costs have included short-notice travel from Vancouver Island reserves, lost wages from weekday-only openings as short as nine hours, and the staff time required to make annual requests for access that have frequently been denied (see Appendix B.1.2.1).

#### **4.1.2.5. Connections to Non-Market Costs**

Had the Quw’utsun Nation been able to obtain sockeye to meet community food needs, it might have alleviated some of the non-market costs discussed in Section 4.2, particularly costs associated with health. But it would not have addressed the many costs associated with the value of the act of fishing rather than the nutritional value of the fish alone: lost opportunities to pass on practices related to fishing and processing; lost economic and political ties facilitated by trade; the pride and psychological security that come from exercising harvesting rights; and participation in stewardship and planning of the sockeye fishery.

## **4.2. Historical Non-Market Costs**

The market costs described in Section 4.1 capture only a portion of costs to the Quw’utsun Nation. This section describes the historical non-market costs that the Quw’utsun Nation experienced due to unlawful alienation from the Lands of Tl’uq̓tinus and the surrounding lands and waters, including the Project area. These costs are organized into distinct but interrelated themes, developed through thematic analysis of witness testimonies and evidence from the Nation’s Aboriginal Title claim (*Cowichan Tribes et al. v. Canada*), and refined through engagement with Elders advisory committees from Quw’utsun Nation communities. Themes are intended to be distinct from each other and from historical market costs, to the greatest extent possible.

Themes were developed through thematic analysis of transcripts of witness testimonies and evidence from *Cowichan Tribes et al. v. Canada*, drawing on evidence compiled for the trial so that Elders and community members who had contributed evidence did not have to repeat themselves. This approach respected that discussions related to the Lands of Tl’uq̓tinus are traumatic for many members of Quw’utsun Nation. Preliminary themes were refined by the ILA Technical Working Group (TWG) with representatives from the five Quw’utsun Nations, and then further expanded and validated through engagement sessions with Elders advisory committees from Penelakut, Halalt and Lyackson, and Cowichan Tribes communities between July 2023 and February 2024. Appendix B provides more detail on the thematic analysis, specific witnesses, and the approach and outcomes of each engagement session, as well as detailed evidence and community aspirations for each theme.

### 4.2.1. Results

Four themes emerged that capture the historical non-market costs of unlawful alienation from the Lands of *Tl'uqtinus* and the surrounding lands and waters:

- **Language and Culture:** The cost to the Quw'utsun Nation from not being able to spend time at the Lands of *Tl'uqtinus*, a place of cultural significance and an important location to share and transfer knowledge, language, and culture specific to the lands there across generations.
- **Community, Kinship, and Trade:** The cost to the Quw'utsun Nation from not being able to foster social connections with family, kin, relatives, and neighbouring Nations, and to continue to exercise the economic and political roles and relationships that were facilitated by having a settlement and access to surrounding territory.
- **Health and Wellbeing:** The cost to the Quw'utsun Nation from not having access to medicines and resources that contribute to the health and wellbeing of individuals and the community, as well as the psychological and mental health effects that come from dislocation and lack of recognition of *Tl'uqtinus* as a Quw'utsun settlement.
- **Self-Determination and Governance:** The cost to the Quw'utsun Nation from not having been able to make decisions about the use, stewardship, and planning related to the lands and waters (including fisheries) at the Lands of *Tl'uqtinus*.

These themes refer to different aspects of *huliitun*, a *Hul'q'umi'num* word referring to “something that sustains you.” As Luschiim explains, “[*huliitun* is] your food; it's your place, your *stl'ulnup*; it's your children... So our *stl'ulnup* at Shnuwiilh [the lower Fraser River], *Tl'uqtinus*, that place is a part of what sustains us, but along with the food, that we're able to harvest for ourself and for other uses. It was the bringing together where we, Quw'utsun people, lived together. That's all part of the *huliitun*.” (Direct Examination of Arvid Charlie (Luschiim, 2019).

The Lands of *Tl'uqtinus* and the surrounding lands and waters are a *stl'ulnup*, an ancient ground where cultural identity is embedded in a relationship to the land. “Living together” in this place, a phrase that refers to a variety of economic, social, political, cultural, and spiritual activities, is one of the things that sustains Quw'utsun Mustimuhw. The four themes refer to different aspects of what has been lost as Quw'utsun Mustimuhw have been prevented from living together at the Lands of *Tl'uqtinus* and the surrounding lands and waters.

These themes are described briefly below. For detailed evidence, witness testimony, and community aspirations for each theme, see Appendix B.

**Language and Cultural Knowledge.** Unlawful alienation prevented Mustimuhw from sharing knowledge through hands-on cultural practices at the Lands of *Tl'uqtinus* and surrounding lands and waters, disrupting traditions of storytelling, ceremony, and experiential learning related to harvesting, fishing, and food processing. The loss of an ability to undertake these practices at a place of cultural significance had direct effects on cultural identity, knowledge, and social connections (Turner, 2007). Elders expressed a desire to see the lands available for ceremony and as a place where Quw'utsun children can go to learn Quw'utsun culture and the *Hul'q'umi'num* language.



**Community, Kinship, and Trade.** The Quw'utsun Nation maintained a seasonal and permanent settlement at the Lands of Tl'uqtinus with roughly 108 longhouses (Kennedy, 2019) housing up to 4,000 Quw'utsun people (Eldridge, 2019), facilitating social, economic, and political relationships. Unlawful alienation disrupted trade networks, naming practices, and relationships tied to seasonal gatherings, while arbitrary boundaries set by the Crown led to tension between Nations and families. The Nation is interested in reestablishing housing at the Lands of Tl'uqtinus and repairing relationships with neighbouring Nations.

**Health and Wellbeing.** Loss of access to traditional food sources, particularly salmon from in and around Shnuwiih, has contributed to food insecurity and diet-related health conditions among Mustimuhw. Reduced access to the Lands of Tl'uqtinus and the surrounding lands and waters has also limited availability of medicinal plants, and dislocation has imposed psychological costs, including experiences of harassment when visiting the area. Elders described a future where Mustimuhw are healthy and well, including recognition and restoration of the Lands of Tl'uqtinus and surrounding lands and waters as Quw'utsun territory.

**Self-Determination and Governance.** The Quw'utsun Nation has been excluded from land use and fisheries planning, consultation processes, and stewardship partnerships related to the Lands of Tl'uqtinus and the surrounding lands and waters. Industrial development and unlawful alienation have transformed the landscape, eliminating virtually all original ecosystems and plant communities, while also excluding the Nation from co-governance of fisheries resources. Elders highlighted a desire for control over and involvement in planning related to the Lands of Tl'uqtinus and the surrounding lands and waters.

These four themes are deeply interconnected (see Figure 7). The Quw'utsun Nation's relationship with land and water is foundational to all four. Language and culture shapes naming practices and protocols related to kinship and trade, serves as a core determinant of health, and underpins the protocols and practices of self-determination and governance. Community, kinship, and trade are facilitated by language and culture, and in turn support the health, wellbeing, and self-determination of Quw'utsun. Self-determination is itself a core social determinant of health and wellbeing: without it, full health and wellbeing cannot be achieved. The health of the lands and waters is deeply connected to the health of the Quw'utsun people, sustained by stewardship and governance knowledge gained through cultural practices, preserved in language, and upheld through protocols developed over millennia.

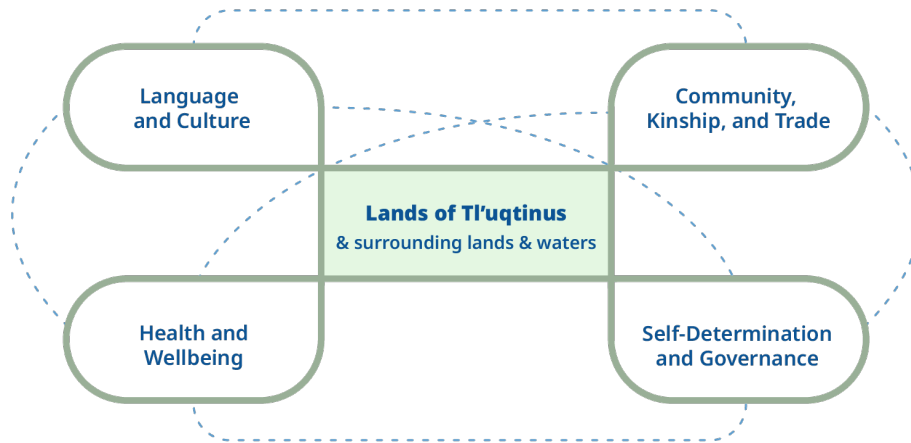


Figure 10: Connections Across Themes

### 4.2.2. Limitations

While care was taken to focus on historical costs resulting from unlawful alienation, these costs are inevitably connected to a broader set of effects from racism, colonization, and discrimination. There are similar challenges in separating market and non-market costs, although facilitators guided community engagement sessions to focus on historical non-market costs, and the theme descriptions used in the sessions were written to exclude the historical market costs described in Section 4.1.

Finally, the Quw'utsun Nation is actively rebuilding governance approaches. While the themes are intended to capture the shared experiences of the five communities within the Quw'utsun Nation, these communities have unique perspectives and experiences related to the Lands of Tl'uqtnus and the surrounding lands and waters (see Appendix B).

## 5. Ecological Context

The Quw'utsun Nation lived in relationship with the lands and waters at and around the Lands of Tl'uqtinus. The known ecological context of these lands prior to colonial disruption is that of an ecological rich and diverse landscape that contributed to both culture and wealth.

The Lands of Tl'uqtinus are where we lived, shared knowledge and harvested marine and plant resources. We also managed these lands and resources and acted as stewards. Expert reports support Quw'utsun Nation's environmental stewardship and land management, stating that "the [Quw'utsun] regularly and intensively used and customarily cultivated and managed (to enhance the quality and productivity of key resource species) these lands and plant resources" (Turner, 2019).

Research has shown that the soils at and around the Lands of Tl'uqtinus (ranging from the interior of Lulu Island to Tilbury Island, inclusive) would have supported a number of different ecosystems with distinct vegetative compositions. We named, and regularly harvested and used, approximately 120 different species of plants at and around Tl'uqtinus, including 38-57 species used for food, 49-64 species used for materials in technology; and 31-46 species potentially used as medicine (Turner, 2019).

The Quw'utsun Nation regularly managed and cultivated a significant number of plant and animal resources on which they relied, employing a number of practices and techniques, including burning over of adjacent bogs to enhance berry and bracken fern rhizome production and to create open prairies for deer forage; pruning berry bushes; regular tending and cutting of patches of cattails, tules and stinging nettles; clearing and tending patches of wapato in the sloughs nearby; maintaining groves and individual trees of western redcedar for construction, canoes, basketry materials and other purposes; and maintaining the populations of a significant number of other material, food and medicinal plant species (Turner, 2019).

Plants contributed to healthy traditional diets, likely in large quantity given the documented Quw'utsun population at Tl'uqtinus and its status as a *huliitun* (something that sustains you). The staple food of *sqewth* (wapato) is estimated to have been cultivated and harvested in excess of a million bulbs annually, using calculations of *speenhw* (camas) consumption for a population of 1000 people as a proxy. Similarly, *stth'oom* (berry) annual rate of consumption for a settlement of 1000 people is estimated to have been 10,000,000 to 20,000,000 berries per year. Pacific crabapple, bracken fern rhizomes, and other edible plants would have supplemented this component of traditional diet provided by the Lands of Tl'uqtinus and the surrounding lands as a *huliitun* (Turner, 2019).

In 1824, Francis Annance noted that "near the village [Tl'uqtinus] there is a beautiful forest of cypress [western redcedar, *Thuja plicata*] trees." Such a forest of cedars would have had prime importance for our people, and it is highly likely that we were carefully maintaining that forest, while using it for harvesting the materials and products needed, from single trees for canoes, to branches, roots and bark for various implements and containers, and bark for hats, mats and clothing (Turner, 2019).

Since unlawful alienation, introduction of large-scale European style agriculture, and industrialization of Lulu Island and the lower Fraser River environments, and expansion and development in the city of Richmond have transformed the landscape, eliminating virtually all the original ecosystems and plant communities, and thereby reducing the productive areas (Turner, 2019).

The peat bog and fen wetland habitats that extended at one time over one quarter of Lulu have nearly disappeared due to development and to the commercial cranberry and blueberry farms. Large areas of the peatlands have been dried up from dyking and changes in drainage. There are only a few remnants of the bog and other original habitats of Lulu Island. The prairies of Lulu Island in the areas around the village site at Tl'uqtinus and the Lands of Tl'uqtinus, have also been largely destroyed by farms and development (Turner, 2019).

In addition, some 235 invasive species have established themselves on Lulu Island and largely displaced the native Pacific estuarine flora. Since the original native plant species and communities that provided critical habitat for wildlife are now gone, many of the animal and bird species that would have been resources for us at and around the Lands of Tl'uqtinus have also disappeared (Turner, 2019).

As a result of unlawful alienation from the Lands of Tl'uqtinus and the surrounding lands and waters, we lost access to an important and diverse part of our traditional diet. Over time, this lack of access was compounded by the changing nature of land use. As of 1979, little of the original natural vegetation remained, concentrated in bogs and marshes. The remainder of the lands were logged and cleared and replaced by agricultural, residential, or commercial land uses. Only sparse remnants of the original vegetation types can still be seen today in small patches of native vegetation along the river at and near Tl'uqtinus (Turner, 2019). Currently, the land at and around the Lands of Tl'uqtinus is highly developed and previously diverse soils that would support a wide variety of vegetation are now heavily disturbed by industrial use and modern agricultural operations.

## 6. Project Effects Assessment

In Section 11.4 of the Application, the proponent concludes that the only residual effects to the Quw'utsun Nation's interests are positive effects to social and economic conditions and positive effects to health and wellbeing, all resulting from increased employment and economic opportunity. The Quw'utsun Nation disagrees with this conclusion based on the effects assessment herein.

In this Section, we will analyse the effects of changes to Valued Components from the Project application (see Section 6.1) in the context of the Quw'utsun Nation's vision for the future. This vision is articulated in the Cowichan's 2016 Declaration for Reconciliation (Appendix "A") for the Lands of Tl'uqtnus, which declared that reconciliation should be consistent with the following land and resource use objectives:

- a. recovery and restoration of the Cowichan Nation owned village and surrounding lands at and about Tl'uqtnus on the South Arm of the Fraser River;
- b. reestablishment of Cowichan Nation permanent residence and river access at the village;
- c. reestablishment of Cowichan Nation culturally integral practices (e.g., harvesting fish, waterfowl, plants) on the South Arm of the Fraser River and mouth, including at and about Tl'uqtnus;
- d. realization of Cowichan Nation revenue, economic and employment opportunities, and benefits that are compatible with the above; and
- e. promotion of education regarding the Cowichan Nation presence and interests on the South Arm of the Fraser River and its mouth.

In the Tree Model of Quw'utsun Legal Order shared in Section 2, the roots of the tree are the sources of law, such as stories and teachings. The trunk of the tree is made up of resources that enable us to interpret the meaning of law, clarify obligations, determine legal principles, and understand how ancestral teachings apply in present circumstances. The branches of the tree represent application of Quw'utsun law; this is where Quw'utsun law meets contemporary decision-making.

The Declaration for Reconciliation and the associated objectives are an application of and a resource for interpreting Quw'utsun law. The values and objectives expressed in the Declaration are grounded in and consistent with Quw'utsun teachings and stories, which remain the primary sources of law. Assessing project effects for alignment with the Declaration when grounded in these sources is an application of Quw'utsun Law. Some additional considerations under the Quw'utsun legal order for this assessment are as follows:

- **Healing and Restoration:** The effects assessment considers that the proposed Project exists in the context of profound cumulative harm and loss to the Quw'utsun Nation in terms of: (a) land access, (b) availability and quality of subsistence and medicinal resources, and (c) the ability to carry out legal obligations to the land and more-than-human relatives in the Project area, as described in earlier chapters. An effects assessment must be based in this cumulative context to address the need for healing and restoration. Healing and restoration are inclusive of healing the land that is a *huliitun* (something that sustains us) through ecological restoration.

- **Respect and Maintaining Connections to Home, Land and Origin:** The effects assessment respects the Quw'utsun Nation vision for reconciliation, assessing effects in the context of a residential location for Quw'utsun Mustimuhw being established at the Lands of Tl'uqtinus, which is essential for Quw'utsun Mustimuhw to connect to their *stl'ulnup* (place where one is embedded).
- **Stewardship:** The landscape at and around the proposed Project is heavily impacted by industrial use. This impacted landscape means that remaining values are more stressed and vulnerable, and less resilient to damage, and effects to these values are therefore of higher magnitude, not lesser. Through a lens of stewardship, the fact of the existing industrial landscape at and around the Lands of Tl'uqtinus does not serve to mitigate the industrial effects of Project Activities. On the contrary, it exacerbates and compounds them.
- **Transmission of Teachings and Intergenerational Obligation:** The effects assessment considers the ability of Elders to share knowledge at and around the Lands of Tl'uqtinus as a core component of re-establishing culturally integral practices. To this end, the effects assessment also considers each instance of lost opportunity to practice our culture or share our knowledge due to Project effects as an irreversible loss, even if the Project Activity that caused this loss could be stopped at a later date.
- **Preparation, Prayer and Right Conduct:** This principle is inclusive of uncertainty and the precautionary principle. In this assessment, undetailed commitments to mitigation in future Construction and Operational Environmental Management Plans are not sufficient for resolving uncertainty or for determining the effectiveness of mitigation measures.
- **Compassion / Acceptance / Avoid Harm:** Quw'utsun Mustimuhw physical, cultural, spiritual, and economic wellbeing and quality of life is implicit to each of the objectives set out in the Declaration for Reconciliation.

To fully consider how the proposed Project will affect our vision for the future at the Lands of Tl'uqtinus and the surrounding lands, including the Project area, in Section 6 we consider two future scenarios:

- **Scenario 1 - Project is not approved:** A brief qualitative exploration of potential or likely long-term outcomes in the Project area if the Project were not approved; namely the sub-scenarios of long-term maintenance and upgrading of existing infrastructure or eventual decommissioning.
- **Scenario 2 - Project is approved as proposed:** Evaluation of the Project's effects on Quw'utsun Mustimuhw and the Quw'utsun's ability to achieve the vision set out in the Declaration of Reconciliation.

## 6.1. Approach to Valued Components and Assessment Framework

For clarity and comparability with the proponent's Revised Application, this Section adopts the terminology of "Valued Components" (VCs). However, the use of this terminology does not indicate acceptance of the Application's methodological framework, nor does it define the analytical approach applied by Quw'utsun Nation.

The proponent's assessment is grounded in a regulatory effects characterization approach that evaluates impacts on discrete components using thresholds, significance determinations, and mitigation measures. This approach assumes that adverse effects may be rendered acceptable through the application of mitigation, monitoring, and adaptive management.

Quw'utsun Nation Indigenous-Led Assessment does not adopt this framework.

The assessment set out in this Section is conducted under Quw'utsun Law, which is a distinct legal order grounded in Snuw'uy'ulh (teachings), relational obligations, and place-based responsibilities. Under Quw'utsun Law:

- Effects are not treated as isolated changes to discrete “components,” but as disturbances within an interconnected system of relationships among lands, waters, salmon, other kinship species, and Quw'utsun Mustimuhw.
- The assessment is not based on whether effects are “significant” within regulatory thresholds, but whether legal obligations to maintain balance, respect, reciprocity, and intergenerational cultural continuity are upheld.
- Certain harms — including disruption to salmon lifelines, impairment of cultural practices, and interference with the transmission of Indigenous knowledge — cannot be justified or offset through mitigation measures, in part due to the irreversibility of said harm.
- Where the obligations associated with a legal principle cannot be fulfilled, the proposed activity is unlawful in that place.

Accordingly, while the VC structure is used as an organizational tool to engage with the Application, it is not determinative. Each VC section is instead used as an entry point to evaluate how Project activities affect:

- Quw'utsun Mustimuhw, including physical, cultural, and spiritual wellbeing; and
- the ability to achieve the vision set out in the Declaration for Reconciliation, including re-establishment of residence, restoration of land and water, and revitalization of culturally integral practices.

This approach reflects the fact that Quw'utsun Law does not assess effects in isolation. The loss of even a single opportunity to practice culture, transmit knowledge, or maintain relationships with land and water is not temporary or recoverable, but represents a lasting injury to the fabric of Quw'utsun life.

As such, the question addressed throughout this Section is not whether Project effects can be reduced or managed within a regulatory framework, but whether those effects are compatible with the legal obligations and future conditions required under Quw'utsun Law.

Where they are not, the Project does not meet the requirements of Quw'utsun Law.

## 6.2. Outstanding Issues with Application

Throughout the development and submission of the Application, the Quw'utsun Nation has encountered key issues that affect the overall development of the Application:

- Poor relationship building:** The Quw'utsun Nation seeks a relationship-based approach with proponents, aligned with the Quw'utsun legal principle of Right Conduct. The Quw'utsun Nation expects proponents to demonstrate readiness, respect, right mind, right heart, and honesty. The development of good relations, communications, and outcomes during the Application development phase are essential for these foundations to carry through into permitting, construction, and operations, should the Project be approved.
- Project splitting:** The Project and the Tilbury Jetty have been assessed, and in the case of the Jetty, approved, separately. This approach applies separate evaluations for components that are functionally connected, financially dependent, geographically connected, and, for the most part, intended to achieve a single purpose. The piecemealing of these projects is unaligned with Quw'utsun legal principles of interconnectedness and creates barriers to understanding the full web of relations.
- Regulatory requirements in place of meaningful Consultation:** Throughout the Application Review and issues resolution phase, the proponent responded to many of the Quw'utsun Nation's requests and concerns with reference to the Application meeting regulatory requirements or the Application Information Requirements. We are not participating as a third-party auditor of the Project's ability to meet already established requirements. We are participating in the delegated aspects of consultation to ensure that concerns around the decision on the Projects that might affect Quw'utsun Rights are considered, addressed, and accommodated where required. The approach taken by the proponent is in conflict with the Quw'utsun legal principle of respect. The EAO, insofar as it has not facilitated consultative processes which meaningfully address impacts to Quw'utsun Nation Aboriginal rights (including title) and Indigenous Rights, is not meeting its constitutional duties as an agent of the Crown in the circumstances. The legislative function of the EAO under the *Environmental Assessment Act* is to, *inter alia*, support the implementation of the United Nations Declaration on the Rights of Indigenous Peoples, and collaborating with Indigenous Nations in a manner consistent with the United Nations Declaration on the Rights of Indigenous Peoples. EAO's steadfast refusal to look beyond colonial regulatory guidelines in the context of consultation and accommodation on this Project is therefore in direct breach of its legislated mandate.
- Limiting methodologies:** The Application relies heavily on regulatory guidance, methodology, and thresholds for evaluating the magnitude of effects to Valued Components such as Air Quality and Acoustics. This approach undermines the value of the assessment as a tool for decision-making by Indigenous groups. The Application applies a narrow perspective of cumulative effects assessment and inappropriately limits the evaluation of impacts to our Rights. This approach is not in alignment with the application of the Quw'utsun legal principle of Healing and Restoration, which requires that we consider effects of the project in the context of past harms and how they are linked to project effects and outcomes.



### 6.3. Scenario 1: Project Not Approved

If the Project is not approved, marginal improvement of the current conditions in the direction of supporting the Quw'utsun Nation's vision for the Lands of Tl'uqtinus could be achieved. The potential improvements in this scenario, however incremental, are critical. Pursuit of Reconciliation with the Quw'utsun Nation at the Project area and the Lands of Tl'uqtinus will require a long-term effort made up of many instances of marginal gains. Quw'utsun Mustimuhw have repeatedly discussed loss of land and cultural activities as "death by a thousand cuts"; we now seek to heal a thousand wounds.

Aligning the lands and water at and around the Lands of Tl'uqtinus (including the Project area) with the Declaration for Reconciliations means moving towards an environment that better supports our goals of re-establishing residence, restored ecosystems, revitalized culturally integral practices, and realizing the benefits of economic opportunities. We are aware that it will take time and significant effort to manifest an environment with cleaner air, lower noise, increased natural landscapes, diverse ecosystems, and robust plant, wildlife, and fish populations. We are also aware that the existing resources are vulnerable, and that every action or activity counter this vision creates more barriers to achieving it.

If the project is not approved, there are two long-term outcomes for the existing infrastructure at the FortisBC facility on Tilbury Island. The first is that FortisBC maintains and upgrades the existing infrastructure into the future. The second outcome occurs when the current infrastructure reaches the end of its functional life and the facility is decommissioned.

If the project is not approved and the current infrastructure is maintained and upgraded into the future, we assume that improved technology will be applied to the facility and opportunities to further mitigate the existing effects may be available. While incremental, this could still result in an outcome that ranges from maintenance of the status quo to improvement over the current conditions and movement in a direction that could align with the Declaration for Reconciliation over time and when combined with cumulative efforts.

However, if not decommissioned sooner, the facility will eventually reach an end-of-life state that is beyond safe repairs and upgrades for continued operations. Eventual decommissioning and restoration of land and water values at and around the Lands of Tl'uqtinus presents the highest level of opportunity to align the proposed Project area with the Quw'utsun Nation's goals. While decommissioning presents a wider range of potential outcomes, we assume that decommissioning may present the opportunity to work with regulators and landowners to ensure that land uses at this location are increasingly aligned with the Quw'utsun Nation's Declaration for Reconciliation and the pursuit of the economic benefits that we too would like to see realized is better aligned with our values, vision, and Rights.

## 6.4. Scenario 2: Project Approved as Proposed

If the Project is approved as proposed in FortisBC's Revised Application, several project activities may have effects on the Quw'utsun Rights, Qu'w'utsun Nation values, and vision for our future at the Lands of Tl'uqtinus. The following section evaluates select aspects of the Project from the Application in a way that aligns with our values and decision-making. Each section includes a summary of potential effects of the project on the Valued Component from the Application and then considers the following questions:

- **How are Quw'utsun Mustimuhw affected?**
- **How does the proposed project impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation?**

Some sections include a **Note on the Application** that includes details regarding the Application methodology or information specific to that Valued Component. In addition to these details, the following note applies to the evaluation of all Valued Components:

*Several Valued Components direct the reader to Section 11.4 for further assessment of effects specific to the Quw'utsun Nation's interests. However, effects to the Quw'utsun Nation's interests in 11.4 do not carry over any effects that are concluded to be negligible in the primary Valued Component chapter. This methodology severely limits the ability of Section 11.4 to consider how the magnitude of a given effect may differ in the context of cumulative effects and Quw'utsun Nation values, practices, and Rights.*

*The conclusions in Section 11.4 of the Application are that there will only be positive residual effects to the Quw'utsun Nation based on increased employment and economic opportunity. **The Quw'utsun Nation does not acknowledge the conclusions of Section 11.4 as informed, accurate, or usable in decision making.***

### 6.4.1. Visual Quality

**Note on the Application** *Visual Quality is considered as part of the Land and Resource Use Chapter in the Application. However, for the purpose of this Report, Visual Quality is treated as a separate Valued Component for effects assessment.*

Visual quality of the surrounding area will change as a result of Project construction and operational activities. During the daytime, the new LNG storage tank and other supporting infrastructure are predicted to be visible to observers at selected sites (Key Observation Points or KOPs) during daytime viewing conditions. A location on the shoreline at the Tl'uqtinus village site on Cowichan Title Lands directly across from the Project site (KOP #2) was selected as one of five locations that were considered.

The level of visibility of the proposed Project components was rated as being "Obvious" to observers at the Tl'uqtinus observation location. The view from Tl'uqtinus and from two locations on Tilbury Island were rated as having a "Moderate" level of visual contrast in the daytime, which is noticeable and attracts the attention of observers. At night, viewers at Tl'uqtinus are expected to notice an increase in the perceived level of brightness due to lighting associated with Project operations. The change will shift brightness levels from E2 (Low District Brightness) to E3 (Medium District Brightness).

This change is assessed in relation to whether visual conditions at Tl'uq̓tinus continue to support ongoing relationships to place, including use, teaching, and cultural presence.

The Land and Resource Use Chapter concludes that there is potential for adverse residual effects on Visual Quality as a result of Project activities.

### ***How are Quw'utsun Mustimuhw affected?***

Changes to Visual Quality will result in the land at and around the Lands of Tl'uq̓tinus, including the Project area (a named Quw'utsun traditional use area, Xupi'xunum) being at a more industrialized visual state. Industrial visuals and disrupted views are a major barrier to Quw'utsun Nation cultural continuity, connections with airspace, land and water of culturally significant places, and the ability of our Elders to recognize and transmit place-based knowledge. These changes mean that the Lands of Tl'uq̓tinus will look less, not more, like a contemporary version of the home our Ancestors stewarded. Locations that encourage enjoyment of place and that are viable for ceremonial and spiritual practices are reduced in availability. The cultural aspects of harvesting activities are also diminished in quality and experience.

These changes and limitations increase barriers to cultural continuity and revitalization. Similarly, friends and relatives will be less, not more, inclined to visit a location with increasingly industrial landscapes. The visual changes from the Project will also serve as additional reminders of the Quw'utsun Nation's alienation from the Lands of Tl'uq̓tinus, including the Project area, with implications for mental and spiritual health, which have consequential negative effects on our physical health.

### ***How does the proposed project impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation?***

The effects of the Project on Visual Quality result in adverse effects on Quw'utsun Nation's land and resource use objectives in the Declaration for Reconciliation. Visual changes increase barriers to residence for Quw'utsun Mustimuhw residing at the re-established village at Tl'uq̓tinus due to effects on enjoyment and Sense of Place. Visual changes reduce the availability of locations where culturally integral practices can occur and be re-established. Reduced visual quality impacts the ability of the Quw'utsun Nation to realize certain economic benefits from Cowichan Title Lands, including tourism. These effects are evaluated in accordance with Quw'utsun Law, which requires that conditions supporting relationships to place are maintained.

## **6.4.2. Air Quality**

***Note on the Application:*** The Application states that all populations are affected evenly, however Indigenous communities in Canada are considered vulnerable populations at risk of higher incidence of asthma as a result of social, economic, and environmental conditions (Fenton et al., 2012). According to the 2005 Community Health Survey, prevalence rates of asthma in Indigenous populations was 11.7% compared to 8.3% of non-Indigenous Canadians (Garner, Carrière, Sanmartin, & Longitudinal Health & Administrative Data Research, 2010). Older populations are also at particular risk from health effects of SO<sub>2</sub>, increasing concern for Quw'utsun Elders.

Project-specific and cumulative changes to Air Quality result in increased levels of ambient airborne pollutants at and around the Lands of Tl'uqtinus. Specifically, the project will contribute to the increase in harmful gases (nitrogen dioxide - NO<sub>2</sub>, and sulfur dioxide - SO<sub>2</sub>) and fine particulate matter (PM<sub>2.5</sub>).

Operational modeling for the Project predicts NO<sub>2</sub> and SO<sub>2</sub> exceedances are predicted to land and water users on and near Tilbury Island and NO<sub>2</sub> exceedances that would affect residents at Tl'uqtinus. Project activities also contribute to an increase in cumulative exposure to particulate matter (PM<sub>2.5</sub>), with a higher increase during construction than during operations. Potential effects of particulate matter on vegetation are considered in section 6.4.5.

Existing background levels of NO<sub>2</sub>, SO<sub>2</sub>, and PM<sub>2.5</sub> and the associated health risks from other sources are already elevated; Project activities further increase air pollutants, moving away from cleaner air.

The presence of NO<sub>2</sub> and SO<sub>2</sub> can also increase odours; in absence of odour modeling for the Project, the occurrence of odours cannot be ruled out.

The Application does not provide adequate detail on planned mitigation measures for the Quw'utsun Nation to support conclusions regarding their effectiveness.

### ***How are Quw'utsun Mustimuhw affected?***

Changes to Air Quality affect our health and enjoyment of experience. Short-term exposure to ambient NO<sub>2</sub> is linked to increases in total non-accidental, cardiopulmonary, cardiovascular, and respiratory mortality. Long-term exposure to ambient NO<sub>2</sub> is associated with adverse respiratory effects, especially in children, including reduced measures of lung function, reduced lung function growth, and the development of asthma and allergic responses. Existing asthmatics are especially sensitive to NO<sub>2</sub> exposure. Of note, the effects associated with NO<sub>2</sub> have been observed in epidemiological studies at concentrations that occur in Canada, well below existing ambient air quality objectives and standards (Health Canada, 2016). Human health risk assessment has also identified potential health risks to the Canadian population from exposures to ambient concentrations of SO<sub>2</sub> below the current National Ambient Air Quality Objectives (Health Canada, 2016). Exposure to PM<sub>2.5</sub> can lead to eye, nose, throat and lung irritation, wheezing, coughing and shortness of breath as well as decreased lung function and aggravation of lung and heart conditions like asthma and heart disease. Youth, Elders, and those with existing cardiopulmonary conditions are at highest risk. These effects are considered in relation to whether conditions necessary for the health and wellbeing of Quw'utsun Mustimuhw are maintained.

Given that the Air Quality modeling for the Project includes potential for NO<sub>2</sub> and SO<sub>2</sub> exceedances beyond the National Ambient Air Quality Objectives, the cardiopulmonary, immunological and neurological risks to Quw'utsun Mustimuhw living and harvesting in and around the Lands of Tl'uqtinus is elevated. The health considerations for changes to Air Quality are carried into the holistic discussion of Human Health in Section 6.3.4.

In addition to the health effects of changes to Air Quality, odours resulting from the project result in decreased enjoyment of residential and cultural uses, affecting the times and locations available for spiritual and ceremonial uses. Odours from the Project will also serve as additional reminders of Quw'utsun Nation's alienation from the Lands of Tl'uqtinus and the surrounding lands, with additional

implications for mental and spiritual health, which have consequential negative effects on our physical health.

***How does the proposed project impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation?***

The changes to Air Quality result in adverse effects on the Quw'utsun Nation's land and resource use objectives as set out in the Declaration for Reconciliation. Health concerns about Air Quality changes create barriers for Quw'utsun Mustimuhw who might otherwise choose to reside at their re-established village at Tl'uqtnus. For those who decide to reside at Tl'uqtnus, the Project contributes to air quality conditions that negatively affect health in our already vulnerable population. Risk specific to Elders contributes to barriers to intergenerational learning needed to re-establish culturally integral practices, and odours affect times and locations where these practices can occur. Health risks and effects from changes to air quality also affect Quw'utsun Mustimuhw's ability to reside at Tl'uqtnus to pursue employment opportunities. These effects are evaluated in accordance with Quw'utsun Law, which requires that conditions supporting health, presence on the land, and intergenerational continuity are maintained.

### 6.4.3. Acoustics

***Note on the Application:*** Despite repeated requests from Quw'utsun Nation, the Tl'uqtnus receptor (R3) was not assessed as a residential location with associated Permissible Sound Levels in the Application for the Project. The Quw'utsun Nation requested information be provided for Acoustic effects at residential density at R3 to reflect the intent to re-establish residence of the village site and communicated that estimates or placeholders would be an adequate approach rather than none. In the absence of this information, Quw'utsun Nation uses the daytime and nighttime PSL values for R4 (52 dBA and 51 dBA, respectively) as placeholder values.

The acoustic assessment for the Project considered five receptor sites. This section focuses on the shoreline at Tl'uqtnus (R3) in Cowichan Title Lands and an informal pathway on the shoreline at Tilbury Island representing river or shoreline harvester experience (R5).



Figure 11: Acoustic Receptor Sites as illustrated in the Noise and Vibration Technical Data Report in the Revised Application

During construction, a person at the TI'uqtinus receptor site (R3) is not expected to perceive a meaningful change in noise<sup>7</sup>, as the ambient sound from all sources (cumulative ambient daytime sound, 52.9dBA) already exceeds the daytime residential noise threshold (PSL) and increases marginally with worst-case Project noise (53.8dbA). Noise at night increases by a similarly small amount. However, the increase in noise at night would move sound levels from just below to just above the nighttime residential noise threshold (PSL) of 51dBA, and also continue to exceed the sleep disturbance threshold of 40dBA. Sleep can also be disturbed by more or louder 'noise events' like alarms or hammering (percussive) activities.

The change to ambient sound from all sources (cumulative ambient sound) at the shoreline harvester location during periods of project construction is significantly higher than current levels and exceeds speech intelligibility thresholds<sup>8</sup>. Current ambient conditions result in 4% of people being highly annoyed, while the loudest construction phase would result in 54.7% of people being highly annoyed. The acoustic assessment in the Application does not consider cumulative increases to intermittent and more disruptive sound variations associated with construction.

During operations, an increase in ambient sound from all sources (4.4dBA) is expected at the TI'uqtinus shoreline receptor. The Project will contribute to future conditions that have noise above the residential threshold and would be noticeable to residents. This increase will also push the cumulative sound levels just above the threshold for speech intelligibility.

<sup>7</sup> Humans are unable to notice a sound level change of less than approximately 2dB.

<sup>8</sup> The threshold is set based on conversational voice levels among people 1 to 4 metres apart. Background noise above the threshold interferes with the ability to hear all words being spoken.

The Tilbury shoreline harvester receptor, while already at a level of noticeable sound during the day (56.5dBA), experiences an increase in cumulative operational daytime noise (66.1dba). This would change the current metric of 4% of people being highly annoyed to 29.4% being highly annoyed for the life of the project. The ambient sound from all sources at night is currently above the sleep disturbance threshold, and Project activities will move noise further beyond that threshold.

Project-specific operational sound increases the current ambient noise from the existing Tilbury facility from 41.2 to 46.1 at the TI'uqtinus receptor and from 51.5 to 59.9 at the Tilbury shoreline harvester receptor. Because of the logarithmic scale on which noise is measured, these increases correspond to fivefold and tenfold increases relative to existing conditions. Should other contributors to ambient noise decrease in the future, operational Project noise results in noise levels higher than those without the Project.

The Application does not provide adequate detail on planned mitigation measures for Quw'utsun Nation to support conclusions regarding their effectiveness.

### ***How are Quw'utsun Mustimuhw affected?***

Changes to Noise from the Project contribute to the overall soundscape at and around the Lands of TI'uqtinus remaining disruptive, or becoming more disruptive, to Quw'utsun residents, harvesters, and land users. Project-specific noise results in an increase above existing facility noise during both construction and operation, contributing to disruptive noise that shifts the soundscape away from the Quw'utsun Nation's preferred conditions. Chronic, low-grade noise exposure acts as a persistent, non-specific stressor that threatens health by disrupting the body's stress response systems and can increase the risk of cardiovascular disease, immune system dysregulation, sleep fragmentation, and long-term cognitive and psychological strain.

The thresholds used to assess the magnitude of the effects of noise were not created with Indigenous input and do not fully consider Indigenous uses, lifeways, and needs. For the purposes of assessing the effects of noise on Sense of Place and the ability to engage in spiritual and ceremonial activities, the sleep threshold of 40dBA applies. Higher noise levels interrupt silence and block welcome sounds such as water movement, birdsong, and vegetation moving in the wind. Ambient sound already exceeds the threshold for these activities. Project noise worsens these conditions rather than support achieving them.

The effects of noise to speech intelligibility at the Tilbury Island shoreline harvester receptor (and by proxy, river users) deter Quw'utsun Mustimuhw from harvesting, fishing, and navigating in these areas. Those who engage in these activities at and around the receptor experience sound that affects speech intelligibility, affecting our ability to teach cultural practices. Noise is also a deterrent to culturally important wildlife species and our future restoration and revitalization of their populations. These effects are considered in relation to whether conditions necessary for communication, teaching, and safe navigation on the land and water are maintained.

As a result of the above, changes to noise disproportionately affect the Quw'utsun Nation, which disproves the proponent's conclusion that all populations will be affected equally by noise.

***How does the proposed project impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation?***

The effects of changes to Noise result in adverse effects on Quw'utsun Nation's land and resource use objectives as set out in the Declaration for Reconciliation. Noise levels increase barriers to Quw'utsun Mustimuhw residing at the re-established village at Tl'uqtinus. Noise levels negatively impact the health of Quw'utsun Mustimuhw through chronic low-grade noise exposure, reduce the overall locations where culturally integral practices can occur and be re-established, and create barriers to conversations that are part of intergenerational learning on the land and water. Noise negatively affects efforts to revitalize and steward culturally important wildlife at and around the Lands of Tl'uqtinus. Noise impacts the ability of the Quw'utsun Nation to realize certain economic benefits from Cowichan Title Land, including from tourism. These effects are evaluated in accordance with Quw'utsun Law, which requires that sound conditions support presence on the land, communication, and intergenerational transmission.

#### **6.4.4. Soil**

The soil within the project footprint has little to no vegetation or topsoil that supports plant life, reflecting of long-term industrial use and associated cumulative impacts. There are limited undisturbed and vegetated areas in the riparian areas outside the project footprint, adjacent to the Fraser River and Tilbury Slough.

Effects to soil from Project activities occur on the Project site and worsen already low soil capability through soil mixing, compaction and rutting, altered drainage patterns, spills, and erosion. There is no commitment to remediate soil capability to a level that supports vegetation at the end of the Project's lifecycle.

The effects and impacts related to soil are addressed in relation to how soil interacts with vegetation, wildlife, and surface water in the associated sections.

#### **6.4.5. Vegetation and Wildlife**

The diversity of ecosystems that historically supported the Quw'utsun Nation at and around the Lands of Tl'uqtinus, including at the Project area, has largely been lost to agriculture and industrial use. However, important pockets of vegetation and wildlife habitat do remain. Maintaining and growing these pockets of vegetated land in ways that support cultural needs, including harvesting for food, medicine, and materials, is a priority for the Quw'utsun Nation. Several plants of cultural importance are found within the Project area, including cattail, thimbleberry, fireweed, red alder, red Elderberry, Pacific willow, and lanceolate plantain.

Tilbury Slough, which runs between Tilbury Island and Delta located just outside the Project, is a wetland complex of high ecological value. This wetland is stressed by current industrial activities but continues to maintain ecological function and provide wildlife habitat for birds, mammals, amphibians, and reptiles. The foreshore along the Fraser River, on the other side of Tilbury Island, consists of estuarine sedge and water hemlock marsh habitat.



During Project Construction and Operations, vegetation in these productive areas is not directly impacted by clearing. However, vegetation is at risk from the introduction of invasive species during construction. The proponent has noted that soil at the Project site will not be remediated to a level that supports vegetation and will not be revegetated at decommissioning. Increased particulate matter during construction may affect overall vegetation health should dust settle on leaves to the extent that photosynthesis is impacted. If particulate contains metals or other contaminants, a higher level of disruption to photosynthesis may occur.

Culturally important wildlife, such as waterfowl and ungulates, are uncommon in the area due to development and habitat loss. For the purposes of this assessment, effects to Wildlife at and around Tl'uqtnus are addressed in relation to Vegetation (habitat provision), Surface Water Quality (contamination), and Noise (wildlife deterrent).

### ***How are Quw'utsun Mustimuhw affected?***

If invasive species are introduced to either the Fraser River foreshore or the Tilbury Slough wetland, this results in a decrease in culturally important plants and overall functional habitat in the harvesting areas in and around Tl'uqtnus that we can use. In the case of some invasive species, these changes are not reversible. Given the highly stressed status of ecological function in the industrialized landscape, any loss of habitat and the associated culturally important plants significantly affect harvesting in the lands at and around Tl'uqtnus. The effects of changes to vegetation are not limited to the availability of culturally important plants; any loss of remaining ecological systems and important habitat also affects the ability of the Quw'utsun Nation to steward their lands. These effects are considered in relation to whether conditions necessary for harvesting and the continued availability of culturally important plants are maintained. Concerns about the safety of culturally important plants that have been affected by dust deposition may also deter harvesters.

Preserving the remaining pockets of habitat will not meet the needs of Quw'utsun Mustimuhw. In the long term, the Quw'utsun Nation seeks to restore agricultural and industrial lands at and around the Lands of Tl'uqtnus to a more vegetated and ecologically diverse landscape with increased availability of culturally important plants and wildlife for future generations. This objective does not prevent modern economic land uses. Quw'utsun Nation seeks to better integrate a landscape that supports cultural resources and practices. The proponent's refusal to remediate soil and revegetate at decommissioning greatly affects progress towards this goal.

Additional effects to Quw'utsun Mustimuhw related to harvesting culturally important plants are discussed in the context of Health and Culture.

### ***How does the proposed project impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation?***

The effects of the Project on Vegetation result in adverse effects on Quw'utsun Nation's land and resource use objectives as set out in the Declaration for Reconciliation. If invasive species establish during construction activities, changes to vegetation in essential pockets of wetland and estuarine shoreline affect the availability of already limited resources and locations for culturally integral practices. Reduction of vegetation and the availability of culturally important plants also reduce the resources available for Quw'utsun Mustimuhw who use plants to make items for trade or sale. Dust

deposition resulting from construction may affect plant health and deter harvesting. The absence of a remediation and vegetation plan at decommissioning creates barriers to plant and wildlife restoration at Tl'uq̓tinus and surrounding lands. These effects are evaluated in accordance with Quw'utsun Law, which requires that conditions necessary to sustain culturally important plant and wildlife are maintained.

#### 6.4.6. Surface Water

***Note on the Application:*** *The quality and quantity of site runoff is stated to be unchanged throughout the Project. However, insufficient detail is provided to support this conclusion.*

Surface water in the Project area comprises two watercourses: Tilbury Slough and the Fraser River. Tilbury Slough comprises valuable wetland habitat. Samples show that water quality has been affected by existing industry, traffic, and general development. Phosphorous, PAHs (polycyclic aromatic hydrocarbons), chloride, and several metals already exceed guidelines for the protection of aquatic life and wildlife throughout the year.

The volume and current of the Fraser River, combined with low connectivity to the Project site,

reduces the likelihood of surface water effects to this watercourse. However, discharge from hydrostatic testing and stormwater will enter Tilbury Slough, increasing the likelihood that contaminants persist there. Water discharge treatment requirements beyond oil-water separation are unclear.

There are areas of the wetland in Tilbury Slough that have shown higher sensitivity to acid and nitrogen changes that result from air emissions. The proponent's analysis concludes that project-specific emissions are not predicted to cause eutrophication or increase acidity beyond Water Quality Guidelines.

The emerging contaminant 6PPD-quinone from tire rubber enters watercourses in areas of high traffic. The potential effects of 6PPD-quinone are further discussed in relation to Fish and Fish Habitat (Section 6.3.7), as are other relevant surface water quality effects.

#### ***How are Quw'utsun Mustimuhw affected?***

The Tilbury Slough wetland is an important surviving pocket of vegetated habitat that supports culturally important plants. The existing water quality in Tilbury Slough is a concern for the Quw'utsun Nation and would be the focus of long-term restoration efforts. Any untreated runoff from the Project area will contribute to sediment transport and reduce surface water quality in Tilbury Slough. Wetland features of Tilbury Slough reduce the risk of contaminants flowing into the Fraser River but increase the likelihood that contamination persists in the slough. These effects are considered in relation to whether conditions necessary to improve water quality and support culturally important habitat are maintained. The ability to restore a high level of water quality in important habitat areas is part of Quw'utsun Nation stewardship at and around the Lands of Tl'uq̓tinus, including the Project area.

***How does the proposed project impact the ability of the Quw’utsun to achieve the vision set out in the Declaration for Reconciliation?***

Water leaving the Project site conveys sediment and may convey chemical contaminants to the receiving environment. The Project contributes to the ongoing poor Surface Water Quality in Tilbury Slough, creating additional barriers to important fish, plant, and wildlife restoration at Tl’uqtnus and surrounding lands, including the Project area. Efforts to improve surface water quality in Tilbury Slough are affected by Project-specific runoff and discharge, contributing to limitations on resources and locations for culturally integral practices. These effects are evaluated in accordance with Quw’utsun Law, which requires that the conditions necessary to restore and sustain water-dependent ecosystems are maintained.

#### 6.4.7. Fish and Fish Habitat

***Note on the Application:*** *The original project design included barge delivery of construction materials and a materials offloading facility (MOF) on the Fraser River shoreline. The Project has since excluded barge delivery and the MOF from design, instead relying on land-based transportation. However, the Revised Application retained text on the effects of the MOF. For Fish and Fish habitat in particular, this creates challenges in clearly assessing the remaining effects of the Project unrelated to the MOF.*

With the exclusion of barge delivery and the materials offloading facility (MOF), the Project footprint does not extend into the foreshore of the Fraser River and accordingly, no effects are identified in relation to the placement of riprap. The potential effects to Fish and Fish Habitat that remain arise from the effects of construction and operational activities affecting Surface Water quality. The potential for a large release of contaminants is addressed in Malfunctions and Accidents (Section 6.3.8).

The shoreline along the Fraser River is largely categorized as High Value habitat. Due to the speed and volume of the river and low connectivity to the Project site (see Section 6.3.6 Surface Water), effects to Fish and Fish Habitat along the Fraser River shoreline are expected to be limited.

The shoreline throughout Tilbury Slough is categorized as High Value. There is a tidal gate in Tilbury Slough that creates a barrier to fish migration. While there was historic presence of all five salmon species in Tilbury Slough, currently only Chum, Chinook, and river-type Sockeye fry and juveniles use the lower, unimpeded reaches of the Slough unless the tidal gate is upgraded to facilitate fish passage. The primary concern regarding effects to Fish and Fish Habitat in Tilbury Slough is the effect of surface water quality changes from stormwater runoff (see Section 6.3.6 Surface Water). Water treatment requirements for discharge into Tilbury Slough beyond oil-water separation are unclear.

Additional concerns exist regarding risk to fish from contamination from 6PPD-quinone, found in tires and introduced into the environment through runoff in high-traffic areas. The increase in traffic during Project construction increases the introduction of this contaminant, particularly in absence of known effective mitigation measures and with uncertain effects in the aquatic environment.

The Application does not provide adequate detail on planned mitigation measures for Quw’utsun Nation to support conclusions regarding their effectiveness.

### ***How are Quw'utsun Mustimuhw affected?***

The abundance of fish that historically supported the Quw'utsun Nation at and around the Lands of Tl'uq̓tinus (see Sections 3.3.3 and 4.1.2) has declined significantly because of overfishing, climate change impacts, and the cumulative effects of development pressures on fish habitat. The Fraser River, one of the greatest salmon bearing rivers in the world, historically hosted salmon that were so abundant that you could almost walk across the river on their backs (see Section 3.3.3.2). Further, Quw'utsun Mustimuhw have largely been excluded from their rightful fisheries on the South Arm of the Fraser River, including at the Project area shoreline, because of unlawful alienation (see Section 3.4.2). One of the Quw'utsun Nation's highest priorities is restoring the health and abundance of Fraser River salmon populations and re-establishing access to these fisheries in support of our physical, cultural, spiritual, and economic wellbeing.

Surface water quality samples within Tilbury Slough already exceed freshwater guidelines for aquatic life. Additional contaminant risk to water quality via surface water impacts to Tilbury Slough associated with runoff from the Project contributes to cumulative effects to fish and fish habitat, reducing the ability of the aquatic environment to support the health and abundance of Sockeye and other salmonids and fish species needed to support Quw'utsun Mustimuhw cultural practices, traditional diet, and way of life. These effects are considered in relation to whether conditions necessary to support the health and abundance of fish populations are maintained.

### ***How does the proposed project impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation?***

The effects of changes to Fish and Fish Habitat result in adverse effects on Quw'utsun Nation's land and resource use objectives as set out in the Declaration for Reconciliation. Restoration efforts in Tilbury Slough to improve the health of Fish and Fish Habitat are affected by Project-specific runoff and discharge. Uncertainty regarding 6PPD-quinone in the aquatic environment may result in additional effects to Fish, decreasing the availability of resources for culturally integral practices. Perceived risk regarding the safety of consuming fish can deter harvesters from engaging in culturally integral practices. These effects are evaluated in accordance with Quw'utsun Law, which requires that conditions supporting salmon populations and their continued return are maintained.

## **6.4.8. Malfunctions and Accidents**

***Note on the Application:*** The assessment scenarios in the Malfunctions and Accidents section does not consider that the Fraser River shoreline and Tilbury Slough may be used as harvesting areas and therefore may have harvesters present in the event of an LNG release or fire. Terminology around "low risk" is subjective and defined by the proponent based on one approach to risk tolerance. This approach allows the proponent, not those who bear the risk, to dictate acceptability.

The section on Malfunctions and Accidents considers potential project outcomes that are unintended, unlikely to occur, but have high consequences if they do occur. Three scenarios are of primary concern to the Quw'utsun Nation.

In the event of loss of LNG containment where the vapour does not ignite, primary concerns are exposure to freezing temperatures, hypoxia, or asphyxiation for humans and wildlife. These effects can occur beyond the Project footprint along the Fraser River or Tilbury Slough. If this occurs, individuals present in these areas are at risk of harm and access is likely to be restricted afterwards.

Risk of fire or explosion from multiple materials is considered to be an unlikely but possible scenario. These events could have a human injury zone extending 150m from the release point. Fires and explosions can cause short term air quality exceedances and access restrictions.

A release of hazardous materials is also considered to be possible, particularly hydrocarbons or refrigerant. Such a release can result in contamination affecting soil, groundwater, and surface water and subsequently affect vegetation, wildlife, and human health. While traditional foods are not harvested from within the proposed Project Site, contaminants can reach Tilbury Slough and Shnuwiih (south arm of the Fraser River) if containment fails.

The proponent has included how they will meet standard regulatory requirements that contribute to lowering the likelihood of these events in the Application. These steps do not eliminate the possibility of an Accident or Malfunction, and the severity of such an event is of concern to Quw'utsun Nation.

#### ***How are Quw'utsun Mustimuhw affected?***

The potential effects of Malfunctions and Accidents fall into two categories of outcomes. The first is the low-likelihood but high-consequence risk of harm or death to harvesters adjacent the project footprint based on LNG vapour release, fire, or explosion. We recognize that this requires an accident, a failure of containment, and a harvester present at that time. Despite the low likelihood, the severity of the outcome requires consideration.

The second category of outcome is both real and perceived effects on harvesting. This category includes the inability to harvest because of contamination reaching the Fraser River foreshore and Tilbury Slough through contamination pathways. We assess any contamination event affecting salmon in the Fraser River to be catastrophic given the historic cultural importance of salmon to the Quw'utsun Nation and the extent to which salmon populations are currently at risk. Importantly, Quw'utsun Mustimuhw may avoid harvesting on the river adjacent to the Project area and in front of our village site on the Lands of Tl'uqtiinus due to the perceived risk of a loss of LNG containment, fire, or explosion, regardless of such an event occurring. These effects are considered in relation to whether conditions necessary for safe access to harvesting areas and the continued exercise of harvesting practices are maintained.

#### ***How does the proposed project impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation?***

The potential for Malfunctions and Accidents related to the project results in impacts on the ability of the Quw'utsun to achieve the vision set out in its Declaration for Reconciliation. However unlikely, injury or loss of life resulting from loss of LNG containment, fire, or explosion would result in severe and irreversible impacts to the physical, cultural, and spiritual wellbeing that is implicit to re-establishing permanent residence at the village lands of Tl'uqtiinus. These effects are evaluated in

accordance with Quw'utsun Law, which requires that conditions supporting safe presence on the land and the continued exercise of cultural practices are maintained.

Perceived risk of loss of LNG containment, fire, or explosion affects the ability of Quw'utsun Mustimuhw to feel safe while engaging in culturally integral practices, can deter people from engaging in those practices, and reduces the viable locations for those practices. Overall safety concerns due to Malfunctions and Accidents reduce the perceived livability of the area, which is particularly profound when Quw'utsun Mustimuhw have only recently, after 150 years of struggle, recovered the ability to fish at the river adjacent to the Project and at and around the Lands of TI'uqtinus.

A large-scale contamination event with effects beyond the Project Footprint can impact culturally integral practices through effects to the health of fish, vegetation, and wildlife and the safety of consuming country foods. A large-scale contamination event sets back restoration efforts at and around the lands and waters of the Lands of TI'uqtinus.

#### 6.4.9. Employment and Economy

**Note on the Application:** *The Employment and Economy chapter in the Revised Application considers the history of traditional economies but assesses only indicators associated with Western economies (e.g. income, revenue, etc.). The Application notes that harvesting and subsistence is instead considered in the Culture VC. However, the Culture VC does not consider the real economic impacts related to harvesting, subsistence, and trade, nor is it addressed elsewhere. This creates a gap in the Application's ability to present a complete understanding of Project effects.*

*Land values are also considered in the Employment and Economy VC; this Report considers Land value in Section 8: Current and Future Market Costs.*

The Employment and Economy section identifies positive residual effects of the Project related to employment opportunities, contracting and procurement opportunities, government revenues, business revenue, and Provincial economic benefits. The Employment and Economy VC assessment identifies positive residual changes to opportunities for traditional economic activities, on the basis that wage economy employment increases available income for participating in traditional economies.

This conclusion results from an overgeneralization of a single study focused on Indigenous community members who live off-reserve. Household income was listed in that study as one of many factors influencing participation in hunting, fishing, and trapping; factors extended to include remoteness of residence, sex, age, household type, and involvement in First Nations organizations, social events or cultural activities (Kumar et al., 2019). Household income also appears less likely to affect participation in harvesting for plants and medicines. The conclusion that the Project's wage economy employment opportunities support positive residual changes to traditional economic activities at the site is unsupported.

### ***How are Quw'utsun Mustimuhw affected?***

As a result of unlawful alienation from the Lands Tl'uqtnus and the surrounding lands and waters, including the Project area, the Quw'utsun Nation is unable to maintain the economic and political roles and relationships that were facilitated by having a settlement and access to surrounding territory. Unlawful alienation also separated us from the wealth generated by the rich lands and resources at the Lands of Tl'uqtnus and the Project area (see Section 4). The outcomes of the *Indian Act* and residential schools compounded these effects, creating poverty, poor housing conditions, and reduced mobility (see Section 3.5).

The lack of permanent residence at Tl'uqtnus severely affects the ability of Quw'utsun Mustimuhw to pursue employment and other economic opportunities within their territory to the east of the Salish Sea. To pursue employment opportunities in this area, Quw'utsun Mustimuhw must spend time away from their families and procure and pay for lodging in an area of high cost of living. These combined costs create a significant barrier to the benefits of employment. Further, there is no permanent residential base from which Quw'utsun Mustimuhw would establish businesses that would profit from local economic benefits in the Project area. These are resources and relationships that the Quw'utsun Nation has been unable to establish in the modern mixed economy because of unlawful alienation. As a result, equitable distribution of economic benefits resulting from the Project is not achieved without clear and detailed commitments to how these barriers will be addressed.

Many aspects of the Project discussed across VC assessments in this report and summarized in our Conclusions in Section 8 affect the ability of Quw'utsun Mustimuhw to continue harvesting practices at and around the Lands of Tl'uqtnus now and into the future. Harvesting practices are culturally integral, and reduce the cost of living through subsistence harvesting and supplement income through sale and trade. These effects are considered in relation to whether conditions necessary to carry out harvesting and land-based economic practices are maintained.

### ***How does the proposed project impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation?***

The effects of the Project result in adverse effects on Quw'utsun Nation's land and resource use objectives as set out in the Declaration for Reconciliation specific to economic benefits. The Quw'utsun Nation aims to realize economic benefits that are aligned with the accompanying objectives in the Declaration. The effects of the Project on the Quw'utsun Nation's ability to re-establish residence, restore the lands and waters at and around the Lands of Tl'uqtnus, including the Project area, and re-establish culturally integral practices indicate that benefits to employment and economy are not aligned with the Declaration. Project activities that result in barriers to harvesting affect the ability of our Quw'utsun Mustimuhw to realize economic benefits by reducing cost of living and supplementing income through sale and trade of traditional foods. These effects are evaluated in accordance with Quw'utsun Law, which requires that conditions supporting access to land-based economies and the equitable realization of economic benefits are maintained.

### 6.4.10. Human Health

**Note on the Application:** *The Human Health Chapter and associated Human Health Risk Assessment focuses on exposure pathways for contaminants from air and soil. The Quw'utsun Nation lens for health and wellbeing includes potential effects to physical, mental, cultural, and spiritual health.*

The Human Health Chapter in the Project Application considers contaminant pathways, noise, and any associated effects on Human Health. Air emissions identified in the Air Quality assessment include NO<sub>2</sub>, SO<sub>2</sub>, and PM<sub>2.5</sub>. Project activities contribute to an existing level of air pollutants, increasing pollutant concentrations relative to cleaner air conditions. Both NO<sub>2</sub> and PM<sub>2.5</sub> are non-threshold substances, meaning that there is robust western science information that any incremental increase in concentrations of these pollutants will be associated with an increased risk of adverse health outcomes (Health Canada, 2021).

The proponent concludes pathways via soil, groundwater, sediment, and surface water are not predicted to pose a risk to human health because contaminant levels are below guidelines. As a result, the potential for health effects of ingesting country foods is not retained for further evaluation. The pathway analysis only considers how existing contaminants on site may be mobilized and does not account for new contaminants that may be introduced by Project activities. There are no detailed, contaminant-specific monitoring or adaptive management plans to verify the predicted outcomes.

The HHRA includes an Indigenous receptor, but it does not evaluate Indigenous-specific land use patterns such as spending extended time on the land, harvesting, fishing, or participating in cultural activities near the Project Area. The Quw'utsun Nation can experience greater exposure than modelled receptors.

The proponent concluded that noise from the Project is not predicted to result in adverse health effects based on existing cumulative ambient noise conditions.

#### ***How are Quw'utsun Mustimuhw affected?***

As a result of unlawful alienation from the Lands of Tl'uqtinus and the surrounding lands, the Quw'utsun Mustimuhw have lost access to traditional food sources, particularly salmon from in and around Shnuwilh. Barriers to traditional diet have contributed to food insecurity and diet-related health conditions among Quw'utsun Mustimuhw (Section 4.2.1). Further, the residential school system created poverty, poor housing, substance abuse, family violence and ill health for Indigenous peoples (Section 3.5.4.3).

Short-term exposure to ambient NO<sub>2</sub> is linked to increases in total non-accidental, cardiopulmonary, cardiovascular, and respiratory mortality. Long-term exposure to ambient NO<sub>2</sub> is associated with adverse respiratory effects, especially in children, including reduced measures of lung function, reduced lung function growth, and the development of asthma and allergic responses. Existing asthmatics are especially sensitive to NO<sub>2</sub> exposure. Of note, the effects associated with NO<sub>2</sub> have been observed in epidemiological studies at concentrations that occur in Canada, well below existing ambient air quality objectives and standards (Health Canada, 2016). Human health risk assessment has also identified potential health risks to the Canadian population from exposures to ambient concentrations of SO<sub>2</sub> below the current National Ambient Air Quality Objectives (Health Canada,



2016). Exposure to PM2.5 can lead to eye, nose, throat and lung irritation, wheezing, coughing and shortness of breath as well as decreased lung function and aggravation of lung and heart conditions like asthma and heart disease. Youth, Elders, and those with existing cardiopulmonary conditions are at highest risk (see Section 6.3.2).

In addition to specific health outcomes, perceived risk of changes to quality of air, water, land, fish, vegetation, or wildlife affects diets and overall wellbeing and deter Quw'utsun Mustimuhw from spending time on the land. Culturally integral practices are intertwined with the health and wellbeing of Quw'utsun Mustimuhw.

Dislocation has imposed psychological costs. The intergenerational trauma resulting from the enactment of Crown policies and regulations like residential schools, is associated with symptoms associated with post-traumatic stress disorder, including feeling powerless, depressed, and suicidal (Isobel, McCloughen, Goodyear, & Foster, 2020). Indigenous youth in Canada show high rates of hopelessness and depressive symptoms, which has been linked to excessive drinking and suicidality (Stewart, et al., 2011). Healing must be culturally informed and consider the profound changes of "geographic dislocation and disruptions to their connections to the land and to their traditional patterns of subsistence" (Stewart, et al., 2011).

Health impacts are cumulative and interconnected. Project effects resulting in changes or contribution to cumulative effects to Noise, Visual Quality, and the ability to engage in cultural practices affect overall mental and cultural wellbeing linked to sense of place and connection to the Lands of Tl'uqtnus and the surrounding lands and waters, including the Project area. Psychological impacts also include fear and stress related to accidents. The project involves LNG infrastructure which carries real and perceived risks of accidents, including explosions or major releases. This causes ongoing stress and anxiety, affects mental health and sense of safety and changes how and where people feel comfortable spending time. These effects are considered in relation to whether conditions necessary to support overall health and the ability to live on, use, and remain connected to the land are maintained.

***How does the proposed project impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation?***

The physical, cultural, spiritual, and economic wellbeing of Quw'utsun Mustimuhw is central to each of the objectives set out in the Declaration of Reconciliation. The collective changes to Valued Components in the Application move conditions further away from Quw'utsun Nation goals of achieving a restored landscape at and around the Lands of Tl'uqtnus that supports human health and wellbeing. These effects are evaluated in accordance with Quw'utsun Law, which requires that conditions supporting the health, wellbeing, and continued presence of our Quw'utsun Mustimuhw on the land are maintained.

Concerns regarding Project effects to Human Health affect our willingness to engage in culturally integral practices at and around the Project footprint. Human Health concerns can also deter those of us who wish to reside at Tl'uqtnus and seek employment in the area.

### 6.4.11. Culture

***Note on the Application:*** *The assessment of Culture and subsequent conclusions on effects are written by the proponent through a colonial lens and are limited by colonial approaches. Their conclusions of negligible effects depend on narrow baseline data and exclude cumulative cultural effects. For Quw'utsun Nation, a meaningful completion of the Culture section is dependent on strong understanding and relationship between the Quw'utsun Nation and the proponent, which has been absent.*

*The assessment of effects to Culture in the Application is highly dependent on the proponent's conclusions for other Valued Components, such as Air Quality, Acoustics, and Vegetation. Please refer to the relevant sections of this Report for the Quw'utsun Nation's conclusions on the effects of the Project, which differ from the proponent's and contribute to the assessment herein.*

Governance for the Quw'utsun Nation extends beyond emissions and includes abiding by Quw'utsun Nation laws and customs. The Culture section of the Application only considers the effects of greenhouse gas (GHG) emissions on governance. The proponent has committed to achieving 'net-zero' emissions by 2030. Quw'utsun Nation maintains concerns around the true effectiveness of tools like carbon credits to achieve 'net-zero' emissions.

Changes to cultural practices from project activities are also considered in the Application in the context of physical changes to lands, water, and resources, changes to access, and changes to sensory conditions. The proponent has assessed the effects of these changes as negligible based on their conclusions for other Valued Components. The proponent also concludes that there will be no effects to intergenerational knowledge transfer or cultural continuity, based on the same reasoning.

The Quw'utsun Nation disagrees with these conclusions. As discussed in the remainder of this section, Project activities contribute to the continuation of a landscape that limits Quw'utsun Nation culture and intentions to re-establish culturally integral practices at the Lands of Tl'uq̓tinus and its surrounding lands and waters.

#### ***How are Quw'utsun Mustimuhw affected?***

As explored in Sections 3 and 4 of this Report, colonial disruption through the *Indian Act* and unlawful alienation from Tl'uq̓tinus and the surrounding lands and waters, including the Project area, prevents Quw'utsun Mustimuhw from maintaining culturally integral practices through intergenerational knowledge transfer. The cultural continuity supported by storytelling, ceremony, and experiential learning related to harvesting, fishing, and food processing is severely disrupted, although not fully lost (see Section 3.6).

This cumulative context is critical when considering the magnitude of effects on Culture. The collective effects of Project Activities move the Lands Tl'uq̓tinus and the surrounding lands and waters away from the desired state that would best support Quw'utsun Mustimuhw and our ability to practice our Culture.

***How does the proposed project impact the ability of the Quw’utsun to achieve the vision set out in the Declaration for Reconciliation?***

The following negative effects of Project activities on individual Valued Components result in a collective impact on the Quw’utsun Nation’s ability to re-establish culturally integral practices on the south arm of the Fraser River and mouth, including at and about the Lands of Tl’uq̓tinus:

- Visual changes reduce the overall locations where culturally integral practices can occur and be re-established.
- Air Quality risk specific to Elders reinforce barriers to intergenerational learning needed to re-establish culturally integral practices, and odours affect times and locations where these practices can occur.
- Noise levels reduce the overall locations where culturally integral practices can occur and be re-established and create barriers to conversations that are part of intergenerational learning on the land and water. Noise may negatively affect future effort to revitalize and steward culturally important wildlife at and around the Lands of Tl’uq̓tinus.
- If invasive species establish during construction activities, changes to vegetation in essential pockets of wetland and estuarine shoreline affect the availability of already limited resources and locations for culturally integral practices. The absence of a remediation and vegetation plan at decommissioning creates barriers to important plant and wildlife restoration at the Lands of Tl’uq̓tinus and surrounding lands that would support culturally integral practices into the future.
- Sediment mobilization and potential for contaminants from Project runoff and discharge contribute to the ongoing poor Surface Water quality in Tilbury Slough, creating additional barriers to important plant and wildlife restoration at the Lands of Tl’uq̓tinus and surrounding lands, including the Project area. Efforts to improve cumulative surface water quality in Tilbury Slough are affected by Project-specific runoff and discharge, contributing to limitations on resources and locations for culturally integral practices.

These effects are evaluated in accordance with Quw’utsun Law, which requires that conditions supporting the continuation, transmission, and practice of Quw’utsun culture on the land are maintained.

## 6.5. Synthesis of Project Effects

The preceding sections have evaluated the Project’s effects across a range of topics presented in the Application, including Visual Quality, Air Quality, Acoustics, and other interrelated aspects of the biophysical and human environment. While these topics are presented using the structure of Valued Components for clarity, the assessment undertaken by Quw’utsun Nation does not treat them as discrete or independent categories of impact.

Taken together, the evidence demonstrates that Project activities introduce incremental and cumulative changes that further industrialize the conditions at and around the Lands of Tl’uq̓tinus, and along Shnuwiih (the South Arm of the Fraser River) within Quw’utsun Territory. These changes increase exposure to environmental stressors, and interfere with the conditions necessary for Quw’utsun Mustimuhw to live, practice culture, and restore relationships with this place. These effects are not isolated. They interact and compound, producing a broader pattern of impact that must be understood in its full relational context.

Across the areas assessed, several consistent conclusions emerge:

- Project activities contribute to conditions that move the Lands of Tl'uqtnus, the Project area, and Shnuwiih further away from, rather than toward, the state required to support Quw'utsun Nation's vision for reconciliation, including re-establishment of residence, restoration of ecological systems, and revitalization of culturally integral practices.
- Changes to air quality, noise, and the visual and physical environment create barriers to residence, harvesting, teaching, ceremony, and the intergenerational transmission of knowledge.
- Existing industrial conditions do not mitigate Project effects; rather, they increase the vulnerability of remaining values and amplify the magnitude of additional impacts.
- Reliance on future mitigation measures, monitoring, and adaptive management does not resolve these effects, particularly where impacts relate to cultural continuity, relational obligations, and long-term conditions of place.

Under the proponent's framework, these effects are evaluated in relation to thresholds, significance determinations, and the application of mitigation measures. Under Quw'utsun Law, the analysis proceeds differently.

The question is not whether effects can be characterized as negligible, minor, or significant within a regulatory system. The question is whether the Project, as proposed, meets the legal obligations required to maintain balance, uphold relationships, and protect the conditions necessary for Quw'utsun Mustimuhw to live in accordance with Snuw'uy'ulh.

On the basis of the assessment in this Section, the Project results in changes that:

- degrade the ecological, cultural, and experiential conditions in Quw'utsun Territory;
- impair the ability to re-establish residence and sustain community life;
- disrupt culturally integral practices, including harvesting, teaching, and ceremony; and
- create ongoing and cumulative conditions that undermine intergenerational continuity; and
- interfere with Quw'utsun Nation exercise of its Aboriginal title on Cowichan Title Lands.

These effects engage core legal principles under Quw'utsun Law, including respect for all relations, stewardship obligations, interconnectedness, and the requirement to maintain pathways of return for salmon, people, and knowledge.

Where these obligations cannot be met, the Project cannot be considered lawful in this place.

The analysis in this Section therefore establishes that the Project, as proposed, is not compatible with the conditions required to achieve the objectives of reconciliation in Quw'utsun Territory, including in the Project Area, at the Lands of Tl'uqtnus and the South Arm of the Fraser River as articulated in the Declaration for Reconciliation, nor with the legal requirements governing decision-making under Quw'utsun Law.

## 7. Current and Future Market Costs

The proposed Project would add to an existing pattern of infringement on Quw'utsun Rights that has already reduced the market value of the Lands of Tl'uqtnus and potentially Tilbury Island. Drawing on the cumulative effects assessment approach endorsed in *Yahey v. British Columbia* (2021 BCSC 1287), this section makes two arguments. First, past and ongoing infringements have limited the Quw'utsun Nation's land use options at the Lands of Tl'uqtnus and Tilbury Island, and the proposed Project would worsen these cumulative limitations (Section 7.1). Second, these limitations reduce the market value the Quw'utsun Nation can derive from the Lands of Tl'uqtnus (Section 7.2). Non-market costs are discussed in Section 4.2 and elsewhere in this report. Technical details are provided in Appendix B.3.

### 7.1. Infringements Have Limited Land Use Options

The Quw'utsun Nation's preferred uses for the Lands of Tl'uqtnus, as laid out in the 2016 Declaration for Reconciliation (see Appendix A), include recovery and restoration of the settlement and surrounding lands, permanent residence and river access, reestablishment of culturally integral harvesting practices, and compatible economic and employment opportunities.

Past and ongoing infringements have limited the Quw'utsun Nation's ability to pursue these residential, river access, and harvesting uses on the Lands of Tl'uqtnus and in the surrounding area, including Tilbury Island. The following subsections describe how various factors resulting from infringements have limited land use options: speculation and neglect, public good uses, and industrial encroachment.

#### 7.1.1. Speculation and Neglect

The *Cowichan Tribes v. Canada* trial produced detailed evidence of speculation and neglect at the Lands of Tl'uqtnus. Nearly a century of speculation and neglect left the Lands of Tl'uqtnus without the servicing that supports higher-value uses such as residential development, and removed from the economic and population centres in Richmond that would otherwise support residential potential.

Between the 1860s and 1914, the Colony and Province of British Columbia granted the lands to government officials, land agents, and well-connected individuals (*Cowichan Tribes v Canada*, 2025, Executive Summary and at paras. 1839-1856, 1904-1909, 1985-1990, 2023-2028, 2034-2037, 2046-2054, 2057-2060). None of the initial recipients used or occupied the land. As the Court found, "[m]any of the original grantees of land in the Claim Area were absentee settlers. Similarly, many subsequent owners did not use or occupy the land. The land was mostly idle for decades" (*Cowichan Tribes v Canada*, 2025, paras. 922, 1972, 2350).

This non-use, with accompanying poor servicing, persisted into the 1960s. Between 1920 and 1944, most fee simple holders failed to pay municipal taxes, and their lands were forfeited and sold under the Municipal Act (*Cowichan Tribes v Canada*, 2025, paras. 2341, 2350). A 1949 City of Richmond bylaw confirmed there were "no buildings of any kind upon the said lands" (Woodward & Company LLP, 2023, p. 88; see also *Cowichan Tribes v Canada*, 2025, para. 2352). When Canada and the Fraser River Harbour Commission (FRHC) acquired some of the Federal Lands of Tl'uqtnus from Richmond in 1968 and 1969, "[t]hese lands were generally undeveloped, poorly serviced by roads, and mostly vacant except for some peat extraction which was occurring" (*Cowichan Tribes v Canada*, 2025, para. 2440). This state depressed the land's value, allowing Canada and FRHC to acquire it cheaply (*Cowichan*

Tribes v Canada, 2025, para. 2729). For example, the development permit for 14000 Riverport Way, one of the few residential developments at the Lands of Tl'uq̓tinus, notes it is not expected to attract families due to its distance from schools (City of Richmond Development Applications Department, 2012).

### 7.1.2. Public Good Uses

The Agricultural Land Reserve (ALR) and other public good land uses have reduced the private market value of the Lands of Tl'uq̓tinus, even as they generated public benefits. There is no ALR on Tilbury Island, so this subsection applies to the Lands of Tl'uq̓tinus.

Approximately 30% of the Lands of Tl'uq̓tinus is in the ALR; before the Ecowaste landfill was removed from the ALR in 2023, this figure exceeded 50%. The ALR, established in 1973 under the *Agricultural Land Commission Act*, designates agriculture as the priority land use: farming is encouraged and non-agricultural uses are restricted, with exceptions requiring Agricultural Land Commission (ALC) approval. The ALR addresses a market failure: the benefits of preserving farmland near cities (e.g., food security, limiting sprawl) are largely captured by the public rather than by individual landowners, who would otherwise face strong incentives to convert land to higher-value uses. The ALR therefore depresses the private market value of land relative to its non-ALR use (Sussmann et al., 2016). Even if the Lands of Tl'uq̓tinus were removed from the ALR tomorrow, decades under ALR designation have reinforced its distance from economic and population centres, further limiting residential potential.

Parts of the Lands of Tl'uq̓tinus were used as a municipal landfill from the 1950s through to 1986 (Cowichan Tribes v Canada, 2025, paras. 2654, 2736), and subsequently as a landfill for construction, demolition, and excavation materials. Landfilling has likely reduced the suitability of the Lands of Tl'uq̓tinus for the Quw'utsun Nation's preferred uses, through contamination (Rantanen, 2023) and physical alteration of the land (Cowichan Tribes v Canada, 2025, paras. 2736, 2732) among other factors.

### 7.1.3. Industrial Encroachment

Since the 1960s, the Lands of Tl'uq̓tinus and Tilbury Island have been sites for, and surrounded by, industrial development, all without consultation of the Quw'utsun Nation (Cowichan Tribes v Canada, 2025, paras. 2489, 2686, 2475, 2487). This industrial development conflicts with the Quw'utsun Nation's preferred uses.

On Tilbury Island, industrial expansion began in 1971 with the Tilbury Base Plant, which converted approximately 120 acres of formerly agricultural land to industrial use; by 1979, a second phase added a further 100 acres (see Appendix B.1.1.1.2). Tilbury Island is now entirely under industrial use, with no residential development.

At the Lands of Tl'uq̓tinus, the FRHC acquired land between the late 1960s and 1974 with the aim of developing a deep-sea port (Cowichan Tribes v Canada, 2025, paras. 2726, 2728), and physically transformed it through "extensive filling" and dredging in pursuit of this goal (Cowichan Tribes v Canada, 2025, paras. 2736, 2732, 2737–2738). Industrial development has created soil and noise pollution so that one residential development at the Lands of Tl'uq̓tinus could only be built after soil remediation and required special design to alleviate indoor noise pollution from surrounding industrial properties (City of Richmond Development Applications Department, 2012).

Despite this industrial encroachment, the Lands of Tl'uq̓tinus have not been used to their full industrial potential. The Vancouver Fraser Port Authority (VFPA) and its predecessors have held the land in reserve as a potential deep-water port site without realizing this development (Cowichan Tribes v Canada, 2025, para. 2534). Reserving “trade-enabling industrial land” like the Lands of Tl'uq̓tinus is another public good, generating market and non-market value for the region, province, and country that the private landowner does not capture (InterVISTAS Consulting Inc. & Urban Systems, 2023). While VFPA has put some of its holdings at the Lands of Tl'uq̓tinus to use for logistics and the YVR Fuel Delivery Project, among other uses, over a quarter of the Lands of Tl'uq̓tinus was vacant in 2022 according to BC Assessment.

## 7.2. Limitations' Market Cost

The Quw'utsun Nation's preferred land uses, while not primarily motivated by market value, would involve higher market value than the agricultural and industrial uses to which cumulative infringements have largely limited the Lands of Tl'uq̓tinus and Tilbury Island. Residential development in particular would be substantially more valuable than existing agricultural uses, and potentially more valuable than existing industrial uses depending on density levels. The market cost of these limitations can be quantified by comparing the market value associated with different land uses.

The limited residential development that does exist at the Lands of Tl'uq̓tinus is more valuable than existing agricultural or industrial uses, according to BC Assessment (Table 3). Mid-rise residential land was assessed at over six times the value of industrial land and over eighty times the value of land in the ALR. On Tilbury Island, which is entirely dedicated to industrial use, land values are higher than industrial land values at the Lands of Tl'uq̓tinus, but lower than residential values there.

**Table 3: Assessed Value of the Lands of Tl'uq̓tinus, by Land Use, 2022**

| Land Use                    | Total Acres | Number of Properties | Value (2022 \$/acre) |
|-----------------------------|-------------|----------------------|----------------------|
| Residential (Single Family) | 0.2         | 1                    | \$7,792,577          |
| Residential (Mid-Rise)      | 3.9         | 3                    | \$18,363,497         |
| Commercial                  | 278.4       | 11                   | \$2,979,802          |
| Industrial                  | 618.2       | 21                   | \$2,779,350          |
| Agricultural Land Reserve   | 835.8       | 89                   | \$219,986            |

Sales data confirm that residential land values around the Lands of Tl'uq̓tinus approximate or exceed industrial values, depending on density, and far exceed agricultural values:

- In surrounding East Richmond, residential land sold for an average of \$6,175,770 per acre for single family and \$12,443,797 per acre for mid-rise in 2022.<sup>9</sup>

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<sup>9</sup> Based on real estate sales data from Multiple Listing Service (see Appendix B.3.2).

- Sales data for industrial land suggest that assessed values may understate the value of industrial land: industrial land sold for an average of \$5.6 and \$5.4 million per acre in Richmond and Delta (respectively) in 2022 (InterVISTAS Consulting Inc. & Urban Systems, 2023).

Residential land values around the Lands of Tl'uq̓tinus might be higher were it not for the area's history of underdevelopment and industrial encroachment. East Richmond is among the lowest-value residential neighbourhoods in Richmond. Table 4 shows residential land values averaged across the rest of Richmond (excluding East Richmond), including high-rise values, which are not represented in East Richmond at all.<sup>10</sup>

**Table 4: Value of Residential Land in Richmond, Excluding East Richmond, 2022**

| Land Use                    | Value (2022 \$/acre) |
|-----------------------------|----------------------|
| Residential (Single Family) | \$9,867,062          |
| Residential (Mid-Rise)      | \$14,558,584         |
| Residential (High-Rise)     | \$20,546,383         |

High-rise residential land in Richmond sold for roughly \$20.5 million per acre in 2022, roughly seven times assessed industrial land values at the Lands of Tl'uq̓tinus in the same year. Across the rest of Richmond, single family and mid-rise residential land is also more valuable than the same uses at the Lands of Tl'uq̓tinus or in East Richmond, and substantially more valuable than the industrial and agricultural uses that dominate the Lands of Tl'uq̓tinus today.

In sum, cumulative infringements have limited land use at the Lands of Tl'uq̓tinus and potentially Tilbury Island to lower-value agricultural and industrial uses, while the Quw'utsun Nation's preferred uses would likely generate higher market value. The proposed Project would deepen these limitations by further entrenching industrial use and constraining the Nation's options for residential and other higher-value development.

The Project imposes ongoing and cumulative economic burdens on Quw'utsun lands and waters while further constraining access and use available to Quw'utsun Mustimuhw. The Project does not satisfy reciprocity obligations because it does not return benefits proportionate to what is taken from lands, waters, and lifeways, and therefore fails this legal requirement under Quw'utsun Law.

The cumulative effects of past and proposed use exceed what can be lawfully sustained within Tl'uq̓tinus, along Shnuwiilh, within the Project area, and across the South Arm of the Fraser River, and the Project therefore fails this legal requirement under Quw'utsun Law.

Where these conditions cannot be addressed and lawful balance cannot be restored, the Project does not meet the requirement for permission under Quw'utsun Law.

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<sup>10</sup> East Richmond only has high-rise apartment sales in 2021.



## 8. Summary of Effects

In Section 11.4 of the Application, the proponent concludes that the only residual effects to the Quw'utsun Nations interests are positive effects to social and economic conditions and positive effects to health and wellbeing, all resulting from increased employment and economic opportunity. These conclusions rely heavily on the reasoning that the current industrial landscape allows for further industrial effects and that commitments to detail mitigation in the Construction and Operational Environmental Management Plans can be confirmed as highly effective. Further, these conclusions are based on a narrow lens that prioritizes regulations and thresholds and excludes the relevance of cumulative effects that have impacted the Quw'utsun Nation. As previously noted, the ***Quw'utsun Nation does not acknowledge the conclusions of Section 11.4 as informed, accurate, or usable in decision making.***

This vision in the Quw'utsun Nation Declaration for Reconciliation guides how we assess the compatibility of any proposed project or activity in the area with Quw'utsun Rights. We do not agree that environmental regulations and thresholds meet our needs when seeking to achieve this vision. In this Report, we have emphasized the following question:

***How does the proposed Tilbury Phase 2 Expansion Project impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation?***

Currently, there are several aspects of the proposed Project that impact the ability of the Quw'utsun to achieve the vision set out in the Declaration for Reconciliation:

### **Recovery and restoration of the Cowichan Nation owned village and surrounding lands at and about Tl'uqtinus on the south arm of the Fraser River**

- The absence of a remediation and **Vegetation** plan at decommissioning creates barriers to important plant and wildlife restoration at the Lands of Tl'uqtinus and surrounding lands, including the Project area. Dust deposition resulting from construction may affect plant health and deter harvesting.
- Sediment mobilization and potential for contaminants from Project runoff and discharge will contribute to the ongoing poor **Surface Water** quality in Tilbury Slough, creating additional barriers to important plant and wildlife restoration at the Lands of Tl'uqtinus and surrounding lands.
- A large-scale **contamination event** may also set back restoration efforts at and around the lands and waters of the Lands of Tl'uqtinus.
- **Noise** may negatively affect future effort to revitalize and steward culturally important wildlife at and around the Lands of Tl'uqtinus.
- Restoration efforts in Tilbury Slough to improve the health of **Fish and Fish Habitat** may be affected by Project-specific runoff and discharge.
- No detailed mitigation, offsetting, or restoration plans provide a pathway to the project benefitting the lands and waters at and around the Lands Tl'uqtinus.

Based on the effects above, the proposed Project is unlawful when considered in the context of Quw'utsun legal principles of Respect, Reciprocity, Stewardship, Right Conduct, Avoiding Harm, Lawful Change, Healing and Restoration, and Maintaining Connections to Home, Land, and Origin.

### **Re-establishment of Cowichan Nation permanent residence and river access at the village lands of Tl'uqtnus**

- The proposed Project would deepen land use limitations by further entrenching industrial use and constraining the Nation's options for residential and other higher-value development.
- Changes to **Visual Quality** may increase the barriers to Quw'utsun Mustimuhw residing at the re-established village at Tl'uqtnus due to effects on enjoyment and Sense of Place.
- Health concerns related to **Air Quality** changes may create barriers for Quw'utsun Mustimuhw who might otherwise choose to reside at the re-established village at Tl'uqtnus. For those who decide to reside at Tl'uqtnus, the project will contribute to air quality conditions that negatively affect health in an already vulnerable population. Odours may affect enjoyment and Sense of Place.
- **Noise** levels may increase the barriers to Quw'utsun Mustimuhw residing at the re-established village at Tl'uqtnus due to annoyance, potential sleep disruption and other health impacts. For those who do decide to reside at Tl'uqtnus, noise may affect health, enjoyment and Sense of Place.
- However unlikely, injury or loss of life resulting from **loss of LNG containment, fire, or explosion** would deeply and irreversibly impact the physical, cultural, and spiritual wellbeing that implicit to re-establishing permanent residence at our village of Tl'uqtnus.
- Overall safety concerns due to **Malfunctions and Accidents** may reduce the perceived livability of the area and therefore act as a barrier to re-establishment of residence at Tl'uqtnus.

Based on the effects above, the proposed Project is unlawful when considered in the context of Quw'utsun legal principles of Respect; Healing and Restoration; Collective Responsibility; Compassion, Acceptance, and Avoiding Harm; Lawful vs. Unlawful Change; and Maintaining Connections to Home, Land and Origin.

### **Re-establishment of Cowichan Nation culturally integral practices (e.g. harvesting fish, waterfowl, plants) on the south arm of the Fraser River and mouth, including at and about Tl'uqtnus**

- Changes to **Visual Quality** are likely to reduce the overall locations where culturally integral practices can occur and be re-established.
- Concerns regarding Project effects to **Human Health** may affect our ability or willingness to engage in culturally integral practices at and around the Project footprint.
- **Air quality** risk specific to Elders may create barriers to intergenerational learning needed to re-establish culturally integral practices, and odours may affect times and locations where these practices can occur.
- **Noise** levels are likely to reduce the overall locations where culturally integral practices can occur and be re-established. Noise may also create barriers to conversations that are part of intergenerational learning on the land and water.
- If invasive species establish during construction activities, changes to **Vegetation** in essential pockets of wetland and estuarine shoreline are likely to affect the availability of already limited resources and locations for culturally integral practices.
- Efforts to improve cumulative **Surface Water** quality in Tilbury Slough may be affected by Project-specific runoff and discharge, contributing to limitations on resources and locations for culturally integral practices.

- Impacts on **Surface Water** may pose cumulative impacts to **Fish and Fish Habitat**, which may affect Quw'utsun Mustimuhw's ability to engage in Rights-based fisheries
- Uncertainty regarding 6PPD-quinone in the aquatic environment may result in unforeseen effects to **Fish and Fish Habitat**, decreasing the availability of resources for culturally integral practices. Perceived risk regarding the safety of consuming fish may deter harvesters from engaging in culturally integral practices.
- Perceived risk of **loss of LNG containment, fire, or explosion** may affect the ability of Quw'utsun Mustimuhw to feel safe while engaging in culturally integral practices, may deter people from engaging in those practices, and may reduce the viable locations for those practices.
- A large-scale **contamination event** with effects beyond the Project Footprint may impact culturally integral practices through effects to the health of fish, vegetation, and wildlife and the safety of consuming country foods.

Based on the effects above, the proposed Project is unlawful when considered in the context of Quw'utsun legal principles of Respect; Preparation, Prayer and Right Conduct; Transmission of Teachings and Intergenerational Obligation; Healing and Restoration; Collective Responsibility; and

Compassion, Acceptance, and Avoiding Harm.

**Realization of Cowichan Nation revenue, economic and employment opportunities and benefits that are compatible with the above**

- The effects of the Project on the Quw'utsun Nation's ability to re-establish residence, restore the lands and waters at and around the Lands of Tl'uqtnus, and re-establish culturally integral practices indicate that any benefits to **Employment and Economy** are not aligned with the Declaration.
- Project activities that result in barriers to harvesting affect the ability of Quw'utsun Mustimuhw to realize **Economic Benefits** through reducing cost of living and supplementing their income through sale and trade of traditional foods.
- Cumulative infringements have limited land use at the Lands of Tl'uqtnus to lower-value agricultural and industrial uses, while the Quw'utsun Nation's preferred uses would likely generate higher market value and the associated **Economic Benefits**.
- Reduced **Visual Quality** and increased **Noise** may preclude certain economic avenues, largely as they relate to tourism and residential opportunities.
- Health risks and effects from changes to **Air Quality** and **Noise** may affect Quw'utsun Mustimuhw's ability to reside at Tl'uqtnus to pursue employment opportunities.
- Reduction of **Vegetation** and the availability of culturally important plants may also reduce the resources available for Quw'utsun Mustimuhw who want to use plants to make items for trade or sale.
- **Human Health** concerns may also deter those of us who wish to reside at Tl'uqtnus and seek employment there.

Based on the effects above, the proposed Project is unlawful when considered in the context of Quw'utsun legal principles of Reciprocity; Stewardship; and Healing and Restoration.

**Promotion of education regarding the Cowichan Nation presence and interests on the south arm of the Fraser River and mouth**

- Throughout the Application, our relationship to the Lands of Tl'uq̓tinus and the surrounding lands and waters is minimized and the colonial narrative of mainland First Nations and Island First Nations established through the *Indian Act* and reserve system is perpetuated. This issue is present in every Valued Component where the interests of select Nations are prioritized due to their standing in the colonial system. The Application itself relegates acknowledgement of our court-declared Aboriginal title to the Cowichan Title Lands at the Lands of Tl'uq̓tinus and right to fish the South arm for food to a mere footnote, essentially refusing to engage with it.
- Despite specific requests from the Quw'utsun Nation, expert input and Indigenous Knowledge in the Revised Application specific to the Quw'utsun Nation's use and occupation of Tl'uq̓tinus and the surrounding lands and waters, including Tilbury Island, is attributed to Indigenous groups generally, and in some cases, included in ways that imply that this knowledge applies to other Nations. This misrepresentation of Indigenous Knowledge is detrimental to the Quw'utsun Nation, our knowledge holders, and our history.

Based on the effects above, the proposed Project is unlawful when considered in the context of Quw'utsun legal principles of Respect; Preparation, Prayer and Right Conduct; Healing and Restoration; and Compassion, Acceptance, and Avoiding Harm.

## 9. Conclusion

The appropriate baseline for assessing impacts to the Quw'utsun Nation's rights and title is the condition of lands, waters, relationships, and governance at contact, prior to the cumulative effects of colonial dispossession and industrialisation. The Quw'utsun Nation Indigenous-led Assessment herein considers the cumulative history of loss resulting from unlawful alienation and how the proposed Project interacts with Quw'utsun Nation law, the Nation's vision for the future as articulated by the Declaration for Reconciliation, and a holistic understanding of how the proposed Project will interact with our rights and title now and into the future.

The Quw'utsun Nation does not agree with the proponent's conclusions that the only residual effects of the Project are positive economic benefits. The Quw'utsun Nation also does not accept any implication that Project-related economic benefits can answer, balance, or offset continued infringements on its rights, title, restoration objectives, and cultural continuity. Economic participation cannot substitute for restoring and lawfully exercising rights and title at the Lands of Tl'uqtinus, Project area, and along the South Arm of the Fraser River at Shnuwiih.

Throughout this assessment, the Project as proposed is determined to be unaligned with the Declaration for Reconciliation across the effects of multiple Project Activities and their interactions with the Valued Components outlined in the Application. These impacts present outstanding, residual effects to Quw'utsun Nation Mustimuhw intending to reside at, and exercise their rights and culture at and around, the Lands of Tl'uqtinus, including the Project area.

The Project as proposed is unlawful under Quw'utsun Law across the application of multiple legal principles. Unlawfulness is more than a violation of a technical requirement — it disrupts the balance of salmon, waters, winds, lands, helpers, families, and future generations. Unlawfulness therefore triggers obligations to repair relationships, restore harmed systems, and reinstate the conditions required for renewal across generations. These obligations fall on the proponent and with the Crown, who must work meaningfully with the Quw'utsun Nation to make things right in accordance with our Snuw'uyulh.

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## 11. Endnotes

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<sup>1</sup> *Cowichan Tribes v. Canada*, 2025 BCSC 1490 [*Cowichan*] at para. 297.

<sup>2</sup> *Cowichan* at paras. 431-466.

<sup>3</sup> *Cowichan* at para. 491.

<sup>4</sup> Ex 114, Kennedy Report at ep 219-221, 225 (pp 205-207, 211); Ex 978, Jenness at ep 54b (p 53); Ex 948 Barnett at ep 36t (p 22t).

<sup>5</sup> Ex 114, Kennedy Report at ep 221-222 (pp 207-208); Ex 13, 1846-1851 Hartwell Fort Victoria Letters at ep 2 (typescript); Ex 13, 1850 05 16 J Douglas letter to A Barclay; Ex 652, Brealey Report at ep 106t (p 101t); Ex 1597, transcript of Ex 1596 at ep 1; Ex 159, 25 May 1859 J Douglas Despatch 18 to EB Lytton at ep 5-7. Dr. Kennedy reported that Governor Douglas' acknowledgement of the Cowichan's interests in their lands is consistent with anthropological views on the Central Coast Salish people's own concepts of property. Apart from the resource loci owned by elite families, members of a village held vested interests in their residential and surrounding environs, establishing a "proprietary interest". There were no precise boundaries setting out village or tribal districts, although occupants of villages took a general proprietary interest in the lands and waters in the vicinity of their villages and would unite to repel strangers or interlopers with physical force: Ex 114, Kennedy Report at ep 224b (p 210b).

<sup>6</sup> *Cowichan* at paras. 305-422.

<sup>7</sup> Ex 114, Kennedy Report at ep 358-362 (pp 344-348); Ex 652, Brealey Report at ep 191 (p 186).

<sup>8</sup> *Cowichan* at paras. 499-524.

<sup>9</sup> *Cowichan* at para. 1106, 1243, 1561

<sup>10</sup> *Cowichan* at paras. 362-363

<sup>11</sup> Ex 114, Kennedy Report at ep 217b-218t, 243m, 244b-245, 246m, 248-249m, 237, 250m-251m, 203m, 219t (pp 203b-204t, 229m, 330b-331, 234-235m, 223, 236m-237m, 189m, 205t); Ex 177, Kennedy Report errata at ep 1.

<sup>12</sup> *Cowichan* at para. 1109

<sup>13</sup> *Cowichan* at para. 1644.

<sup>14</sup> *Cowichan* at paras. 1644-1645.

<sup>xv</sup> F James, 17 Sep 2019 at 10:32:23-10:32:34, 2:17:39-2:18:01, 2:24:25-2:25:09, 10:45:03-10:47:41; F James, 18 Sep 2019 at 2:06:28-2:07:53, 2:09:23-2:09:34.

<sup>xvi</sup> K Thomas, 30 Sep 2019 at 11:58:50-12:08:16; K Thomas, 21 Oct 2020 at 2:38:43-2:40:23.

<sup>xvii</sup> *Cowichan* at paras. 716, 664, 669, 677.

<sup>xviii</sup> *Cowichan* at paras. 722, 729

<sup>xix</sup> *Cowichan* at paras. 730-737

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<sup>xx</sup> *Cowichan* at paras. 748-750

<sup>xxi</sup> *Cowichan* at 738-747

<sup>xxii</sup> *Cowichan* at para. 490

<sup>xxiii</sup> Luschiim, 1 Oct 2019 at 32(39)-33(10).

<sup>xxiv</sup> *Cowichan* at paras. 1242, 684, 686, 706, 730-738, 747, 751, 754, 755

<sup>xxv</sup> *Cowichan* at para. 686

<sup>xxvi</sup> *Cowichan* at para. 490

<sup>xxvii</sup> Ex 114, Kennedy Report at ep 335m (p 321m); Ex 2026, Lovisek Land Report at ep 112b; Ex 114, Kennedy Report at ep 335t (p 321t); Ex 228, 1867 06 01 W H Lomas Ninth Annual Report of the Columbia Mission at ep 1mr (p 39m); Ex 221, 1868, 1866, 1867 Excerpts from G Hills Notes and Incidents of Mission Work at ep 7t, 8t

(pp 19t, 20t); Ex 114, Kennedy Report at ep 327t (p 313t); Ex 228, 1867 WH Lomas Report at ep 3bl (p 42). Ex 233, 1869 WH Lomas Report at ep 4t, 5m (pp 19t, 20m); Ex 114, Kennedy Report at ep 77t (p 63t). Dr. Kennedy described Lomas as observing that the Cowichan left their villages in May of 1869, moving off for their fishing grounds, and were then away from July through September: Ex 114, Kennedy Report at ep 76b (p 62b).

<sup>xxviii</sup> *Per Franz Boas, 1886*: Ex 114, Kennedy Report at ep 335b-336t, 364m (p 321b-322t, 350m); Ex 940, 1887 F Boas (Hammerum Transl.) at ep 7b (p 133) Dr. Kennedy, 6 Dec 2019 at 1:18:02-1:18:27; Dr. Lovisek, 8 Jun 2021 at 11:55:54-12:00:46. *Per Edward Curtis, 1912*: Ex 2026, Lovisek Land Report at ep 25t, 69m; Ex 2027, Lovisek Fish Report at ep 35b (fn 150) (p 33b); Ex 2654, 1913 Curtis re: Cowichan seasonal round; Dr. Lovisek, 8 Jun 2021 at 11:51:59-11:52:53, 12:30:00-12:33:02, 2:11:50-2:12:47, 3:15:27-3:18:45; Dr. Lovisek 10 Jun 2021 at 2:45:45-2:45:58; Ex 114, Kennedy Report at ep 186m, 203b-204t (pp 172m, 189b-190t). *Per Beryl Cryer, 1930s*: Ex 114, Kennedy Report at ep 55b-56m, 112b-113t, 170, 202m, 395m, 384t, 386m (pp 40b-41m, 98b-99t, 165, 188m, 381m,

370t, 372m); Ex 975, Cryer at ep 28b-29, 49t, 50b (pp 55b-56, 171t, 172b); Ex 652, Brealey Report at ep 170 (p 165). *Per Diamond Jenness, 1934-35*: Ex 114, Kennedy Report at ep 195b-196t (pp 181b-182t); Ex 2027, Lovisek Fish Report at ep 20m (p 18m). 1384 Ex 698, 1934-1946 D Jenness Coast Salish Fieldnotes Canadian Museum of History, Hull, Quebec at ep 2t; Ex 2026, Lovisek Land Report at ep 87 (fn 349); Ex 978, Jenness Notes re: Calendars at ep 9m; Ex 652, Brealey Report at ep 66t (p 61t); Ex 2027, Lovisek Fish Report at ep 30b-31t (pp 28b-29t). *Per Homer Barnett, 1935-36*: Ex 701, 1935-36 H Barnett Field Notebooks: Musquiem, Sechelt, Tswasun, Lummi at ep 11t, 2t; Ex 114, Kennedy Report at ep 198m (fn 654) (p 184m); Dr. Kennedy, 16 Dec 2019 at 2:29:26-2:32:45; Dr. Lovisek, 22 Jun 2021 at 12:11:34-12:13:13. *Per Homer Barnett, 1955*: Dr. Lovisek, 10 Jun 2021 at 2:36:55-2:41:50; Ex 946, 1955 H Barnett, Coast Salish of BC at ep 26b-27t, 34b, 36m, 39, 49b, 55t; Ex 652, Brealey Report at ep 71m-72m (p 66m-67m); Ex 114, Kennedy Report at ep 186-187m, 504m (pp 172-173m, 490m); Ex 2026, Lovisek Land Report at ep 71m. *Per Wilson Duff, 1952*: Ex 114, Kennedy Report at ep 334m-336t (p 320m-322t); Ex 979, 1949-1965 W Duff Halkomelem and Straits, incl Suttles fieldnotes & manuscript at ep 2b, 7m, 11-12m; Ex 2026, Lovisek Land Report at ep 71b-72m. *Per David Rozen, 1974-78*: Ex 114, Kennedy Report at ep 205m, (p 191m); Ex 980, 1978 Rozen Ethnozoology. *Per David Rozen, 1985*: Ex 114, Kennedy Report at ep 326m (p 312m); Ex 948, 1985 Rozen Place-Names at ep 50t, 54m, 67t, 72t, 92m, 94t, 27, 135t, 144m, 150m, 156t (pp 82t, 86m, 99t, 104t, 124m, 126t, 19, 167t, 176m, 182m, 188t). Ex 948, 1985 Rozen Place-Names at 50t, 54m, 67t, 72t, 92m, 94t, 27 (pp 82t, 86m, 99t, 104t, 124m, 126t, 19).

<sup>xxix</sup> *Cowichan* at para. 6, 489-490

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<sup>xxx</sup> *Cowichan* at para. 1134-1175, 1245

<sup>xxxi</sup> *Cowichan* at paras. 1145, 1173-1175

<sup>xxxii</sup> Ex 114, Kennedy Report at ep 125 (incl. fn 371), 233-234 (incl. fn 824) (p 111, 219-220); Ex 652, Brealey Report at ep 166-167 (p 161-162); Ex 945, 1953 B Lane, North West Coast Religion, ep 41m (p 49).

<sup>xxxiii</sup> F James, 17 Sep 2019 at 12:25:57-12:29:16.

<sup>xxxiv</sup> Luschiim, 1 Oct 2019 at 25(1)-26(9).

<sup>xxxv</sup> Ex 114, Kennedy Report at ep 231b, 232m (p 217b, 218m), referencing Ex 972, 1901 [2013] MD Harris, Sowittan, or the Grumbler at ep 9; D Kennedy, 15 Jan 2020 at 2:12:05-2:12:23.

<sup>xxxvi</sup> *Cowichan* at paras. 663, 677; F James, 18 Sep 2019 at 2:17:32-2:17:41.

<sup>xxxvii</sup> F James, 17 Sep 2019 at 12:24:27-12:25:57; 18 Sep 2019 at 2:06:28-2:07:11.

<sup>xxxviii</sup> F James, 18 Sep 2019 at 2:22:49-2:23:27.

<sup>xxxix</sup> F James, 16 Sep 2019 at 11:04:19-11:05:09.

<sup>xl</sup> Luschiim, 3 Oct 2019 at 52(16)-53(17); Luschiim, 4 Oct 2019 at 23(34-46); Luschiim, 8 Oct 2019 at 10(9-33).

<sup>xli</sup> *Cowichan* at para. 6, 3285-3287

<sup>xlii</sup> *Cowichan* at paras. 779-801

<sup>xliii</sup> *Cowichan* at paras. 801, 991, 3508-3509

<sup>xliv</sup> *Cowichan* at paras. 1135-1137, 1141

<sup>xlv</sup> *Cowichan* at paras. 663, 667, 689, 709, 801, 959-960, 965, 1135-1137, 1141-1142, 1147, 1152, 1630, 3248-3249, 3252

<sup>xlvi</sup> Luschiim, 30 Sep 2019 p. 48(30)-49(15)

<sup>xlvi</sup> Ex 116, 1824 J Work Journal (Elliott ed.) at ep 14br-15tl (publication); Ex 115, 1824 J Work Journal at ep 32-33 (manuscript); Ex 114, Kennedy Report at ep 47, 379b-380t (incl fn 1361), 392b (p 33, 365b-366t, 378b); Ex 652, Brealey Report at ep 24t, 47b-48t (pp 19t, 42b-43t).

<sup>xlvi</sup> Ex 952, Fort Langley Journals at ep 19bl (p 40b); Ex 114, Kennedy Report at ep 569b (p 555b); Ex 652, Brealey Report at ep 51b (p 46b).

<sup>xlix</sup> Ex 952, Fort Langley Journals at ep 21bl (p 44b); Ex 114, Kennedy Report at ep 250m, 571m (pp 236m, 557m); Ex 652, Brealey Report at ep 48t (p 43t).

<sup>i</sup> *Cowichan* at para. 1140

<sup>ii</sup> North, M.E.A.; M.W. Dunn, and J.M. Teversham 1979 Vegetation of the Southwestern Fraser Lowland, 1858-1880. Map published by Environment Canada, Minister of Supply and Services Canada. Accessed at: <https://richmondarchives.files.wordpress.com/2019/02/1987-76-8-map-vegetation-sw-fraser-lowland-1858->

1880.jpg

<sup>lii</sup> *Cowichan* at paras. 1109-1114

<sup>liii</sup> Luschiim, 30 Sep 2019 at 52(22)-53(6).

<sup>liv</sup> *Cowichan* at paras. 3245

<sup>lv</sup> *Cowichan* at para. 1138

<sup>lvi</sup> Ex 114, Kennedy Report at ep 487b-488t (pp 473b-474t).

<sup>lvii</sup> Luschiim, 30 Sep 2019 at 60(23)-63(43).

<sup>lviii</sup> Luschiim 30 Sep 2019 at 49(15)-51(23).

<sup>lix</sup> Candace Charlie, *Stl'ulnup: A Cowichan Nation Use and Occupancy Study for Tilbury Island, September 9, 2019*. Copy on file at Woodward and Company Lawyers LLP, p 13.

<sup>lx</sup> F James, 16 Sep 2019 at 2:46:11-2:47:42, 2:51:04-2:51:45; 18 Sep 2019 at 3:29:35-3:32:28.

<sup>lxi</sup> Ex 114, Kennedy Report at ep 382-383, 391 (p 368-369, 377).

<sup>lxii</sup> Ex 114, Kennedy Report at ep 383 (p 369), citing Ex 978, Jenness manuscript at ep 23-24 (p 22-23). See also Ex 114, Kennedy Report at ep 392-391 (p 378-381).

<sup>lxiii</sup> *Cowichan* at para. 1644

<sup>lxiv</sup> *Cowichan* at para. 3251

<sup>lxv</sup> Sulipt'un, Qwestenuxun and X'tli'li'ye gave evidence about deer as a traditional Quw'utsun food and John Elliott testified as to the practice of hunting: Sulipt'un, 21 Jan 2020 2:48:37-2:49:26; 2:50:46-2:50:56; 22 Jan 2020 11:06:28-11:07:51; X'tli'li'ye, 2 Dec 2020 at 10:38:01-10:38:25; J Elliott, 14 Dec 2020 at 10:44:35 10:45:15; Ex 1614, 10 Sep 2009 Qwestenuxun (E Modeste) Affidavit at para. 9, 18.

<sup>lxvi</sup> Dr. Kennedy concluded the Trutch-identified two trails from the Cowichan village reached away from the shore to the surrounding prairie grassland and bogs where the Cowichan would have regularly hunted. She reported that the Cowichan hunted game including deer while resident on the South Arm of the Fraser River, including in the lands surrounding their village: Ex 114, Kennedy Report at ep 208t, 260m (p 194t, 246m).

<sup>lxvii</sup> Dr Turner, as noted, identified bog blueberry, prairie, grassland habitat and burned ground in the Trutch survey and on the Lands of Tl'uqtinus as mapped by Dr. Brealey. Consistent with Luschiim, Dr. Turner's evidence is one type of landscape management in the region was periodic burning and sporadic clearing of certain areas by fire. Per Suttles, deer find better fodder in the few years following a burn and probably fluctuated in abundance in any single area depending on the recency of fires: Ex 101, Turner Report at ep 35b-36t (pp 28b-29t). Burned over prairies are known to have provided better browsing habitat for deer. Trutch's survey of the area has references to burning. These burned areas probably reflect traditional landscape burning practices of the Cowichan aimed to enhance production of resources such as grasses to increase deer forage areas: Ex 101, Turner Report at ep 37t (p 30t).

<sup>lxviii</sup> Luschiim, 3 Oct 2019 at p 36(18)-37(17)

<sup>lxix</sup> F James 18 Sep 2019 3:36:29-3:37:35

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<sup>lxx</sup> As noted, Dr. Turner identified crabapple in the Trutch survey and on the Lands of Tl'uqtnus as mapped by Dr. Brealey: Ex 101, Turner Report at ep 99t, 101m, 211 (Appendix 3, #49, #67, #68) (pp 91t, 93m, 205); Ex 652, Brealey Report at ep 200 (Map 4). See also Exhibit 114, Kennedy Report at ep 262m (p 248m).

<sup>lxxi</sup> Luschiim, 1 Oct 2019 at 60(3-46).

<sup>lxxii</sup> *Cowichan* at para. 1167

<sup>lxxiii</sup> Luschiim, 3 Oct 2019 at 33(2)-34(3). Sulipt'un learned from Shhwuwul't-hw (Angus Smith), Hwiinumetse' (Simon Charlie) and his grandfather that the Quw'utsun would paddle across to Shnuwiilh in the fall to catch ducks with nets in the marshy area. His grandfather said that because it was nice and flat there, they could stand the net up when it was just getting to be dusk, and that is how they caught the ducks: Sulipt'un, 23 Jan 2020 at 10:23:48-10:25:45; 10:11:24-10:13:35.

<sup>lxxiv</sup> The ma'uqw was barbequed very slowly over a fire that is the right heat. Dripping fat is caught in a tth'e'wi (large shell). The ma'uqw gets quite dry, then is placed in a smokehouse to finish curing or st'el (dry it out): Luschiim, 3 Oct 2019 at 34(45)-35(36). Ma'uqw was one of the foods which could be mixed with dried berries to make trail food: Luschiim, 3 Oct 2019 at 10(40)-11(16).

<sup>lxxv</sup> *Cowichan* at paras. 729, 747, 959, 1028,

<sup>lxxvi</sup> Luschiim 30 Sep 2019 at 30(42)-32(1).

<sup>lxxvii</sup> Luschiim 30 Sep 2019 28(41)-32(15); 1 Oct 2019 at 33(11)-34(15); 9 Oct 2019 at 35(42)-36(11); K Thomas, 30 Sep 2020 at 11:58:50-12:02:27, 12:04:17-12:06:12, 12:06:17-12:08:16; K Thomas, 21 Oct 2020 at 2:38:43-2:40:34.

<sup>lxxviii</sup> Luschiim 3 Oct 2019 at 52(35)-53(17).

<sup>lxxix</sup> *Cowichan* at paras. 739, 747; Ex 1614, 10 Sep 2009 Qwestenuxun (E Modeste) Affidavit para 16, 17, 20, 25; Ex 101, Turner Report at ep 18b-19t, 21m (pp 11b-12t, 14m); Ex 2654, 1913 Curtis re: Cowichan seasonal round at ep 3b-4t (pp 40b-41t).

<sup>lxxx</sup> Ex 114, Kennedy Report at ep 497t, 217t (p 483t, 203t); Ex 952, Fort Langley Journals at ep 92mr (p 187m).

<sup>lxxxi</sup> Ex 114, Kennedy Report at ep 217m (p 203m).

<sup>lxxxii</sup> X'tli'li'ye, 2 Dec 2020 at 12:20:09- 12:21:20; E Elliott, 23 Jan 2020 at 2:33:19-2:34:08, 2:40:50-

2:40:54; E Elliott, 23 Jan 2020 at 2:33:54-2:34:08

<sup>lxxxiii</sup> J Elliott, 14 Dec 2020 at 10:47:32-10:49:46.

<sup>lxxxiv</sup> E Elliott, 23 Jan 2020 at 2:34:12-2:35:12; L George, 5 Feb 2020 at 2:23:17-2:24:42, 2:27:06-2:29:14 K Thomas, 1 Oct 2020 at 10:49:03-10:45:45; J Elliott, 15 Dec 2020 at 10:03:50-10:05:54.

<sup>lxxxv</sup> J Elliott, 14 Dec 2020 at 10:52:13-10:53:58; 15 Dec 2020 at 10:08:08-10:08:25, 10:12:31- 10:17:53. There are also Cowichan Tribes and Penelakut school programs that use food fish: L George, 5 Feb 2020 at 2:30:35-2:31:34; K Thomas, 1 Oct 2020 at 10:49:46-10:52:01.

<sup>lxxxvi</sup> Sulipt'un, 22 Jan 2020 at 2:27:03-2:27:22, 2:28:52-2:29:12.

<sup>lxxxvii</sup> Ex 114, Kennedy Report at ep 199, 201, 207, 469, 496 (p 185, 187, 193, 482) and ss 2.1.1, 4.1.

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<sup>lxxxviii</sup> *Cowichan* at paras. 6, 3287, 3489, 3505, 3509-3511

<sup>lxxxix</sup> Ex 114, Kennedy Report at ep 215, 217, 497 (p 201, 203, 483).

<sup>xc</sup> F James, 16 Sep 2019 at 11:03:34-11:05:09.

<sup>xc</sup> Ex 101, Turner Report at ep 29m, 70-91 (Table 1) (pp 22m, 63-84).

<sup>xcii</sup> Candace Charlie, Stl'ulnup: A Cowichan Nation Use and Occupancy Study for Tilbury Island, September 9, 2019. Copy on file at Woodward and Company Lawyers LLP, pp 23, 27-29.

<sup>xciii</sup> *Cowichan* at paras. 6, 1535-1538

<sup>xciv</sup> *Cowichan* at paras. 1537-1538

<sup>xcv</sup> *Cowichan* at para. 1215, 1211

<sup>xcvi</sup> *Cowichan* at paras. 3, 6 (Executive Summary), 1703, 1722, 2855-2856, James Douglas was charged with developing colonial policy toward Indigenous peoples under instructions from Archibald Barclay, the Secretary of the HBC in London. Initially he did so as Chief Factor of the HBC on Vancouver Island, and as of May 16, 1851 he did so in his capacity as Governor for the Colony of Vancouver Island: *Williams Lake Indian Band v. Her Majesty the Queen in Right of Canada*, 2014 SCTC 3 at para. 21, rev'd *Canada v. Williams Lake Indian Band*, 2016 FCA 63, aff'd *Williams Lake Indian Band v. Canada (Aboriginal Affairs and Northern Development)*, 2018 SCC 4; Ex 741, Brealey Report #2 at ep 7-9 (p 1-3).

<sup>xcvii</sup> Ex 741, Brealey Report #2 at ep 7-8 (p 1-2).

<sup>xcviii</sup> Ex 136, 16 May 1850 J Douglas to A Barclay; Ex 137, 1846-1851 Fort Victoria Letters at ep 2 (p 94-95).

<sup>xcix</sup> Ex 135, 7 May 1850 J Douglas to JM Yale at ep 2.

<sup>c</sup> Ex 741, Brealey Report #2 at ep 8-9 (p 2-3).

<sup>ci</sup> Ex 150, 21 Jan 1853 J Douglas to JS Pakington at ep 2-3 (emphasis added).

<sup>cii</sup> Ex 148, c. 1853 J Douglas Private Papers; Ex 149, Transcript of Ex 148 at ep 6-7 (p 34-35). Douglas reiterated that promise to the Cowichan in 1857: Ex 1648, 24 Feb 1857 J Douglas Despatch 4 to Labouchere at ep 4.

<sup>ciii</sup> Governor Douglas' authority over the Crown's administration in the Colony was established by Letters Patent in 1858: Ex 824, 2 Sep 1858 Letters Patent at ep 4 (p 3). He represented the Crown in every particular, received detailed instructions from the Crown, and "was, in fact, the law": *Attorney General of British Columbia v. Attorney General of Canada*, [1906] U.K.P.C. 61, [1906] A.C. 552 at 3 (JCPC). As of and potentially prior to July 1, 1858, Douglas had instructions to colonize and settle the mainland of British Columbia, instructions regarding the approach to be taken by Douglas with respect to Indigenous' interests in the new mainland colony of British Columbia, echoing the British Crown's earlier "special charge" to Douglas to treat Indigenous peoples with justice and humanity: Ex 741, Brealey Report #2 at ep 9-10 (p 3-4); Ex 821, 1 Jul 1858 EB Lytton Despatch 1 to J Douglas; Ex 628, 31 Jul 1858 EB Lytton letter to J Douglas at ep 9-10; Ex 741, Brealey Report #2 at ep 10 (p 4); Ex 628, 14

Aug 1858 EB Lytton Despatch No. 7 to J Douglas at ep 10; Ex 1051, 14 Aug 1858 EB Lytton instructions to J Douglas at ep 8; Ex 823, 2 Sep 1858 EB Lytton Despatch 12 to J Douglas and 5 Nov 1858 response at ep 3, 5 (p 12, 14); The Crown instructions to Douglas for the "peopling and opening up" of British Columbia were subject to Douglas dealing with the prior "interests of the Natives", and that those interests included "lands possessed by



them: Ex 741, Brealey Report #2 at ep 10 (p 4). On October 11, 1858, Douglas replied to Lytton's Dispatch No. 6 assuring him that he would "not fail to give the fullest scope to your humane consideration for the improvement of the native Indian tribes, and shall take care that all their civil and agrarian rights be protected": Ex 629, 11 Oct 1858 Governor Douglas to EB Lytton at ep 10 (p 39); Ex 741, Brealey Report #2 at ep 11 (p 5). On December 30, 1858, in his Dispatch No. 62, Lytton provided Douglas with supplemental instructions "on the policy to be adopted towards the Indian tribes," suggesting that Douglas work towards settling them "permanently in villages": Ex 826, 30 Dec 1858 EB Lytton Despatch 62 to J Douglas at ep 3 (p 15). Douglas issued Proclamation No. 13 declaring the Crown's underlying title to all the lands in British Columbia and confirmed his executive authority with respect to lands: Ex 1434, 14 Feb 1859 Proclamation No. 13 at ep 1-2. Douglas advised of his intention to create Crown reserves, including anticipatory reserves for the Indians of their village sites and cultivated fields, on March 14, 1849: Ex 828, 14 Mar 1859 J Douglas Despatch 114 to EB Lytton; Ex 741, Brealey Report #2 at ep 13-14 (p 7-8). He instructed his subordinates that Indian Settlement Lands were reserved: Ex 605, 1 Oct 1859 Circular to Gold Commissioners and Magistrate at ep 2 (transcribed at ep 8); Ex 1434, 14 Feb 1859 Proclamation No. 13; Ex 604, 07 Oct 1859 J Douglas to RC Moody at ep 3-4 (transcribed at ep 7-8).

<sup>civ</sup> Ex 114, Kennedy Report at ep 302 (p 288) and Table 6 at ep 308-309 (p 294-295); Ex 1161, Layland Response to Lovisek at ep 15-16 (p 12-13), Ex 623, 1858 Gibbs field map; Ex 2028, Lovisek Response at ep 38 (p 37).

<sup>cv</sup> Ex 830, 04 Jan 1860 Proclamation of the Colony of BC, s. 1; Ex. 835, 12 Jan 1860 Governor Douglas Despatch 35 to the Duke of Newcastle at paras. 4, 8 (ep 7, 8). Colonial correspondence, notably between 1860-64, confirms that Douglas established an administrative process for transitioning Crown reserves of Indian Settlement Lands to finalized Indian reserves, namely, by (1) consultation with Indigenous villagers as to the extent of their settlement, followed by (2) demarcating posts or stakes placed in the ground: Ex 2821, 9 Oct 1860 J Douglas Despatch to the Duke of Newcastle at ep 6 (p 26); Ex 787, 5 Mar 1861 C Good letter to CCLW Moody; Ex 838, 5 Mar 1861 C Good letter to W Cox at ep 2 (transcribed at ep 4). On April 13, 1861, CCLW Moody sent a memo to his subordinate Captain R.M. Parsons, R.E. and ordered him to "mark out successively and as early as practicable by posts

and in any other clear and permanent way, Boundaries of Lands Claimed by Indians in this neighbourhood – *extending from Harrison River, inclusive, to the Sea...* Ex 788, 13 Apr 1861 CCLW Moody to RE Parsons (with transcript); Ex 741, Brealey Report #2 at ep 19 (p 13). On April 30, 1861, Captain Parsons in turn instructed Corporal Charles Sinett but truncated the geography of CCLW Moody's directions so that Corporal Sinett was instructed to proceed from the Harrison River down the Fraser River only as far as Fort Langley, and thereby

not to the south shore of Lulu Island on the river's main channel (i.e., South Arm): Ex 840, 30 Apr 1861 RE Parsons to RE Sinett with transcript; Ex 741, Brealey Report #2 at ep 20-21 (p 13-14). Moody was slow to demarcate and publish the location of existing and anticipated reserves: Ex 209; 2 Aug 1861 C Good to CCLW Moody; Ex 842, 4 Mar 1862 WAG Young to CCLW Moody with transcript; Ex 741, Brealey Report #2, at ep 22-23 (p 16-17); Ex 607, 2 Jun 1862 RC Moody to W Young at ep 3 (p 24); Ex 843, 9 Jun 1862 W Young to CCLW Moody at ep 3 (p 24). Moody then told Douglas that there was insufficient capacity to fulfill Douglas' reserve creation mandate: Ex 847, 28 Apr 1863 CCLW Moody to J Douglas; Ex 741, Brealey Report #2 at ep 24 (p 18).

<sup>cvi</sup> Ex 846, 27 Apr 1863 J Douglas to CCLW Moody; Ex 741, Brealey Report #2 at ep 24-25 (p 18-19); Ex 848, 11 May 1863 W Young to CCLW; Ex 603, 24 Jan 1864 Opening Address – 1st Session of 1st Parliament of BC at ep 4; Ex 851, 16 May 1864 W McColl report encl instructions; Ex 741, Brealey Report #2 at ep 27 (p 21); Ex 108, 14 Oct 1874 J Douglas to IW Powell at ep 1.

<sup>cvi</sup> Ex 850, 6 Apr 1864 C Brew to W McColl.

<sup>cvi</sup> Douglas had concerns with Moody's conduct as CCLW, notably his rampant land speculation. Dr. Brealey opined that Douglas repeatedly tried to correct Moody's failures to execute on the Colony's Indian reserve

creation policy: Ex 741, Brealey Report #2 at ep 23-25 (p 17-19). Likewise, Dr. Kennedy explained: “In 1861, the citizens

of New Westminster accused Moody and his friends of squandering money and awarding contracts for roads without public advertisement, of faulty administration of public lands, and of the setting aside of government reserves for the benefit of government officers. A brief investigation showed that Moody had acquired land from the

government at a public auction or had registered pre-emptions, thus providing evidence of the public’s charge of land speculating. as of 1873 [Moody] held 3,049 acres.” Ex 114, Kennedy Report at ep 105-106 (p 91-92), citing to Ex 206, 6 Apr 1861 WAG Young to CCLW Moody and Ex 205, 5 Apr 1861 WAG Young Circular to Magistrates. Historians typically describe Moody as being a land speculator: T Binnema, 19 Jul 2021 at 11:00:04-11:00:11.

<sup>cix</sup> There is no evidence that Moody, or anyone else, consulted with the Cowichan or otherwise demarcated the boundaries of their Crown reserve, as Douglas had instructed. This, in spite of the fact that Moody and other colonial officials clearly had knowledge of the Cowichan village lands, cultivated fields and fishing station at Tl’uq̓tinus on the main channel of the lower Fraser River below New Westminster: Ex 741, Brealey Report #2 at ep 24-25 (p 18-19). In July 1863 Douglas disbanded the Columbia Detachment of the Royal Engineers. Moody continued in his capacity as CCLW into October 1863, and on November 11, 1863, departed the mainland Colony of British Columbia with the Royal Engineers by sail from New Westminster: Ex 741, Brealey Report #2 at ep 25 (p 19); Ex 213, 14 Nov 1863 The Leave Taking (The British Columbian). Shortly before departing, Moody covertly acquired 2 sections of the Lands of Tl’uq̓tinus: Ex 741, Brealey Report #2 at ep 49 (p 43). Moody sold some of the lands to himself in September 1863, through a land agent who paid the deposit on Moody’s behalf. When Moody acquired these Lands of Tl’uq̓tinus, Proclamation No. 16 was in effect and required that lands sold by private contract must first be put up for public auction. There is no evidence that Sections 27 and 34 were ever offered for public auction. In fact, on September 6, 1873, when BC put up for auction most of the adjacent Lands of Tl’uq̓tinus, Sections 27 and 34 were not included, likely because they were already under contract to Moody’s covert agent: Ex 114, Kennedy Report at ep 106-107 (p 92-93); Ex 2645, 20 Jan 1860 Proclamation 16, Colony of BC at ep 2 (p 65); Ex 2642, 6 Sep 1873 Gazette, Sale by auction.

<sup>cx</sup> Ex 1424, 25 Jul 1859 agreement between Moody and Trutch - Lulu Island survey; D Kennedy, 7 Jan 2020 at 10:12:53-10:23:01; Ex 15, 30 Sep 1859 Trutch Field Notes at ep 37.

<sup>cx</sup> See generally Ex 15, 30 Sep 1859 Trutch Field Notes at ep 18, 21-22, for identification of Indian Village.

<sup>cxii</sup> Queen Victoria instructed the Governors Frederick Seymour (1864-69) and Anthony Musgrave (1869-71) to especially protect Indigenous’ peoples in the free enjoyment of their possessions and against all injustice: Ex 1054, 11 Jan 1864 Royal instructions to Gov Seymour (transcript of Ex 1055) s. 1 at ep 1 and s. 26 at ep 13 (emphasis added); Ex 1057, 16 Oct 1869 Royal instructions to Gov Musgrave (with transcript) at s. XXIV, ep 30 (p 195)

(manuscript) and ep 40 (transcript). In April-May 1864, Governor Seymour refused a petition to pre-empt Indian Settlement land on the Fraser River, thus confirming that the colonial government intended for Indian Settlement Lands, whether or not they were used seasonally, or had been formally made Indian reserves, to remain appropriated from disposition in May 1864: Ex 1195, 9 May 1864 Minutes of Exec Council at ep 3 (p 11); Ex 1196, 12 May 1864 Colonial Secretary to G Tranfield (with transcript); Ex 1202, 28 Jul 1864 Colonial Secretary to G Tranfield. Governor Seymour’s April 1865 Land Ordinance confirmed prohibition on pre-empting any Indian Settlement Lands: *Land Ordinance*, 1865, 28 Vict., No. 23. CCLW Trutch continued Douglas’ policy of reserve creation, but adopted a more parsimonious approach to determining the extent of Indian reserves: Ex 861, 19 Nov 1867 JW Trutch to Colonial Secretary at ep 4; Ex 857, 26 May 1867 J Trutch re Mr. McIvor’s application at ep 4; Ex 741, Brealey Report #2 at ep 50, 32 (p 44, 26); Re example at Nicola Lake, August 1868: Ex. 864, 5 Aug 1868 JW Trutch to P O’Reilly at ep 3; Ex 741, Brealey Report #2 at ep 31 (p 25). Governor Seymour’s assent to the Indian Reserve Ordinance, 1869 which empowered magistrates to resolve disputes in the protection of Indian Lands, expressly recognizes that there are Indian Reserves and

Indian Settlement Lands, both of which the Crown is undertaking to protect from unlawful encroachment: *Indian Reserves Ordinances*, 1869, 32 Vict., No. 125. CCLW Trutch instructed Surveyor Green to exclude Indian Settlement Lands from timber surveys in 1869-70, confirming and reaffirming the Colonial government's understanding in that Indian Settlement Lands were appropriated from disposition, whether or not they were formally staked out as Indian reserves: Ex 1203, 8 Sep 1869 J Trutch to FW Green; Ex 1204, 24 Oct 1870 J Trutch to FW Green. Governor Musgrave's Land Ordinance, 1870 again confirmed prohibition on pre-empting lands of any Indian settlement: Land Ordinance, 1870, 33 Vict., No. 144, s. 3 (ep 2), s. 42 (ep 7-8). The focus during Musgrave's tenure shifted to making reserves above the Harrison River: Ex 741, Brealey Report #2 at ep 34 (p 28).

<sup>cxiii</sup> Dr. Brealey's opinion on this point was unequivocal: "I also must conclude that the administrations of Governors William Seymour and Anthony Musgrave knew full well there was still a standing occupied Cowichan village and settlement at Tl'uqtinus after 1864, and through to Confederation in 1871, and could have easily set out a reserve at that place during this period. Indeed, even allowing for the parsimonious acreage formula implemented by Trutch, a reserve allotted at this location may yet have been no less than a couple thousand acres in size": Ex 741, Brealey Report #2 at ep 50 (p 44).

<sup>cxiv</sup> Ex 101, Turner Report at ep 53-54 (p 46-47); Ex 652, Brealey Report at ep 190 (p 185), citing Ex 273 1901 CM Tate diary; Ex 2654, 1913 Curtis re: Cowichan seasonal round at ep 4 (p 41); Ex 741, Brealey Report #2 at ep 50-51 (p 44-45); Ex 943 at ep 6, Dr. Kennedy, 17 Dec 2019 at 12:16:07-12:24:53 (Note: The Deas cannery was established in 1873: Ex 2026, at ep 100b, fn. 379); Ex 114, Kennedy Report at ep 319 (p 305); Ex 101, Turner Report at ep 52 (p 45). See also Ex 114, Kennedy Report at ep 208 (p 194). See also Ex 652, Brealey Report at ep 188 (p 183); Ex 265, 20 Jan 1878 GM Sproat Memo on Cowichan Reserve at ep 26 (p 25) (transcribed at ep 37); Ex 5, Eldridge Report at ep 25 (p 20); Ex 114, Kennedy Report at ep 212 (p 198). See also Ex 264, 12 Jan 1878 GM Sproat to Lieutenant Governor at ep 1, 3; D Kennedy, 6 Dec 2019 at 10:03:21-10:04:52; K Brealey, 22 Jul 2020 at 56(5-35); M Eldridge, 26 Sep 2019 at 12:09:40-12:11:09, 12:19:19-12:20:19; Ex 2026, Lovisek Land Report at ep 107-108; J Lovisek, 17 Jun 2021 at 10:29:03-10:32:26; J Lovisek, 18 Jun 2021 at 12:21:36-12:24:25; J Lovisek, 21 Jun 2021 at 11:03:02-11:05:12; J Lovisek, 17 Jun 2021 at 10:28:13-10:33:11; J Lovisek, 18 Jun 2021 at 2:03:03-2:51:06; J Lovisek, 21 Jun 2021 at 10:43:08-10:46:03, 11:03:02-11:05:12. For evidence of further Cowichan complaints to the Crown, beyond 1877, see endnote 297. Dr. Lovisek agreed the historical record up to at least 1890 is consistent with the Cowichan insisting they had claims to the Lands of Tl'uqtinus: J Lovisek, 17 Jun 2021 at 10:29:03-10:33:11.

<sup>cxv</sup> Just ten weeks before British Columbia's confederation with Canada took effect on July 20, 1871, Governor Musgrave issued two Crown grants of fee simple interests in relation to the Lands of Tl'uqtinus (the "1871 Crown Grants"): Ex 235, 6 May 1871 Crown Grant No 1154 to T Argyle; Ex 236, Crown Grant No. 1154, including certificate of purchase at ep 1; Ex 236, Crown Grant No. 1154, incl. certificate of purchase at ep 2,3; Ex 889, Original BC land register for B4N, R5W, of the New Westminster District of land at ep 27; Ex 1271, 6 May 1871 Crown Grant No. 1155; T Binnema, 19 Jul 2021 at 11:28:17-11:31:44; Ex 889, Original BC land register for B4N,

R5W, of the New Westminster District of land at ep 9. Crown Grant 1154 includes what Dr. Brealey identified as the village itself and is also contained within the archaeological site DgRs-17: Ex 652, Brealey Report ep 200 (Appendix A, Map 4). The area of Crown Grant 1155 includes the northeast corner of the village and the Cowichan blueberry patches: Ex 652, Brealey Report at ep 200 (Appendix A, Map 4); Ex 101, Turner Report at ep 37 (p 30), ep 54 (p 47), ep 211 (p 205). See also Appendix A.2: Crown Grants shown on Schedule A. The 1871 Crown Grants were purportedly granted under the *Land Ordinance, 1870*, which authorized "free grants of the unoccupied and unappropriated Crown Lands of the Colony..." However, the 1871 Crown Grants were made without statutory authority because the Lands of Tl'uqtinus were both occupied and appropriated. Moreover, Governor Musgrave had no authority to issue any grants that would result in an Indigenous people being dispossessed of its Aboriginal title to Indian Settlement Lands, which the Lands of Tl'uqtinus were. As noted, Queen Victoria had expressly instructed Musgrave to protect Indigenous peoples' "Free Enjoyment of their Possessions" and prevent all injustice which may be practiced or attempted against them. The Cowichan were in possession of the Lands of Tl'uqtinus at the time of the 1871 Crown Grants, so the grants issued under the *Land Ordinance, 1870* constituted an injustice against them.

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<sup>cxvi</sup> Following Confederation, Indigenous people in BC expressed concerns about the rate and manner of Indian reserve creation in the Province. Canadian officials encouraged BC to adopt a “most liberal and enlightened interpretation” to the spirit and meaning of Article 13: Ex 867, 21 Jun 1873 IW Powell to Lieutenant Governor at ep 3; Ex 741, Brealey Report #2 at ep 36-38, 27 (p 30-32, 21); Ex 870, 5 Aug 1874 IW Powell to the Provincial Secretary encl 14 Jul 1874 Petition of Indian Chiefs at ep 3; Ex 108, 14 Oct 1874 J Douglas to IW Powell at ep 1; Ex 872, 15 Oct 1874 J Lenihan to Provincial Secretary at ep 3; Ex 873, 02 Nov 1874 D Laird memo at ep 4 and 7.

<sup>cxvii</sup> Ex 741, Brealey Report #2 at ep 42 (p 36).

<sup>cxviii</sup> Ex 265, 20 Jan 1878 GM Sproat Memo on Cowichan Reserve at ep 26 (p 25) (transcribed at ep 37); Ex 5, Eldridge Report at ep 25 (p 20); Ex 114, Kennedy Report at ep 212 (p 198). See also Ex 264, 12 Jan 1878 GM Sproat to Lieutenant Governor at ep 1, 3; D Kennedy, 6 Dec 2019 at 10:03:21-10:04:52; K Brealey, 22 Jul 2020 at 56(5-35); M Eldridge, 26 Sep 2019 at 12:09:40-12:11:09, 12:19:19-12:20:19. Canada’s expert Dr. Lovisek agreed

that this complaint was made about the Cowichan village at the Lands of Tl’uqtinus: Ex 2026, Lovisek Land Report at ep 107-108; J Lovisek, 17 Jun 2021 at 10:29:03-10:32:26; J Lovisek, 18 Jun 2021 at 12:21:36-12:24:25; J Lovisek, 21 Jun 2021 at 11:03:02-11:05:12; J Lovisek, 17 Jun 2021 at 10:28:13-10:33:11; J Lovisek, 18 Jun 2021 at 2:03:03-2:51:06; J Lovisek, 21 Jun 2021 at 10:43:08-10:46:03, 11:03:02-11:05:12.

<sup>cxix</sup> Ex 264, 12 Jan 1878 GM Sproat to Lieutenant Governor at ep 1, 3-4.

<sup>cxx</sup> Ex 266, 22 Apr 1878 GM Sproat to Colonel Powell. Despite this correspondence, there is no evidence that Sproat actually investigated the Cowichan complaints at the Lands of Tl’uqtinus, and it was Dr. Brealey’s opinion that

“he simply did not”: Ex 741, Brealey Report #2 at ep 47-48 (p 41-42).

<sup>cxixi</sup> Report at ep 356 (p 342); Ex 741, Brealey Report #2 at ep 46-48 (p 40-42); J Lovisek, 21 Jun 2021 at 11:03:02-11:06:01.

<sup>cxixii</sup> Ex 741, Brealey Report #2 at ep 48-49 (p 42-43).

<sup>cxixiii</sup> *Land Act*, 1874, 37 Vict., No. 2, s. 3, 61; *Land Act*, 1875, 38 Vict., No. 5, s. 3, 61; *An Act to amend and Consolidate the Laws affecting Crown Lands in British Columbia*, 1884 S.B.C., c. 16, s. 3, 31; *Land Act*, S.B.C. 1888, c. 66, s. 5, 30; *Land Act Amendment Act*, 1891 S.B.C. 1891, c. 15, s. 5; *Land Act Amendment Act*, 1896, R.S.B.C. 1896, c. 28, s. 14; *Land Act*, S.B.C. 1897, c. 113, s. 5, 31; *Land Act Amendment Act*, 1899, S.B.C. 1899, c. 38, s. 4; *Land Act Amendment Act*, 1901, S.B.C. 1901, c. 30, s. 5; *Land Act*, S.B.C. 1908, c. 30, s. 5, 36; *Land Act*, R.S.B.C. 1911 c. 129, s. 7(2), 45; *Land Act*, R.S.B.C. 1924, c. 131, s. 12(1), 39(1), 51; *Land Act*, R.S.B.C. 1936, c. 144, s. 12(1), 40(1), 52; *Land Act*, R.S.B.C. 1948, c. 175, s. 12(1), 40(1), 52; *Land Act*, R.S.B.C. 1960, c. 206, s. 12(1), 40(1), 52.

<sup>cxixiv</sup> *British Columbia Terms of Union*, R.S.C. 1985, App. II, No. 10; *Jack v. The Queen* (1979), [1980] 1 S.C.R. 294, 1979 CanLII 175 at 301-302; *Williams Lake Indian Band v. Her Majesty the Queen in Right of Canada*, 2014 SCTC 3at para. 337. As BC was bound to convey title to lands appropriated as Crown reserves of Indian Settlement Lands to Canada, it must also hold true that BC did not have the constitutional authority to unilaterally extinguish Crown protection of appropriated Indian Settlement Lands, prior to conveyance.

<sup>cxixv</sup> Ex 114, Kennedy Report at ep 104-105 (p 90-91).

<sup>cxixvi</sup> See endnote 359.

cxxvii Lieutenant Governor Trutch issued seven Crown Grants of fee simple interest over the Lands of Tl'uq̓tinus between July and December 1874. BC issued Crown Grant No. 1424 of Sections 27 and 34 to Richard Clement

Moody (former CCLW): Ex 242, 30 Jul 1874 Crown Grant No. 1424 to RC Moody incl. Receipt 3 Sept 1863 to JJ Cochrane and 19 May 1874 Certificate of Purchase at ep 4. See also Ex 243, 30 Jul 1874 Crown Grant No. 1424 to RC Moody; Ex 242, 30 Jul 1874 Crown Grant No. 1424 to RC Moody incl. Receipt 3 Sept 1863 to JJ Cochrane and 19 May 1874 Certificate of Purchase; T Binnema, 19 Jul 2021 at 10:57:37-10:59:37; Defendants' Responses to Land Title NTA at para. 4(c); Ex 243, 30 Jul 1874 Crown Grant No. 1424 to RC Moody. Moody never used or occupied these lands: T Binnema, 19 Jul 2021 at 10:57:37-10:59:37. BC issued Crown grant No. 1454 of Section 26 to James Morrison: Ex 245, 17 Oct 1874 Crown Grant No. 1454 to J Morrison; Ex 246, 17 Oct 1874 Crown Grant No. 1454 to J Morrison including receipts; Ex 889, Original BC land register for B4N, R5W, of the New Westminster District of land at ep 28. It appears that James Morrison was a land agent. There is no evidence that Morrison ever

used or occupied Section 26: T Binnema, 19 Jul 2021 at 11:34:02-11:34:26. BC issued Crown grant Nos. 1474, 1476, 1479, and 1480 granting Sections 28, 29, 32, and 33 to Michael John Goode: Defendants' Responses to Land Title NTA at para. 4(e)-(h); Ex 247, 8 Dec 1874 Crown Grants No. 1474 to MJ Goode; Ex 1272, 8 Dec 1874 Crown Grant No. 1476; Ex 1273, 8 Dec 1874 Crown Grant No. 1479; Ex 248, 8 Dec 1874 Crown Grant No. 1480 to MJ Goode. There is no evidence that Goode ever used or occupied the lands: T Binnema, 19 Jul 2021 at 11:46:43-11:48:13. BC issued Crown grant No. 1489 of Section 4 to Thomas Wilton: Defendants' Responses to Land Title NTA at para. 4(i); Ex 1274, 17 Dec 1874 Crown grant No. 1489. There is no evidence that Wilton ever used or occupied these lands: T Binnema, 19 Jul 2021 at 11:38:38-11:41:18. BC issued 1875 Crown Grants to the Lands of Tl'uq̓tinus to Thomas Lett Wood and Robert Burnaby as trustees under the marriage settlement of Matthew Trotter Johnston: Ex 241, 13 Oct 1873 Certificate of Purchase No. 126; T Binnema, 19 Jul 2021 at 11:35:50-11:41:18; Ex 889, BC Land Register for B4N R5W NW District at ep 23-24, 27; Defendants' Responses to Land Title NTA at para. 4(j)-(l); Ex 876, 16 Apr 1875 Crown grant No 1520; Ex 877, 16 Apr 1875 Crown grant No 1521; Ex 878, 16 Apr 1875 Crown grant No 1522 Wood and Burnaby Section 23, without receipt. Matthew Trotter Johnston was a

Justice of the Peace on Vancouver Island and was also, between 1866 to 1876, in a business partnership with Gilbert Malcom Sproat, the same Sproat that then became a member of the JIRC: T Binnema, 19 Jul 2021 at 11:40:07-11:41:31; Ex 114, Kennedy Report at ep 107 (p 93). Thomas Lett Wood was a lawyer who served as Attorney General for the Colony of Vancouver Island from August 1864 until its merger with the Colony of British Columbia, upon which he became the Solicitor General for the unified Colony: T Binnema, 19 Jul 2021 at 11:35:50-11:41:18. Robert Burnaby was a civil servant in London who arrived in British Columbia in 1858 with a personal letter of introduction from Sir Bulwer-Lytton to Governor James Douglas. Once in BC, Burnaby secured a position as private secretary to R.C. Moody and was affiliated with the Lands and Works Department. Burnaby was prominent in colonial politics and was elected to Legislative Assembly on November 29, 1860. He also acted as a real estate and land agent during the 1870's: T Binnema, 19 Jul 2021 at 11:41:55-11:46:43. Neither Trotter Johnston, Lett Wood, nor Burnaby ever occupied or used the Lands of Tl'uq̓tinus: Ex 652, Brealey Report at ep 187-188 (p 182-183); T Binnema, 19 Jul 2021 at 11:37:26-11:41:18. In 1893, Lieutenant-Governor Dewdney issued Crown grant 4251/55 granting William and Joseph Wilson a fee simple interest to all 160 acres in Section 18, B4N R4W, New

Westminster District, along with other lands not overlapping the Lands of Tl'uq̓tinus, for a total surveyed area of 480 acres: Defendants' Responses to Land Title NTA at para. 4(m); Ex 1275, 27 Mar 1893 Crown grant No. 4251/55. Additional Crown Grants made from 1910-1914 alienated the remaining Lands of Tl'uq̓tinus to non-

Indigenous purchasers, many, perhaps all, of whom appear to have been absentee owners who made little or no use of the land: T Binnema, 19 Jul 2021 at 10:50:12-10:50:44; Defendants' Responses to Land Title NTA at para. 4(n)-(r); Ex 1276, 23 Aug 1910 Crown grant No. 414-264; Ex 1277, 18 Apr 1911 Crown grant No. 1394/277; Ex 1278, 17 Jan 1912 Crown grant No. 2703/296; Ex 1280, 23 Dec 1914 Crown grant No. 7188/364; Ex 1279, 23 Dec 1914 Crown grant No. 7189/364.

cxxviii *Cowichan* at paras. 2080 and 2081

<sup>cxxix</sup> The original grantees of the Lands of Tl'uqtnus were generally land speculators who never used or occupied those lands. The Lands of Tl'uqtnus largely lay idle, and between 1920-1944 the fee simple interest holders of most of the Lands of Tl'uqtnus failed to pay their municipal taxes, resulting in the forfeiture and sale of their lands under the *Municipal Act*, as amended. During tax sale proceedings there were no bids equal to the upset price for these Lands. Consequently, Richmond and the plaintiffs agree that Richmond was declared to be the purchaser of the municipal tax sale lands at the Lands of Tl'uqtnus and was vested with the fee simple interests thereto: Ex 1349, 10 Jul 2020 ASF Plaintiffs and Richmond at paras. 3-4, 8, 12 (ep 3-4); Ex 1373, 10 Nov 1920 Tax sale; Ex 1374, 04 Mar 1921 Tax sale; Ex 1375, 17 Oct 1922 Tax sale; Ex 1376, 22 Oct 1923 Tax sale; Ex 1377, 30 Nov 1925 Tax sale; Ex 1349, 10 Jul 2020 ASF Plaintiffs and Richmond at paras. 5-7, 9-11, 14, 15-17, 18-21, 22-23 25-27, 29 (ep 3-5), Tab C (ep 22), Tab E (ep 26); Ex 1739, 28 Nov 1949 Bylaw No 1131 (transcript). See also Ex 1349, 10 Jul 2020 ASF Plaintiffs and Richmond at Tab R (ep 61). Note that Exhibit 1739 is the transcript of Tab R and incorrectly says "Section 32" where it should say "Section 22" when looking at the original Bylaw 1131 at Tab R. Since January 1, 2004, BC's *Community Charter*, s. 35(1)(a) has vested the soil and freehold of highways to municipalities. Prior to 2004, a municipality's statutory right of possession to highways was short of ownership. A municipality could not, for example, grant charges or tenures to highway lands: *FortisBC Energy Inc. v. Surrey (City)*, 2013 BCSC 2382 at paras. 260-261. Further, the municipality's right of possession to highways (for example, under historical iterations of the *Municipal Act*) was limited to possessing and managing the lands only for highway purposes: *Affleck and McCandlish v. Nelson (City)*, [1957] B.C.J. No. 146, 1957 CanLII 577 (SC) at para. 3; *Barrett v. North Vancouver (District)*, 1978 CarswellBC 74, 1978 CanLII 368 (CA) at para. 20. By comparison, BC's vesting of the soil and freehold of the highways under the *Community Charter* transfers an ownership interest in those lands to the municipality that is akin to a Crown grant: See *Community Charter*, 2003, s. 35(7)(c), (d) (ep 28), which provide that many of the same Crown reservations apply to vesting under section 35(1)(a) "as if the vesting were made by Crown grant."

<sup>cxxx</sup> Ex 1358, Land Titles Common Book of Documents.

<sup>cxxxi</sup> Aside from one small area saved for conservation, the VFPA has designated the Federal Tl'uqtnus Lands for industrial or terminal development in its Land Use Plan. The VFPA has declined to designate any part of the lands for Cowichan use, occupation, or decision-making. Nor has it designated any of the Federal Tl'uqtnus Lands for the purposes of implementing the Cowichan's Declaration for Reconciliation or shared any lease revenue from the Federal Tl'uqtnus Lands with the Cowichan. From the Cowichan perspective, the VFPA, as Canada's agent, has

managed the Federal Tl'uqtnus Lands in a manner that is dramatically inconsistent the Cowichan Declaration for Reconciliation. VFPA land-use planning excludes the Cowichan from decision making, planning, and management of those lands, which were central features of Cowichan enjoyment of their Aboriginal title to their traditional village at Tl'uqtnus. It also excludes the Cowichan from accessing and using the Federal Tl'uqtnus Lands

<sup>cxxxii</sup> Ex 652, Brealey Report at ep 61 (p 56).

<sup>cxxxiii</sup> *Jack v. The Queen* (1979), [1980] 1 S.C.R. 294, 1979 CanLII 175 at 308-309.

<sup>cxxxiv</sup> Canada's Fisheries Act came into force in British Columbia in 1876: *An Act respecting the extension and application of "The Fisheries Act" to and in the Provinces of British Columbia, Prince Edward Island, and Manitoba*, S.C. 1874, c. 28 proclaimed in force 28 May 1876, (1876) C. Gaz., vol. 9, no. 48, p 1536, ep 2; *R. v. Sparrow*, [1990] 1 S.C.R. 1075, 1990 CanLII 104 at 1096. The first regulations affecting British Columbia fisheries were implemented in 1878: *Salmon Fishery Regulations, 1878*, s. 1, ep 2; *Jack v. The Queen* (1979), [1980] 1 S.C.R. 294, 1979 CanLII 175 at 309. For the first time, "Indian" fishing was restricted. Fishing was only permitted for the Indigenous person's own consumption. Sale or barter was prohibited: *R. v. Sparrow*, [1990] 1 S.C.R. 1075, 1990 CanLII 104 at 1096. The federal paradigm of individualized Indigenous fishing was in place until *Sparrow* in 1990: J Nener, 31 Mar 2021 at 3:40:07-3:40:48; see also Ex 1905, 1993 Policy for the Management of Aboriginal Fishing at ep 5 (p 3).

<sup>cxv</sup> Canada's *Fisheries Act* and regulations make it illegal to fish without a licence: *Pacific Fishery Regulations*, 1993 SOR/93-54 s. 26(1); *Ahousaht Indian Band and Nation v. Canada (Attorney General)*, 2009 BCSC 1494 at para. 546; Read ins, 19 Jan 2021 at 2:15:43-2:17:55; J Nener, 14 Apr 2021 at 10:36:23-10:36:59. If the Cowichan were to fish the South Arm for food without a licence, then they would be in violation of s. 26(1) of the *Pacific Fishery Regs.*, and subject to prosecution: Read ins, 19 Jan 2021 at 2:13:56-2:15:33; J Nener, 14 Apr 2021 at 10:36:50-10:36:59. See also: K Thomas, 1 Oct 2020 at 10:54:07-10:54:25. This basic structure is not new. For over a century (since 1917), Canada has prohibited Aboriginal people from fishing for food without authorization, and only in compliance with its terms: *R. v. Sparrow*, [1990] 1 S.C.R. 1075, 1990 CanLII 104 at 1095-1097; *Jack v. The Queen* (1979), [1980] 1 S.C.R. 294, 1979 CanLII 175 at 310.

<sup>cxvi</sup> *Fishery Regulations for the Province of British Columbia*, P.C. 1890-0417, (1890) C. Gaz., 1903, s. 5, ep 5; See also Ex 285, 26 Jan 1892 WH Lomas to J McNab.

<sup>cxvii</sup> Ex 280, 22 Mar 1890 Ewen & Co. to W H Lomas (transcript at Ex 281); Ex 282, 26 Mar 1890 WH Lomas to LG Lewis; Ex 285, 26 Jan 1892 WH Lomas to J McNab; Ex 286, 29 Feb 1892 J McNab to SP Bouset; Ex 289, 31 Mar 1892 WH Lomas letter to AW Vowell.

<sup>cxviii</sup> Ex 326, 4 Apr 1890 WH Lomas to T Mowat; Ex 286, 29 Feb 1892 J McNab to SP Bouset; Ex 288, 18 Mar 1892 L Vankoughnet to AW Vowell.

<sup>cxix</sup> Consistent with a Crown reserve.

<sup>cxl</sup> Ex 283, 26 Mar 1890 WH Lomas to P McTiernan; J Lovisek, 17 Jun 2021 at 10:22:33-10:24:47; Ex 289, 31 Mar 1892 WH Lomas to AW Vowell.

<sup>cxli</sup> *Fishery Regulations for the Province of British Columbia*, P.C. 1894-0590, (1890) C. Gaz., 1579, s. 1, ep 3

<sup>cxlii</sup> Ex 297, 27 Jun 1895 WH Lomas to AW Vowell; Ex 300, 28 Jan 1896 P O'Reilly to Minister of Marine and Fisheries.

<sup>cxliii</sup> Ex 300, 28 Jan 1896 P O'Reilly to Minister of Marine and Fisheries.

<sup>cxliv</sup> *Fishery Regulations for the Province of British Columbia*, P.C. 1910-0397 (1910) C. Gaz., 3206., s. 2, ep 4

<sup>cxlv</sup> *Special Fishing Regulations*, B.C., P.C. 1917-2539, (1917) C. Gaz., 925., s. 8(2), ep 27.

<sup>cxlvi</sup> J Nener, 4 May 2021 at 12:05:25-12:09:11 re Ex 731, 16 Jun 1978 DFO Memo; 12:22:38-12:25:07 re Ex 1963, 28 May 1986 DFO Memo; 2:03:09-2:05:01 re Ex 1964, 16 May 1986 DFO Memo; R Reid, 21 Sept 2021 at 10:47:55-10:50:23 re Ex 2311, 1988 DFO Memo; See also E Elliott, 24 Jan 2020 at 10:45:18-10:50:18.

<sup>cxlvii</sup> *Cowichan* at paras. 3354, 3490

<sup>cxlviii</sup> J Nener, 4 May 2021 at 12:05:25-12:09:11 re Ex 731, 16 Jun 1978 DFO Memo; See also J Nener, 4 May 2021 at 12:22:38-12:25:07 re Ex 1963, 28 May 1986 DFO Memo; 2:03:09-2:05:01 re Ex 1964, 16 May 1986 DFO; Ex 2329, 28 Jan 1985 DFO memo.

<sup>cxlix</sup> M Guerin, Day 369, 3:00:22-3:01:04; Ex 1935, 1990 DFO Interim Principles at ep 4; Ex 2186, 1991 DFO Interim Principles at ep 3-4; Ex 2187, 1992 DFO Interim Principles at ep 3-5; Ex 1907, Part 1 2006 Framework at ep 14; Ex 1911, 2007 DFO Guidelines at ep 2; See also Ex 2829, 12 Nov 1986 G Guerin to PT.

<sup>cl</sup> J Nener, 4 May 2021 at 12:14:16-12:17:07 re Ex 1962, 27 Sep 1982 JC Davis to HE Grant; 12:17:43-12:18:09; See also Ex 2825, 18 Jun 1986 G Guerin to United Native Nations; Ex 2827, 24 Jun 1986 D Aurel to G Guerin; Ex 2828, 30 Oct 1986 Minister to G Guerin.

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<sup>cli</sup> E Elliott, 27 Jan 2020 at 10:05:51-10:07:44, re Ex 355, 6 Apr 1988 Meeting Minutes at ep 2; 28 Jan 2020 at 10:24:50-10:25:01

<sup>clii</sup> E Elliott, 24 Jan 2020 at 10:57:58-10:58:24; 27 Jan 2020 at 10:06:21-10:07:44 re Ex 355, 6 Apr 1988 Meeting Minutes; 02:33:58-02:34:35.

<sup>cliii</sup> J Nener, 1 Apr 2021 at 10:41:49-10:42:23; J Nener, 31 Mar 2021 at 3:29:55-3:31:31; 1 Apr 2021 at 10:42:24-10:44:32; Ex 1907, Part 1 2006 Framework at ep 3, 4-5; J Nener, 31 Mar 2021 at 3:40:07-3:40:48; Ex 2766, 1993 MIB/TFN AFS Agt at ep 18; J Nener, 14 Apr 2021 at 12:17:59-12:18:59; 15 Apr 2021 at 10:39:43-10:40:38.

<sup>cliv</sup> Ex 1905, 1993 Policy for the Management of Aboriginal Fishing; R Reid, 20 Sep 2021 at 12:00:04-12:00:14; J Nener, 14 Apr 2021 at 12:06:08-12:06:36.

<sup>clv</sup> Ex 1905, 1993 Policy re Aboriginal Fishing at ep 3; J Nener, 31 Mar 2021 at 3:32:35-3:33:13.

<sup>clvi</sup> R Reid, 21 Sep 2021 at 11:31:07-11:32:15; J Nener, 14 Apr 2021 at 12:15:28-12:15:31.

<sup>clvii</sup> 1990 CanLII 104 (SCC), [1990] 1 SCR 1075

<sup>clviii</sup> Ex 732, 29 Jun 1990 D Alphonse to P Chamut encl Ex 733, information request & Ex 1616, supporting documentation; J Nener, 14 Apr 2021 at 10:58:19-10:59:04; See also Ex 1652, 26 Jul 1990 Chief Alphonse to Bands in Fraser; Ex 1653, 20 Aug 1990 W Jack to R Brahniuk; Ex 1644, 12 Jun 1994 STZ/HFN to M Flumian at ep 2-3; See also Ex 1939, 16 Mar 1994 STZ to Minister; Ex 735, 31 Aug 1994 Chief Seymour to D Carson.

<sup>clix</sup> J Nener, 14 Apr 2021 at 11:51:13-11:53:04; 4 May 2021 at 2:13:49-2:18:59 re Ex 1965, 13 Aug 1990 PS Chamut to Chief Alphonse; 2:21:54-2:24:22 re Ex 734, 13 Sep 1990 RD Humphreys to AF Lill; 2:28:39-2:35:02 re Ex 906, 30 Oct 1990 G Jaltema to Chief Alphonse; Ex 1650, 1990 Table re Consultations; Ex 905, Oct 1990 R Warren Report (See also E Elliott, 24 Jan 2020 at 10:56:11-10:56:54 re R Warren); Ex 907, 15 Mar 1991 P Sprout to A Lill; See also W Sparrow, 2 Mar 2022 at 10:50:01-10:54:46.

<sup>clx</sup> J Nener, 4 May 2021 at 2:28:39-2:35:02, re Ex 906, 30 Oct 1990 G Jaltema to Chief Alphonse; Ex 905, Oct 1990 R Warren Report.

<sup>clxi</sup> R Reid, 21 Sep 2021 at 10:33:06-10:36:33; J Nener, 14 Apr 2021 at 10:15:32-10:18:24; 3 May 2021 at 10:51:40-10:54:23; 4 May 2021 at 12:02:35-12:04:19, 12:08:42-12:09:11; Canada confirmed DFO adheres to an adjacency policy for FSC fishing in *Ahousaht Indian Band and Nation v. Canada (Attorney General)*, 2009 BCSC 1494 at para. 888. Ex 1966, 22 Jul 1992 Fax Sheet J Becker to S Loughney; Ex 1967, 22 Jul 1992 MIB Form Letter; Ex 1968, 27 Jul 1992 DFO Memo; Ex 2188, 29 Jul 1990 C Masson to J Becker; J Nener, 4 May 2021 at 2:29:45-3:00:00; Ex 2191, 23 Aug 1995 DFO to MIB/TFN; Pahalicktun, 20 Jan 2020 at 3:33:06-3:34:55; 21 Jan 2020 at 11:22:44-11:35:50; J Elliott, 5 Jan 2021 at 2:02:18- 2:04:36, 2:05:39-2:11:43, 2:20:33-2:23:50, 2:30:33-2:40:15; 7 Jan 2021 at 11:58:56- 12:05:00, 12:12:09-12:13:35 re Ex 582, 10 Jul 2002 J Elliott to MIB; 9 Dec 2020 at

12:19:43-12:20:10; Ex 1348, 1997/1998 Chemainus Fisheries Report at ep 4, 7 (p 2, 5); X'tli'li'ye, 2 Dec 2020 at 2:03:49-2:04:10, 2:08:04-2:08:35; 3 Dec 2020 at 10:26:02-10:26:34; E Elliott, 28 Jan 2020 at 10:22:05-10:22:14, 10:24:31-10:25:01; L George, 6 Mar 2020 at 10:57:48-11:00:52, 11:15:18-11:19:58; 7 Feb 2020 at 11:20:44 11:25:12, 1:12:32-1:14:35, 1:21:19-1:26:05; W Sparrow, 2 Mar 2022 at 10:50:01-10:54:46.

<sup>clxii</sup> Ex 1348, 1997/1998 Chemainus Fisheries Report at ep 4, 7 (p 2, 5); L George, 6 Mar 2020 at 11:24:28-11:24:57; 7 Feb 2020 at 11:23:02-11:25:12, 1:41:37-1:42:38, 1:44:10-1:46:12; J Nener, 14 Apr 2021 at 10:58:19-10:59:04; Ex 374, 12 Aug 2004 L George Memo; Sulipt'un, 22 Jan 2020 at 2:37:50-2:39:15, 2:40:13-2:41:03, 2:42:06-2:43:12; 23 Jan 2020 at 10:17:39-10:17:49; J Elliott, 5 Jan 2021 at 2:09:01-2:11:43; Ex 1700, May 2003 CT Report.



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clxiii J Nener, 1 Apr 2021 at 11:36:15-11:38:36; 14 Apr 2021 at 3:51:34-3:53:01, 3:57:43-4:01:06; 5 May 2021 at 10:32:35-10:34:40, 12:28:26-12:29:18; Ex 1907 Part 1 2006 Framework at ep 14; Ex 1910, Part 2B 2006 Framework at ep 4, 6; See also Ex 1942, Att. B-2 to Ex 1941 28 Jul 2006 DFO Memo, crit. 1.5 at ep 6; J Nener, 1 Apr 2021 at 11:56:47-11:57:04; Ex 1911, 2007 DFO Guidelines at ep 2; Ex 2321, 16 Sep 2014 DFO Memo to Minister (less redacted Ex 1946); Ex 1945, 16 Oct 2014 DFO Memo (K Stringer handwritten comments at Ex 2670); 20 Feb 2020 at 10:28:25-10:29:22, re Ex 412, 8 Jul 2011 D Trager to CT at ep 2; L George, 20 Feb 2020 at 10:28:25-10:29:22, re Ex 412, 8 Jul 2011 D Trager to CT at ep 2; 26 Feb 2020 at 2:17:36- 2:18:28, re Ex 500, 2016 Jun 20 Minutes at ep 11.

clxiv J Nener, 4 May 2021 at 3:42:18-3:51:42 re Ex 1969, 25 May 2005 DFO email chain at ep 4.

3:54:55-3:59:34 re Ex 1970, May 2005 DFO Rolling Draft.

clxv L George, 18 Feb 2020 at 11:52:21-11:52:51, 11:55:24-11:55:45 re Ex 382, 20 Jul 2006 R Morales to DFO; R Reid, 17 Sep 2021 at 3:51:09-3:53:15; Ex 384, 1 Aug 2006 R Morales to W Luedke; Ex 385, 2 Aug 2006 Email Chain; J Elliott, 5 Jan 2021 at 2:09:01-2:11:43; L George, 6 Mar 2020 at 1:20:01-1:20:34 re Ex 586, 30 Sep 2006 Cowichan Tribes Report.

clxvi Ex 382, 20 Jul 2006 R Morales to DFO at ep 1; Ex 385, 2 Aug 2006 Email Chain; L George, 18 Feb 2020 at 12:19:20-12:19:57 re Ex 384, 1 Aug 2006 R Morales to W Luedke at ep 2; See also R Reid, 20 Sep 2021 at 10:44:54-10:46:17.

clxvii Ex 2313, 2006 Jul 28 Emails; See also R Reid, 21 Sep 2021 at 11:55:33-11:58:24 & L George, 18 Feb 2020 at 12:26:44-12:28:04 re Ex 385, 2 Aug 2006 Email Chain.

clxviii R Reid, 21 Sep 2021 at 11:59:04-12:04:00; See also J Nener, 1 Apr 2021 at 11:36:15-11:38:33 & 14 Apr 2021 at 3:51:34-3:53:03 re Ex 1910, Part 2B 2006 Framework, crit. 1.2, 3.2 at ep 4, 6.

clxix L George, 18 Feb 2020 at 12:26:44-12:28:04 re Ex 385, 2 Aug 2006 Email Chain (W Luedke was Acting South Coast Area Director at the time: R Reid, 21 Sep 2020 at 11:55:33-12:04:00); 2:13:02-2:14:55 re Ex 386, 9 Aug 2006 Fisheries Meeting; 2:40:21-2:45:47 & 4 Mar 2020 at 2:43:33-2:46:06 re Ex 390, 22 Aug 2006 G Curry to W Paige; 6 Mar 2020 at 1:20:01-1:20:34 re Ex 586, 30 Sep 2006 Cowichan Tribes Report (duplicate Ex 2218 Tab 46); Ex 2266, 16 Aug 2006 P Sprout to MIB/TFN/CT/PT; Ex 2267, 16 Aug 2006 DFO to MIB/TFN/CT/PT; Ex 2307, 24 Aug 2006 DFO Memo; R Reid, 21 Sep 2021 at 12:07:16-12:12:45, 12:13:44-12:15:55; Ex 2218, K Conley Affidavit 2 at ep 416; Ex 2703, 30 Nov 2006 P Sprout to MIB/TFN/PT/CT; W Sparrow, 28 Feb 2022 at 10:51:00-10:51:26.

clxx *Cowichan* at paras. 3370, 3371

clxxi From 2008 through to trial starting in 2019, DFO continued to apply its Adjacency Policy, which largely prevented the Cowichan from accessing their South Arm fishery. DFO required the Cowichan to engage in protocol discussions and negotiate protocol agreements with “local” bands. Protocol was an important criterion in DFO deciding whether it would allow the Cowichan access to the South Arm food fisheries. DFO’s supplemental licensing procedures instructed DFO staff to inquire about protocol prior to providing the Cowichan with South Arm access: J Nener, 1 Apr 2021 at 2:25:18-2:25:38; K Conley, 28 Sep 2021 at 10:10:04-10:10:18; The Supplemental License Issuance Procedures are issued annually: Ex 2195, 2009 Procedures at ep 1; DFO followed the 2009 procedures in 2010: Ex 2198, 23 Jul 2010 Email at ep 2 attaching Ex 2195; J Nener, 5 May 2021 at 10:48:42-10:52:35 & K Conley, 23 Sep 2021 at 3:42:13-3:44:24 re Ex 1973, 2011 Procedures at ep 2, 4, 9; J Nener, 1 Apr 2021 at 2:17:57-2:18:32 & 2:21:33-2:21:57 re Ex 1915, 2012 Procedures at ep 2, 7; Ex 2213, 2013 Procedures at ep 1-2, 7; Ex 2229, 2014 Procedures at ep 1-2, 8; Ex 2242, 2015 Procedures at ep 2, 9; Ex 2250, 2016 Procedures at ep 2, 8-9; Ex 2254, 2017 Procedures at ep 2, 8-9; B Matts, 9 Jul 2021 at 2:23:07-2:24:09 re Ex 1916, 2018 Procedures at ep 2, 8-9. DFO’s licensing request form asked “extraterritorial” bands to indicate whether they had protocol with “local” bands: See e.g. K Spencer, 13 Sep 2021 at 12:07:07-12:07:50 re Ex 2289, 2015 request form; See annual supplemental license issuance procedures, cited above. Ex

2333, 10 Jul 2012 K Conley to FNs; J Nener, 1 Apr 2021 at 2:34:59-2:35:51; 16 Apr 2021 at 10:11:25-10:13:46; Ex 2259, 28 Jun 2018 K Spencer to CT/STZ/PT at ep 7, 12-13. DFO repeatedly told the Cowichan they needed to engage in protocol discussions with “local” bands to get South Arm access: J Nener, 1 Apr 2021 at 12:10:20-12:11:09; J Elliott, 9 Dec 2020 at 12:19:43-12:21:46, 2:25:17-2:27:22; 10 Dec 2020 at 3:56:13-3:57:42; 5 Jan 2021 at 2:02:18-2:04:36, 2:05:40- 2:11:43; 6 Jan 2021 at 3:42:26-3:47:33; L George, 6 Feb 2020 at 3:00:50-3:01:14, 3:45:59- 3:48:42; 20 Feb 2020 at 10:49:58-10:50:18; 25 Feb 2020 at 2:16:24-2:18:13; 26 Feb 2020 at 2:08:27-2:09:49; X’tli’li’ye, 2 Dec 2020 at 2:03:49-2:04:10; 3 Dec 2020 at 10:25:42-10:26:27. **2008:** L George, 18 Feb 2020 at 3:47:44-3:49:16 (p 356) re Ex 394, 7 Jul 2008 J Joe to HTG. **2009:** X’tli’li’ye, 2 Dec 2020 at 2:13:47-2:14:32. **2010:** X’tli’li’ye, 2 Dec 2020 at 2:27:06-2:27:21; L

George, 19 Feb 2020 at 11:54:06-11:55:23; Ex 1689, 3 Aug 2010 T Bonnet to R Brahniuk. **2011:** X’tli’li’ye, 2 Dec 2020 at 2:29:00-2:29:08; L George, 19 Feb 2020 at 12:09:12-12:13:11, 12:16:30-12:17:38 re Ex 404, 29 Apr 2011 meeting notes at ep 5; K Conley, 23 Sep 2021 at 3:29:51-3:33:37 re Ex 2331, 29 Apr 2011 meeting notes at ep 7; K Conley, 23 Sep 2021 at 3:38:10-3:39:51 re Ex 2332, 29 Apr 2011 meeting notes at ep 3; Ex 2273, 9 Jul 2011

TFN/DFO email chain; L George, 20 Feb 2020 at 11:43:02-11:44:53 & K Conley, 28 Sep 2021 at 10:25:04-

10:29:56 re Ex 417, 29 Jul 2011 meeting notes at ep 1; L George, 20 Feb 2020 at 11:58:30- 11:59:52 (p 449) & K Conley, 24 Sep 2021 at 10:03:11-10:04:49 re Ex 418, 29 Jul 2011 K Conley to L George at ep 14 (part duplicate Ex

1118); K Thomas, 2 Oct 2020 at 10:18:01-10:19:37 & K Conley, 28 Sep 2021 at 10:12:12-10:16:28, 10:17:24-10:18:48, 10:21:55-10:23:14 re Ex 1086, 9 Aug 2011 PT/DFO email chain; J Nener, 5 May 2021 at 11:27:25 11:29:44 re Ex 1671, 11 Aug 2011 M Baird to D Sneddon; Ex 1120, 15 Aug 2011 J Quigley to L James at ep 2

(part duplicates Ex 1672, 1122, 1673, 1123); K Conley, 24 Sep 2021 at 10:08:43-10:09:23 & 28 Sep 2021 at

10:34:47-10:38:42 re Ex 1974, 16 Aug 2011 K Conley to CT (part duplicate Ex 1121); K Conley, 28 Sep 2021 at 10:40:19-10:43:58 re Ex 1708, 19 Aug 2011 K Conley to STZ at ep 1; L George, 21 Feb 2020 at 10:03:36-10:09:40.

clxxii J Nener, 1 Apr 2021 at 11:38:39-11:40:29; May 2021 at 12:16:21-12:18:55, 12:28:26-12:29:34, 2:10:19-2:12:12

clxxiii J Nener, 1 Apr 2021 at 12:29:15-12:31:56 re Ex 490, 26 Jun 2015 DFO to Participants at ep 2; Ex 1910, Part 2B 2006 Framework; Ex 517, 22 May 2018 DFO to CNA; Ex 523, 1 Aug 2018 DFO to CNA; Ex 2309, 1 Aug 2018 R Reid to TFN/MIB.

clxxiv The Cowichan use the term “Indian” throughout this section to refer to those persons subject to the *Indian Act*.

clxxv *The Indian Act, 1876*, S.C. 1876, c. 18; Ex 1476, 2 Mar 1876 House of Commons debate re *Indian Act* at ep 4.

clxxvi Report of the Royal Commission on Aboriginal Peoples: Looking Forward, Looking Back, vol. 1 (Ottawa: Supply and Services Canada, 1996) at ep 173 (p 169).

clxxvii *The Indian Act, 1880*, S.C. 1880, c. 28; *The Indian Advancement Act, 1884*, S.C. 1884, c. 28.

clxxviii Report of the Royal Commission on Aboriginal Peoples: Looking Forward, Looking Back, vol. 1 (Ottawa: Supply and Services Canada, 1996) at ep 170 (p 166).

clxxix Ex 114, Kennedy Report at ep 363 (p 349).

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clxxx Ex 828, 14 Mar 1859 J Douglas Despatch 114 to EB Lytton.

clxxxi The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: The History, Part 1 Origins to 1939, vol. 1 (Montreal: McGill-Queen's University Press, 2015) at ep 18, 152, 153, 698 (p 3, 127, 128, 637); F. Laurie Barron, "The Indian Pass System in the Canadian West, 1882-1935" (1988) 13:1 Prairie Forum 25 at 34-35.

clxxxii *An Act to Amend the Indian Act* (1927), 17 Geo V c 32, s. 6; *Indian Act*, R.S.C. 1927, c. 98, s. 141.

clxxxiii *The Indian Act*, S.C. 1951, c. 29, s. 123(2).

clxxxiv Ex 644, 1 Dec 1930 Chief Modeste, Chief George, and J Elliott to Nishgas Chief; Ex 319, 2 Feb 1931 AS Williams to W Ditchburn; Ex 320, 24 Feb 1931 W Ditchburn to HM Newson; Ex 321, 6 Mar 1931 W Ditchburn to R Bainbridge.

clxxxv Ex 1478, 1883 House of Commons debate re 1883 budget (excerpt) at ep 6-8.

clxxxvi Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada (Winnipeg: Truth and Reconciliation Commission of Canada, 2015) at ep 6 (p v).

clxxxvii Ex 1033, 11 Jun 2008 Canada (Harper) statement of apology to residential school survivors at ep 1; The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: The Legacy, vol. 5 (Montreal: McGill-Queen's University Press, 2015) at ep 20 (p 13).

clxxxviii Ex 1033, 11 Jun 2008 Canada (Harper) statement of apology to residential school survivors.

clxxxix *An Act to further amend the Indian Act*, S.C. 1894, c. 32, s. 11; *Indian Act*, R.S.C. 1906, c. 81, s. 11; The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: The History, Part 1 Origins to 1939, vol. 1 (Montreal: McGill-Queen's University Press, 2015) at ep 232, 285-287 (p 201, 254-256).

exc The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: The History, Part 1 Origins to 1939, vol. 1 (Montreal: McGill-Queen's University Press, 2015). at ep 285-286 (p 254-255); P.C. 1894-3327, (1894) C. Gaz., 985 (*Compulsory Education of Indian Children*), s. 1, ep 3.

exci *An Act to amend the Indian Act*, S.C. 1920, c. 50, s. 1.

excii The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: The History, Part 1 Origins to 1939, vol. 1 (Montreal: McGill-Queen's University Press, 2015). at ep 286 (p 255)

exciii Ex 1627, 1890 Department of Indian Affairs Report at ep 9 (p 105).

exciv E Elliott, 24 Jan 2020 at 9:45:39-9:46:19; 27 Jan 2020 at 10:22:49-10:23:28; F James, 16 Sep 2019 at 12:14:15-12:14:41; Pahalikktun, 20 Jan 2020 at 11:59:50-11:59:56, 12:08:27-12:08:34, 1:52:33-1:52:52; W Seymour, 10 Mar 2020 at 2:23:35-2:23:48, 2:51:55-2:53:43, 3:29:02-3:29:30; L George, 5 Feb 2020 at 10:56:17-10:58:19, 12:02:38-12:03:00, 12:18:20-12:20:38; K Thomas, 29 Sep 2020 at 10:48:54-10:49:08, 10:53:54-10:54:03.

exciv E Elliott, 24 Jan 2020 at 9:45:39-9:46:25.

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<sup>cxcvi</sup> Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada (Winnipeg: Truth and Reconciliation Commission of Canada, 2015) at appendix 2.1 and 2.2.

<sup>cxcvii</sup> Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada (Winnipeg: Truth and Reconciliation Commission of Canada, 2015) at ep 140 (p 133).

<sup>cxcviii</sup> Ex 741, Brealey Report #2 at fn 24, ep 13 (p 7); See e.g. Ex 1166, 28 Jun 1991 BC Claims Task Force Report at ep 6; Report of the Royal Commission on Aboriginal Peoples: Looking Forward, Looking Back, vol. 1 (Ottawa: Supply and Services Canada, 1996) at ep 136 (p 132).

<sup>cxcix</sup> Report of the Royal Commission on Aboriginal Peoples: Looking Forward, Looking Back, vol. 1 (Ottawa: Supply and Services Canada, 1996) at ep 136 (p 132), adopted by the Supreme Court of Canada in *R. v. Desautel*, 2021 SCC 17 at para. 33.

<sup>cc</sup> See e.g. W Seymour, 22 Sep 2020 at 10:16:05-10:19:55; K Thomas, 29 Sep 2020 at 3:01:04-3:01:33; F James, 17 Sep 2019 at 12:20:25-12:21:34; See also F James, 18 Sep 2019 at 11:55:19-11:59:50.

<sup>cci</sup> F James, 17 Sep 2019 at 12:24:27-12:25:10; See also Sulipt'un, 21 Jan 2020 at 2:08:47-2:09:49.

<sup>ccii</sup> X'tli'li'ye, 2 Dec 2020 at 11:11:40-11:12:11.

<sup>cciii</sup> E Elliott, 23 Jan 2020 at 3:51:18-3:51:35.

<sup>cciv</sup> X'tli'li'ye, 2 Dec 2020 at 11:08:36-11:10:23.

<sup>ccv</sup> X'tli'li'ye, 2 Dec 2020 at 11:10:31-11:11:27.

<sup>ccvi</sup> Candace Charlie, *Stl'ulnup: A Cowichan Nation Use and Occupancy Study for Tilbury Island*, September 9, 2019. Copy on file at Woodward and Company Lawyers LLP at pp 27-28.

<sup>ccvii</sup> F James, 18 Sep 2019 at 2:34:47-2:36:55.

<sup>ccviii</sup> X'tli'li'ye, 2 Dec 2020 at 10:42:07-10:43:07, 10:43:37-10:44:44.

<sup>ccix</sup> E Elliott, 23 Jan 2020 at 2:38:04-2:39:55; W Seymour, 10 Mar 2020 at 2:49:40-2:51:50; Sulipt'un, 22 Jan 2020 at 2:29:16-2:31:56.

<sup>ccx</sup> E Elliott, 23 Jan 2020 at 2:38:04-2:39:55.

<sup>ccxi</sup> W Seymour, 10 Mar 2020 at 2:50:09-2:51:31.

<sup>ccxii</sup> W Seymour, 10 Mar 2020 at 2:56:07-2:56:51; See also L George, 5 Feb 2020 at 12:23:10-12:25:00; K Thomas, 30 Sep 2020 at 2:16:19-2:17:53.

<sup>ccxiii</sup> W Seymour, 11 Mar 2020 at 2:34:04-2:35:04

<sup>ccxiv</sup> E Elliott, 23 Jan 2020 at 2:30:46-2:31:32; 24 Jan 2020 at 9:45:39-9:46:19; 27 Jan 2020 at 10:22:49-10:23:28; F James, 16 Sep 2019 at 12:14:15-12:14:18; Pahalicktun, 20 Jan 2020 at 11:59:50-11:59:56, 12:08:27-12:08:34, 1:52:33-1:52:52; W Seymour, 10 Mar 2020 at 2:23:35-2:23:48, 2:51:55-2:53:25, 3:29:02-3:29:30; L George, 5 Feb 2020 at 10:56:17- 10:58:19, 11:05:21-11:06:49, 12:02:38-12:03:00, 12:18:20-12:20:38; K Thomas, 29 Sep 2020 at 10:39:07-10:41:40, 10:48:54-10:49:16.

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ccxv Ex 1033, 11 Jun 2008 Canada (Harper) statement of apology to residential school survivors at ep 1; W Seymour, 21 Sep 2020 at 12:13:25-12:32:02; J Elliott, 16 Dec 2020 at 11:50:21-12:13:24.

ccxvi J Elliott, 16 Dec 2020 at 11:53:38-11:53:41. See also E Elliott, 24 Jan 2020 at 9:42:21-9:43:47.

ccxvii Pahalicktun, 20 Jan 2020 at 1:54:29-1:55:30. See also L George, 5 Feb 2020 at 10:56:17-10:58:19, 12:03:30-12:05:59.

ccxviii Sulipt'un, 21 Jan 2020 at 3:22:04-3:22:25

ccxix J Elliott, 16 Dec 2020 at 11:56:34-11:58:59; See also Sulipt'un, 21 Jan 2020 at 2:43:38-2:45:59; 22 Jan 2020 at 10:10:50-10:12:23

ccxx A place in Lhumlhumuluts' (Clemclemaluts) where fishermen used to beach their boats and store their fish; Located near where the Cowichan and the Koksilah rivers meet, across the Cowichan River from the bighouse in Lhumlhumuluts': Sulipt'un, 22 Jan 2020 at 10:12:00-10:12:26; 23 Jan 2020 at 10:13:58-10:15:14.

ccxxi Sulipt'un, 21 Jan 2020 at 2:11:37-2:12:04, 2:43:26-2:45:52; 22 Jan 2020 at 10:11:11-10:11:26.

ccxxii E Elliott, 24 Jan 2020 at 9:37:36-9:41:18

ccxxiii X'tli'li'ye, 2 Dec 2020 at 11:05:41-11:07:13.

ccxxiv Sulipt'un, 21 Jan 2020 at 2:10:40-2:15:54, 3:19:07-3:19:17.

ccxxv Sulipt'un, 21 Jan 2020 at 2:12:22-2:12:31, 3:19:07-3:19:38.

ccxxvi W Seymour, 21 Sep 2020 at 12:20:04-12:20:57.

ccxxvii W Seymour, 21 Sep 2020 at 1:52:10-1:54:06.

ccxxviii Sulipt'un, 21 Jan 2020 at 2:15:19-2:15:54. Dr. Kennedy and Mrs. James also referred to the loss of traditional history and knowledge because of residential school, including the resulting fragile state of the Hul'qumi'num language: Ex 114, Kennedy Report at ep 500 (p 486); F James, 18 Sep 2019 at 10:54:18-10:55:17.

ccxxix W Seymour, 10 Mar 2020 at 2:44:15-2:44:58; W Seymour, 21 Sep 2020 at 1:52:01-1:53:21; See also W Seymour, 21 Sep 2020 at 12:09:47-12:11:05.

ccxxx L George, 5 Feb 2020 at 12:05:59-12:15:09; His wife also speaks very little Hul'qumi'num because of going to Kuper Island Industrial School from age 6 to 12: 5 Feb 2020 at 12:02:38-12:05:59.

ccxxxi E Elliott, 23 Jan 2020 at 2:22:44-2:25:15; K Thomas, 29 Sep 2020 at 10:39:07-10:39:51, 2:53:36-2:55:59; 30 Sep 2020 at 12:20:33-12:23:58. According to John Elliott, the loss of language and culture because of residential schools

is one of the biggest challenges for his community: J Elliott, 15 Dec 2020 at 3:43:43-3:45:49; 16 Dec 2020 at

11:18:08-11:20:22, 11:30:59-11:31:18, 11:32:04-11:32:21, 11:34:25-11:36:11, 11:51:16-11:52:17, 11:54:33-11:56:11. It is hard to rebuild cultural practices and share them with your children when you do not know your language. Luschiim testified that Cowichan teachings and language were eroded because people

were sent to residential schools and Indian day schools: Luschiim, 9 Oct 2019 at 21(47)-23(10). Pahalicktun also testified that residential school impacted his ability to learn about ceremonies, traditional medicines, and

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culture: Pahalicktun, 20 Jan 2020 at 2:27:30-2:29:54, 2:34:36-2:40:18; See also W Seymour, 10 Mar 2020 at 3:30:20-3:33:26.

ccxxxii See e.g. W Seymour, 21 Sep 2020 at 12:14:57-12:16:50.

ccxxxiii E Elliott, 23 Jan 2020 at 2:22:44-2:23:32; Pahalicktun, 20 Jan 2020 at 12:03:27-12:04:03; W

Seymour, 10 Mar 2020 at 2:23:11-2:24:04, 3:29:40-3:30:17; J Elliott, 16 Dec 2020 at 11:59:49- 12:01:09, 12:03:42-12:08:01; X'tli'li'ye, 2 Dec 2020 at 10:34:11-10:35:15; K Thomas, 29 Sep 2020 at 10:39:07-10:41:40; 30 Sep 2020 at 12:20:33-12:23:58. Even when parents taught their children Hul'qumi'num, they did so in secret because of

their experiences at residential school. For example, X'tli'li'ye's mother spoke Hul'qumi'num at

home, but when they left the house, they only spoke English: X'tli'li'ye, 2 Dec 2020 at 10:34:11-10:35:15.

ccxxxiv Pahalicktun, 20 Jan 2020 at 2:34:36-2:35:27. See also W Seymour, 11 Mar 2020 at 3:53:29-3:53:44.

ccxxxv J Elliott, 16 Dec 2020 at 11:36:13-11:38:19, 11:39:33-11:40:00.

ccxxxvi Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada (Winnipeg: Truth and Reconciliation Commission of Canada, 2015) at ep 86, 102 (p 79, 95); The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: Missing Children and Unmarked Burials, vol. 4 (Montreal: McGill-Queen's University Press, 2015) at ep 85 (p 78).

ccxxxvii Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada (Winnipeg: Truth and Reconciliation Commission of Canada, 2015) at ep 102 (p 95); L George, 5 Feb 2020 at 11:05:21-11:06:49.

ccxxxviii The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: Missing Children and Unmarked Burials, vol. 4 (Montreal: McGill-Queen's University Press, 2015) at ep 61-62 (p 54-55).

ccxxxix The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: The History, Part 1 Origins to 1939, vol. 1 (Montreal: McGill-Queen's University Press, 2015) at ep 459-460 (p 416-417)

ccxl The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: Missing Children and Unmarked Burials, vol. 4 (Montreal: McGill-Queen's University Press, 2015) at ep 77 (p 70).

ccxli E Elliott, 23 Jan 2020 at 2:27:37-2:28:55.

ccxlii Ex 1033, 11 Jun 2008 Canada (Harper) statement of apology to residential school survivors at ep 1.

ccxliii F James, 18 Sep 2019 at 10:54:26-10:55:38.

ccxliv Sulipt'un, 21 Jan 2020 at 2:26:27-2:27:23, 3:33:17-3:33:58.

ccxlv The Survivors Speak: A Report of the Truth and Reconciliation Commission of Canada (Winnipeg: Truth and Reconciliation Commission of Canada, 2015) at ep 132 (p 117)

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<sup>ccxlvi</sup> Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada (Winnipeg: Truth and Reconciliation Commission of Canada, 2015) at ep 111-112 (p 104-105).

<sup>ccxlvii</sup> There are records of various forms of punishment being administered to students at the Kuper Island Industrial

School: Truth and Reconciliation Commission of Canada, What we Have Learned: Principles of Truth and Reconciliation (Winnipeg: Truth and Reconciliation Commission of Canada, 2015) at ep 77 (p 72).

<sup>ccxlvi</sup> W Seymour, 10 Mar 2020 at 2:57:58-3:01:27. Mr. George's wife also told him about some of her experiences with physical, sexual, and emotional abuse at Kuper Island Industrial School: 5 Feb 2020 at 12:02:38-12:05:40.

<sup>ccxlix</sup> W Seymour, 10 Mar 2020 at 2:54:00-2:55:50.

<sup>cccl</sup> Pahalicktun, 20 Jan 2020 at 1:58:48-2:06:21.

<sup>cccli</sup> The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: The Legacy, vol. 5 (Montreal: McGill-Queen's University Press, 2015) at ep 70 (p 63).

<sup>cclii</sup> W Seymour, 10 Mar 2020 at 2:24:11-2:24:53.

<sup>ccliii</sup> X'tli'li'ye, 2 Dec 2020 at 11:04:39-11:07:24.

<sup>ccliv</sup> F James, 16 Sep 2019 at 3:45:42-3:46:17.

<sup>cclv</sup> Pahalicktun, 20 Jan 2020 at 2:45:03-2:45:30.

<sup>cclvi</sup> X'tli'li'ye, 2 Dec 2020 at 2:37:27-2:38:36, 3:22:31-3:24:29; J Elliott, 14 Dec 2020 at 10:24:40-10:28:36; 15 Dec 2020 at 10:11:12-10:14:55, 2:42:42-2:47:10, 2:51:43-3:02:03; 3:25:12-3:29:37, 3:40:31-3:42:23, 3:43:43-3:45:49; Pahalicktun, 20 Jan 2020 at 11:19:36-11:20:47; K Thomas, 29 Sep 2020 at 12:07:07-12:27:20, 2:51:14-2:58:04; 30 Sep 2020 at 12:20:33-12:28:04; Ex 1079, 2019 Penelakut Tribe education (INAC website); Ex 1080, 2019 Penelakut Tribe income (INAC website); Ex 1081, 2019 Penelakut Tribe workforce (INAC website); Ex 1082, 2019 Penelakut Tribe households (INAC website); W Seymour, 11 Mar 2020 at 2:34:04-3:48:33, 3:50:52-4:04:22; Ex 598, 2019 Cowichan Tribes education (INAC website); Ex 599, 2019 Cowichan Tribes income (INAC website); Ex 600, 2019 Cowichan Tribes workforce (INAC website); Ex 601, 2019 Cowichan Tribes households (INAC website); Ex 1033, 11 Jun 2008 Canada (Harper) statement of apology to residential school survivors; E Elliott, 23 Jan 2020 at 2:41:35-2:42:02, 3:16:11-3:21:07, 3:30:09-3:36:15, 3:42:34-3:51:35, 3:53:21-3:54:37, 3:58:44-3:59:41; 24 Jan 2020 at 9:27:19-9:30:13, 9:31:10-9:33:54, 9:34:21-9:43:47, 10:26:16-10:28:45; Sulipt'un, 21 Jan 2020 at 3:41:55-3:42:38; 22 Jan 2020 at 2:29:45-2:31:12; Ex 1216, 2019 Halalt reserves (INAC website); Ex 1218, 2019 Halalt population (INAC website); Ex 1219, 2019 Halalt workforce (INAC website); Ex 1220, 2019 Halalt education (INAC website); Ex 1221, 2019 Halalt households (INAC website); Ex 1224, 2019 Stz'uminus reserves (INAC website); Ex 1227, 2019 Stz'uminus income (INAC website); Ex 1228, 2019 Stz'uminus workforce (INAC website); Ex 1229, 2019 Stz'uminus education (INAC website).

<sup>cclvii</sup> The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: The Legacy, vol. 5 (Montreal: McGill-Queen's University Press, 2015) at ep 68-69 (p 61-62); Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada (Winnipeg: Truth and Reconciliation Commission of Canada, 2015) at ep 181 (p 174).

<sup>cclviii</sup> J Elliott, 16 Dec 2020 at 12:09:58-12:10:26.

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cclix E Elliott, 24 Jan 2020 at 9:41:28-9:42:16.

cclx W Seymour, 11 Mar 2020 at 3:50:52-3:52:19, 3:59:17-4:00:18.

cclxi E Elliott, 24 Jan 2020 at 9:35:33-9:39:39; W Seymour, 10 Mar 2020 at 2:57:58-3:01:27; Sulipt'un, 21 Jan 2020 at 2:13:35-2:14:16; K Thomas, 30 Sep 2020 at 12:20:33-12:26:03.

cclxii Ex 1074, 1969 Canada (J Cretien, INAC Minister) statement on Indian Policy at ep 2.

cclxiii E Elliott, 24 Jan 2020 at 10:27:05-10:27:40.

cclxiv E Elliott, 23 Jan 2020 at 3:16:11-3:17:20.

cclxv E Elliott, 23 Jan 2020 at 3:17:23-3:18:04; W Seymour, 11 Mar 2020 at 3:29:03-3:48:33; Ex 601, 2019 Cowichan Tribes households (INAC website).

cclxvi W Seymour, 11 Mar 2020 at 2:48:16-2:50:42; J Elliott, 14 Dec 2020 at 10:24:40-10:28:36; 15 Dec 2020 at 10:11:53-10:12:31, 2:51:43-2:54:36, 3:28:22-3:29:37

cclxvii The Final Report of the Truth and Reconciliation Commission of Canada: Canada's Residential Schools: The Legacy, vol. 5 (Montreal: McGill-Queen's University Press, 2015) at ep 68-69 (p 61-62).

cclxviii Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada (Winnipeg: Truth and Reconciliation Commission of Canada, 2015) at ep 153; K Thomas, 29 Sep 2020 at 12:16:21-12:16:41, 2:52:00-2:53:26; Ex 1080, 2019 Penelakut Tribe income (INAC website); Ex 599, 2019 Cowichan Tribes income (INAC website); Ex 1227, 2019 Stz'uminus income (INAC website).

cclxix W Seymour, 11 Mar 2020 at 2:51:01-2:59:24; Ex 599, 2019 Cowichan Tribes income (INAC website); Ex 600, 2019 Cowichan Tribes workforce (INAC website); See also E Elliott, 23 Jan 2020 at 2:41:35-2:42:02; K Thomas, 29 Sep 2020 at 12:18:56-12:19:19; Ex 1080, 2019 Penelakut Tribe income (INAC website); Ex 1081, 2019 Penelakut Tribe workforce (INAC website); Ex 1219, 2019 Halalt workforce (INAC website); Ex 1228, 2019 Stz'uminus workforce (INAC website).

cclxx J Elliott, 15 Dec 2020 at 3:43:43-3:45:49; K Thomas, 29 Sep 2020 at 12:07:07-12:11:58, 12:21:17-12:27:20, 2:52:00-2:58:57; 30 Sep 2020 at 12:20:33-12:28:04; Ex 1079, 2019 Penelakut Tribe education (INAC website); Ex 1080, 2019 Penelakut Tribe income (INAC website); Ex 1081, 2019 Penelakut Tribe workforce (INAC website); Ex 1082, 2019 Penelakut Tribe households (INAC website); Sulipt'un, 21 Jan 2020 at 3:41:55-3:42:38; 22 Jan 2020 at

2:29:45-2:31:12; E Elliott, 23 Jan 2020 at 3:42:34-3:43:53; Ex 1219, 2019 Halalt workforce (INAC website); Ex 1220, 2019 Halalt education (INAC website); Ex 1221, 2019 Halalt households (INAC website); Ex 1227, 2019 Stz'uminus income (INAC website); Ex 1228, 2019 Stz'uminus workforce (INAC website); Ex 1229, 2019 Stz'uminus education (INAC website).

cclxxi Ex 114, Kennedy Report at ep 212-213, 319-320, 335, 367, 486-495 (p 198-199, 305-306, 321, 353, 472-481); D Kennedy, 6 Dec 2019 at 10:50:50-10:53:21, 11:04:13-11:15:10. Ex 114, Kennedy Report at ep 197, 199-201 (p 183, 185-187), ep 213 (p 199): In 1901, Reverend C.M. Tate who resided among the Cowichan at the time, found that the villages on Vancouver Island were nearly deserted during the Fraser sockeye runs. On 4th August 1901, Tate wrote in his diary: "Preached at Quamichan, Keenipsim, Comiakem, Clemclemilits & Somenos. Most of the people gone to the Fraser...."; Ex 273, 3 Aug 1901 CM Tate diary at ep 2; Ex 274, 25 Oct 1881 WH Lomas to IW Powell at ep 6, 17 (p xiv, 155). See also Ex 652, Brealey Report at ep 190 (p 185). Dr.



Brealey concluded the Cowichan continued to fish salmon on the lower Fraser River at the Lands of Tl'uq̓tinus through Confederation until the turn of the 20th century: Ex 652, Brealey Report at ep 47, 62-63, 189-193 (p 42, 57-58, 184-188). Dr. Lovisek opined that the Cowichan's practice of fishing the South Arm for food continued annually from before European contact until at least the 1850s and that there is anthropological information indicating the Cowichan were fishing on the South Arm circa 1870: J Lovisek, 9 Jun 2021 at 10:38:11-10:41:39; 21 Jun 2021 at 11:59:12-12:09:06, 12:29:01-

12:29:25 23 Jun 2021 at 10:09:37-10:11:50, 3:05:02-3:05:24; Ex 2027, Lovisek Fish Report at ep 18-19, 25-26, 29, 36-37, 51, 58 (p 16-17, 23-24, 27, 34-35, 49, 56); Ex 2026, Lovisek Land Report at ep 48, 112-113. Dr. Lovisek agreed that the Cowichan complaint made to Commissioner Sproat in 1877 regarding their ancient fishing ground was in reference to the Cowichan village at the Lands of Tl'uq̓tinus: J Lovisek, 21 June 2021 at 10:40:46-10:46:03, 11:03:02-11:05:12. In Dr. Lovisek's opinion, the Cowichan stopped harvesting sockeye on the South Arm by

about 1915. Her conclusion was based on work by David Rozen discussing the severe impact on the seasonal round caused by the arrival of settlers, and the heavy exploitation of salmon by commercial fisheries, around the 1890s: Ex 2027, Lovisek Fish Report at ep 51, 58 (p 49, 56), citing Ex 980, D Rozen, 1978, Ethnozoology at ep 8, 38, 40, 42 (p viii, 3, 18, 20, 22).

cclxxii *Cowichan* at paras. 3384-3387, 3391

cclxxiii James, 16 Sep 2019 at 11:53:12-11:53:34, 12:11:59-12:12:56, 12:13:03-12:14:09.

cclxxiv F James, 16 Sep 2019 at 2:39:10-2:39:31, 11:53:12-11:53:34.

cclxxv F James, 16 Sep 2019 at 10:34:41-10:36:24, 10:26:54-10:26:55 (Mrs. James was born in 1947).

cclxxvi F James, 18 Sep 2019 at 12:05:45-12:10:13, 2:24:24-2:26:03.

cclxxvii F James, 17 Sep 2019 at 10:51:19-10:52:49.

cclxxviii Luschiim, 30 Sep 2019 at 53(7)-54(46).

cclxxix Luschiim, 9 Oct 2019 at 34(33)-34(44) (p 416); Luschiim, (read-in) 8 Jun 2022 2:36:13-2:36:58

cclxxx Sulipt'un, 21 Jan 2020 at 2:46:00-2:46:23, 2:47:20-2:47:34, 3:41:40-3:42:38, 3:45:35-3:46:55; 22 Jan 2020 at 10:12:26-10:13:18, 10:16:06-10:16:24, 10:18:09-10:18:20, 10:32:43-10:32:52, 10:57:58-11:00:54.

cclxxxi Ex 1614, 10 Sep 2009 Qwestenuxun (E Modeste) Affidavit at at para. 10; X'tli'li'ye, 2 Dec 2020 at 10:33:07-10:33:39, 10:38:44-10:41:47; K Thomas, 1 Oct 2020 10:05:58-10:09:58.

cclxxxii X'tli'li'ye, 2 Dec 2020 at 10:35:52-10:36:01, 10:37:36-10:38:55, 12:20:09-12:20:45; 3 Dec 2020 at 10:16:22-10:16:38.

cclxxxiii X'tli'li'ye, 3 Dec 2020 10:11:00-10:13:28.

cclxxxiv J Elliott 14 Dec 2020 at 11:34:20-11:37:40; 11:41:08-11:42:24.

cclxxxv F James 17 Sep 2019 at 2:37:28-2:38:54.

cclxxxvi J Elliott, 14 Dec 2020 at 10:40:24-10:40:45; J Elliott, 16 Dec 2020 at 11:12:37-11:12:48.

cclxxxvii J Elliott, 14 Dec 2020 at 11:34:20-11:38:51

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celxxxviii Elliott, 14 Dec 2020 at 10:52:13-10:53:58; 15 Dec 2020 at 10:03:50-10:06:55, 10:08:08-10:08:25, 10:12:31-10:17:53; K Thomas, 30 Sep 2020 at 3:39:04-3:41:18; 1 Oct 2020 at 10:45:26-10:47:33, 10:49:46-10:50:59; L George, 5 Feb 2020 at 2:30:35-2:31:34, 2:38:18-2:39:09.

celxxxix L George, 5 Feb 2020 at 2:24:47-2:26:52, 2:33:37-2:34:56.

ccxc K Thomas, 29 Sept 2020 at 03:06:57-03:07:24, re Ex 1042, 8 Jan 2016 Declaration for Reconciliation; J Elliott, 14 Dec 2020 at 03:32:04-03:32:28; K Thomas, 30 Sept 2020 at 3:58:17-3:59:10; 19 Oct 2020 at 12:12:55-12:13:48; E Elliott, 23 Jan 2020 at 2:34:12-2:35:12; L George, 5 Feb 2020 at 2:23:17-2:24:42, 2:27:06-2:29:14; K Thomas, 1 Oct 2020 at 10:49:03-10:49:45; J Elliott, 15 Dec 2020 at 10:03:50-10:05:54. Both John Elliott and Councillor Thomas fish, including at the Fraser River, to feed their families, Elders and communities: K Thomas, 30 Sep 2020 at 3:45:16-3:48:15; 3:54:39-3:55:19; J Elliott, 14 Dec 2020 at 11:30:00-11:34:19, 11:47:07-11:49:55, 2:11:32-2:13:38

ccxci J Elliott, 14 Dec 2020 at 10:42:53-10:44:24.

ccxcii L George, 6 Feb 2020 10:15:20-10:17:47; Sulipt'un, 22 Jan 2020 at 2:27:11-2:29:12.

ccxciii L George, 5 Feb 2020 at 2:27:38-2:29:14, 2:35:01-2:37:25.

ccxciv L George, 5 Feb 2020 at 2:35:01-2:37:25.

ccxcv L George, 5 Feb 2020 at 2:29:22-2:30:22; K Thomas, 1 Oct 2020 at 10:47:37-10:49:45; J Elliott, 15 Dec 2020 at 10:05:59-10:08:25.

ccxcvi E Elliott, 23 Jan 2020 at 2:34:12-2:35:12; L George, 5 Feb 2020 at 2:23:17-2:24:42, 2:27:06- 2:29:14 (p 162); K Thomas, 1 Oct 2020 at 10:49:03-10:49:45; J Elliott, 15 Dec 2020 at 10:03:50-10:05:54.

ccxcvii Members make a request to their band to get salmon and other traditional foods: L George, 5 Feb 2020 at 2:30:26-2:31:00; J Elliott, 14 Dec 2020 at 12:27:43-12:27:58. Both X'tli'li'ye and John Elliott said their top priority as chief was getting food fish to their communities: X'tli'li'ye, 2 Dec 2020 at 2:01:46-2:02:31; 4 Dec 2020 at 12:12:39-12:12:58; J Elliott, 5 Jan 2021 at 2:01:42-2:02:13. Most band members sign up to receive food fish caught through these coordinated fisheries: L George, 6 Feb 2020 at 11:36:56-11:41:03; K Thomas, 30 Sep 2020 at 3:36:27-3:38:20, 3:53:24-3:54:33, 3:57:27-3:58:17; 1 Oct 2020 at 10:37:15-10:38:26; J Elliott, 11 Dec 2020 at 2:28:46-2:29:28; 15 Dec 2020 at 10:17:54-10:19:06. Stz'uminus will even store fish for members who cannot store it themselves: J Elliott, 14 Dec 2020 at 3:35:48-3:37:11. If the bands do not have salmon to give to members, members must buy it: Sulipt'un, 22 Jan 2020 at 11:05:45-11:06:23, 2:23:17-2:24:13, 2:28:22-2:28:35.

ccxcviii F James, 18 Sep 2019 at 2:34:47-2:35:40, 2:36:58-2:37:03, 2:38:04-2:41:09.

ccxcix X'tli'li'ye, 2 Dec 2020 at 2:30:34-2:35:17.

ccc K Thomas, 30 Sep 2020 at 12:08:29-12:10:45, 2:50:31-2:51:38.

ccci J Elliott, 10 Dec 2020 at 2:51:19-2:52:12; J Elliott, 11 Dec 2020 at 10:18:36-10:20:35, 3:02:29- 3:03:26, 3:29:05-3:31:13.

cccii K Thomas, 30 Sep 2020 at 3:39:04-3:41:18; 3:42:54-3:45:16; See also 29 Sep 2020 at 12:07:13-12:07:27; 30 Sept 2020 at 03:37:13-03:37:22.

ccciiii K Thomas, 30 Sep 2020 at 3:41:59-3:42:46; 1 Oct 2020 at 10:42:59-10:43:47.

ccciv Luschiim, 3 Oct 2019 at 51(41)-52(15), 53(22)-54(13).

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<sup>cccv</sup> John Elliott, 5 Jan 2021 at 10:28:08-10:30:59; See also W Seymour, 21 Sep 2020 at 1:55:41-1:57:29.

<sup>cccv</sup> Luschiim, 3 Oct 2019 at 53(22)-54(13).

<sup>cccvii</sup> Ex 498, 3 Mar 2016 CNA to DFO at ep 2; L George, 26 Feb 2020 at 12:08:10-12:12:33; See also J Elliott, 16 Dec 2020 at 10:02:46-10:05:23.

<sup>cccviii</sup> William Seymour, 22 Sep 2020 at 12:25:04-12:26:00

<sup>cccix</sup> Ex 1042, 8 Jan 2016 CNA Declaration for Reconciliation.

### 16.7.2 The EAO's Views

#### Quw'utsun Nation's Assessment

Participating Indigenous nations have the opportunity under section 19(4) of the *Environmental Assessment Act* (2018) to carry out an assessment with respect to the potential effects of the project on the nation and on its rights. Quw'utsun Nation completed an effects assessment under section 19(4), as agreed upon in the Assessment Plan of the Process Order.

The EAO acknowledges and respects that Quw'utsun Nation's section 19(4) assessment (Indigenous-Led Assessment) has been undertaken using its own laws, knowledge systems, and decision-making frameworks, and that the assessment reflects Quw'utsun Nation's perspectives on the nature and severity of potential effects on its Aboriginal rights.

The EAO recognizes that there are areas of both similarity and difference between Quw'utsun Nation's assessment and EAO's conclusions. These may reflect differences in assessment approaches, as well as differing views regarding the sufficiency of information, characterization of effects, adequacy of mitigation and accommodation measures, and conclusions. The characterization of residual effects and determination of significance presented in Quw'utsun Nation's Indigenous-Led Assessment are those reached by Quw'utsun Nation through its own assessment framework.

Quw'utsun Nation's Indigenous-Led Assessment was considered by EAO alongside the broader assessment record, including information and comments received from Quw'utsun Nation throughout the environmental assessment process. Collectively, this information informed EAO's understanding of potential Project effects and the implications of those effects for Quw'utsun Nation's rights, title, interests, and community. Quw'utsun Nation's Indigenous-Led Assessment also informed EAO's understanding of the effects identified by Quw'utsun Nation, including concerns related to rights, title, restoration objectives, harvesting, cultural continuity, governance responsibilities, mitigation and accommodation measures, and assessment conclusions. Quw'utsun Nation's Indigenous-Led Assessment further informed EAO's consideration of accommodation measures, such as provincial conditions, federal Key Mitigation Measures and regulatory requirements intended to avoid, reduce, manage, or otherwise accommodate the effects identified by Quw'utsun Nation.

#### Quw'utsun Nation's Involvement in the Consultation Process

Quw'utsun Nation's concerns were not considered only at the stage of reviewing the Indigenous-Led Assessment. Rather, Quw'utsun Nation's concerns informed the environmental assessment throughout the process, including the EAO's development of assessment methodologies, information requirements, requests for additional studies, consideration of project effects on Aboriginal rights and title, development of proposed provincial conditions, and EAO's accommodation analysis.

Quw'utsun Nation identified as a participating Indigenous nation for the Project, which provided opportunities to participate in the environmental assessment process, including through development of the Process Order, Application Information Requirements, Assessment Plan, FortisBC Revised Application, EAO's Assessment Report and ongoing engagement with the EAO and FortisBC.

During early stages of the EA, Quw'utsun Nation identified concerns regarding rights, title, restoration objectives, harvesting, cultural continuity, and the future use of Tl'uqtinus. These concerns informed development of the Assessment Plan, selection of valued components, assessment methodologies, and identification of issues requiring further study such as air quality.

Quw'utsun Nation's Indigenous-Led Assessment was not considered solely at the conclusion of the assessment process. Rather, concerns raised through the Indigenous-Led Assessment and related submissions were considered throughout the assessment and are reflected in the Key Issues sections of the Valued Component assessments within [Appendix 6 \(Sections 17.1 through 17.14\)](#). QN's targeted advocacy across these sections, covering Air Quality, Acoustics, Surface Water, Vegetation, Wildlife, Fish Habitat, Economy, Land Use, Culture, and Human Health, informed the assessment and development of these sections. These include the integration of the Tl'uqtinus historic village site as a sensitive receptor, enhanced environmental monitoring, localized economic inclusion initiatives, and new requirements for 6-PPDQ runoff mitigation and psychosocial health considerations across Condition 3 (Document Development), Condition 10 (Community Feedback Process), Conditions 12 and 13 (Construction and Operations Environmental Management Plans), Condition 14 (Air Quality Management Plan), Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan), and Condition 17 (Dry Street Sweeping Report), and EAO's consideration of accommodation measures intended to address the effects identified by Quw'utsun Nation.

Throughout the assessment, comments and submissions from Quw'utsun Nation resulted in requests for additional information from FortisBC and contributed to EAO's understanding of potential effects and pathways of effects. These issues are reflected throughout the Assessment Report and are identified within the key issues sections of the relevant valued component sections and informed EAO's consideration of mitigation measures, accommodation measures, proposed provincial conditions, and conclusions regarding potential project effects on Quw'utsun Nation rights and title.

The EAO worked collaboratively with Quw'utsun Nation throughout the environmental assessment process. Quw'utsun Nation participated in technical discussions and iterative engagement opportunities to review project information, identify potential effects on its rights, and provide input on mitigation and accommodation measures to mitigate impacts on Quw'utsun Nation's rights and title. The EAO and Quw'utsun Nation maintained ongoing dialogue throughout the process, including regular meetings and discussions to understand, assess, and respond to issues as they arose.

Through engagement during the Process Planning phase, it was identified that Quw'utsun Nation would undertake an Indigenous-led assessment of project effects on its rights under section 19(4) of the Act.

### Provincial Conditions and Key Federal Mitigation Measures

The EAO notes that Quw'utsun Nation recommended additional specific mitigations, and those recommendations were considered and responded to in the development of provincial and federal conditions.

Provincial conditions and federal Key Mitigation Measures were developed to avoid, reduce, or otherwise accommodate potential impacts on Quw'utsun Nation's Aboriginal rights including the integrity of salmon lifeways and harvesting practices; access to and restoration of Tl'uqtnus and associated cultural use areas; the continuity of cultural practices, teachings, and intergenerational knowledge transmission; ecological health and relationships among lands, waters, and kinship species; Quw'utsun Nation governance, stewardship, and decision-making authority; and community health and well-being. The following provincial conditions and federal Key Mitigation Measures also address the matters assessed by Quw'utsun Nation in their Indigenous-Led Assessment .

### **Recovery and restoration of the Quw'utsun Nation owned village and surrounding lands at and about Tl'uqtnus on the south arm of the Fraser River**

The EAO identified the following proposed provincial conditions that are intended to avoid, reduce, or otherwise accommodate potential project effects on environmental and cultural values relevant to Quw'utsun Nation's restoration objectives for Tl'uqtnus and surrounding lands, with any management plans from these conditions to be developed in consultation with Quw'utsun Nation.

- Condition 10 (Community Feedback Process) creates a clear way for Quw'utsun Nation to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of vegetation, water quality, acoustic conditions, and related environmental components, fish and fish habitat and other culturally important ecosystems;
- Condition 12 (Construction Environmental Management Plan) requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. By reducing disturbance and protecting the environmental conditions that support fish, wildlife, and plants, this condition helps avoid or reduce further degradation of culturally important ecosystems;
- Condition 13 (Operations Environmental Management Plan) requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Quw'utsun;
- Condition 14 (Air Quality Management Plan) ensures the Project selects and applies effective emissions control technologies and monitors air contaminants during Operation. By managing pollutants that can affect fish, salmon, vegetation, and other culturally important species, this plan helps avoid or reduce the potential for additional Project-related degradation of environmental conditions that are relevant to Quw'utsun Nation's longer-term recovery objectives; and,
- Condition 17 (Dry Street Sweeping Report) helps assess whether dry street sweeping can avoid or reduce 6PPD quinone on project related roads, which may contribute to improvements in water quality relevant to salmon and other fish species important to Quw'utsun Nation.

### **Re-establishment of Quw'utsun Nation permanent residence and river access at the village lands of Tl'uqtnus**

The EAO identified the following proposed provincial conditions that would mitigate potential effects to re-establishment of Quw'utsun Nation permanent residence and river access at the village lands of Tl'uqtnus, with any management plans from these conditions to be developed in consultation with Quw'utsun.

- Condition 3 (Document Development) requires that management plans include monitoring programs, clear reporting requirements, and defined roles for First Nations, including opportunities to receive monitoring data and assess mitigation effectiveness. By improving transparency and enabling Quw'utsun Nation to track environmental conditions, mitigation implementation, and monitoring results over time, this condition provides information relevant to Quw'utsun Nation's decisions regarding access, use, and future presence at TI'uqtinus.
- Condition 4 (Consultation) requires the Holder to be available to meet regularly with Quw'utsun Nation throughout all Project phases to discuss issues and concerns related to the Project. By providing a structured and ongoing forum for dialogue, this condition establishes a mechanism for identifying, discussing, and resolution of concerns related to access, safety, and use of TI'uqtinus, helping maintain confidence in returning to and using the area.
- Condition 9 (Public Information and Flaring Notices) requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps avoid or reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance.
- Condition 10 (Community Feedback Process) establishes a clear and structured mechanism for Quw'utsun Nation to raise concerns related to Project effects on culturally important areas, access, or sensory conditions. The condition requires concerns to be documented, responded to, and reported on, providing a formal process for identifying such issues as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- Condition 12 & 13 (Construction and Operations Environmental Management Plan) require comprehensive plans to manage dust, noise, visual quality, traffic, emergencies, and other disturbances during Construction and Operations. By managing and mitigating Project-related sensory and environmental disturbance, these conditions are intended to avoid or reduce potential Project-related effects on access, cultural use, and sense of place at TI'uqtinus. Requiring clear communication protocols for emergencies between the Proponent and Quw'utsun Nation supports timely information-sharing and response, which helps address safety concerns and contributes to community confidence in accessing and using the area.
- Condition 14 (Air Quality Management Plan) ensures the selection and implementation of effective emissions control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access, cultural use, and time spent on the land at TI'uqtinus, supporting sense of place and the potential for re-establishing a sustained Quw'utsun Nation presence; and,

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to re-establishment of Quw'utsun Nation permanent residence and river access at the village lands of TI'uqtinus:

- Accidents and Malfunctions Reporting would support mitigation of potential impacts on Quw'utsun Nations interests by ensuring timely response, incorporation of Indigenous perspectives, and continuous improvement to avoid or reduce the risk and severity of future incidents.

**Re-establishment of Quw'utsun Nation culturally integral practices (e.g. harvesting fish, waterfowl, plants) on the south arm of the Fraser River and mouth, including at and about Tl'uqtinus**

The EAO identified the following proposed provincial conditions that would mitigate potential effects to re-establishment of Quw'utsun Nation culturally integral practices (e.g. harvesting fish, waterfowl, plants) on the south arm of the Fraser River, with any management plans from these conditions to be developed in consultation with Quw'utsun Nation.

- Condition 12 & 13 (Construction and Operations Environmental Management Plan) require measures to manage noise, dust, lighting, traffic, water quality, and spills. By avoiding or reducing disturbance and maintaining environmental conditions that support fish, wildlife, and plants, these conditions help sustain the ecological basis needed for harvesting and support safe access to harvesting areas;
- Condition 14 (Air Quality Management Plan) requires emissions controls and monitoring during Operations. By requiring emissions controls and monitoring, this condition is intended to avoid or reduce Project-related air quality effects that may affect visibility, time spent on the land and water, and harvesting, and helps avoid or reduce barriers to returning to and using areas such as Tl'uqtinus;
- Condition 10 (Community Feedback Process) requires accessible mechanisms to raise concerns and obtain timely responses. By enabling Quw'utsun Nation to identify and resolve issues affecting access, safety, or harvesting conditions, this condition supports ongoing use of harvesting areas and responsiveness to changing conditions;
- Condition 4 (Consultation) requires regular engagement with Quw'utsun Nation throughout all project phases. By maintaining ongoing dialogue, this condition supports identification and resolution of issues that may affect harvesting timing, access routes, or conditions, helping sustain confidence in re-establishing practices;
- Condition 3 (Document Development) requires monitoring programs, reporting, and defined roles for First Nations in plan implementation. By providing access to monitoring results related to water quality, wildlife, and other indicators, this condition supports informed decision-making about when and where harvesting can safely occur.
- Condition 17 (Dry Street Sweeping Report) evaluates measures to avoid or reduce 6PPD-quinone and related contaminants entering aquatic environments. By supporting improved water quality for fish habitat, this condition may contribute to improved conditions for salmon and other species central to Quw'utsun Nation harvesting practices.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to harvesting:

- Migratory Bird Protections require protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Quw'utsun's harvesting practices and broader ecosystem conditions important to their way of life.



**Realization of Quw'utsun Nation revenue, economic and employment opportunities and benefits.**

The EAO identified the following proposed provincial conditions that would mitigate potential effects to Quw'utsun Nation revenue, economic and employment opportunities, with any management plans from these conditions to be developed in consultation with Quw'utsun.

- Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan) requires the development and implementation of measures to support First Nations employment, contracting, and training opportunities. By prioritizing Indigenous participation, identifying capacity needs, and tracking outcomes over time, this condition directly supports access to employment, business opportunities, and associated revenues for Quw'utsun members and affiliated entities.
- Condition 4 (Consultation) requires the Holder to meet regularly with Quw'utsun Nation throughout all project phases. By providing a structured forum to discuss employment, contracting, and procurement opportunities, this condition supports alignment of project activities with Quw'utsun economic priorities and enables issues related to participation to be identified and addressed early.
- Condition 3 (Document Development) requires that plans include clear roles, reporting, and, where applicable, opportunities for First Nations involvement in monitoring and implementation. By requiring transparency in how commitments are carried out and reported, this condition supports accountability for economic inclusion measures and enables Quw'utsun Nation to track and respond to outcomes over the Project lifecycle.
- Condition 10 (Community Feedback Process) requires mechanisms to raise concerns and track responses. By providing a formal pathway for Quw'utsun Nation to identify barriers to employment, contracting, or participation, this condition supports timely resolution of issues that may affect realization of economic benefits.

**Promotion of education regarding the Quw'utsun Nation presence and interests on the south arm of the Fraser River and mouth**

The EAO identified the following proposed provincial conditions that would mitigate potential effects to education regarding the Quw'utsun Nation presence and interests on the south arm of the Fraser River, with any management plans from these conditions to be developed in consultation with Quw'utsun.

- Condition 4 (Consultation) requires the Holder to meet regularly with Quw'utsun throughout all project phases. By maintaining ongoing dialogue, this condition supports opportunities for Quw'utsun to communicate its interests, values, and presence to the Proponent and informs how these are reflected in project planning and implementation.
- Condition 3 (Document Development) requires that plans include consideration of Indigenous knowledge, defined roles for First Nations, and clear reporting requirements. By incorporating Quw'utsun knowledge and perspectives into project planning and monitoring, this condition supports broader awareness and recognition of Quw'utsun presence, interests, and stewardship responsibilities.

- Condition 10 (Community Feedback Process) requires communication tools and reporting on concerns raised by First Nations and the public. By creating accessible channels for engagement and documentation of issues, this condition supports visibility of Quw'utsun concerns and interests and promotes greater understanding of their presence in the area.
- Condition 9 (Public Information) requires publicly accessible project information, including notices of activities and project updates. By increasing awareness of when and where project activities occur in areas of importance to Quw'utsun, this condition supports transparency around the use of these areas and may contribute to broader recognition of their ongoing connection to the south arm of the Fraser River.

## EAO Conclusion

EAO recognizes that Quw'utsun Nation's Indigenous-Led Assessment reached conclusions that differ from those reached by the EAO regarding the nature and seriousness of Project effects on Quw'utsun Nation's rights, title, interests, community, and restoration objectives. EAO did not seek to revisit or replace Quw'utsun Nation's conclusions. Rather, EAO relied on Quw'utsun Nation's assessment in understanding the effects identified by the Nation and considered how the proposed provincial conditions, federal Key Mitigation Measures, and follow-up programs responded to those effects. The EAO acknowledges that Quw'utsun Nation disagrees with EAO's conclusions regarding the adequacy and effectiveness of those measures. Based on its consideration of the assessment record as a whole, EAO is of the view that these measures appropriately avoid, reduce, manage, or otherwise accommodate potential Project impacts on Quw'utsun Nation's rights, title, interests, and community.

In consideration of the above analyses and the proposed provincial conditions, federal Key Mitigation Measures and follow-up programs, the EAO concluded that the potential adverse effects of Tilbury Phase 2 on Quw'utsun Nation and its rights have been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with Quw'utsun Nation on Tilbury Phase 2, as outlined above, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult and accommodate Quw'utsun Nation.

## Quw'utsun Nation Statement on EAO Conclusions

Quw'utsun Nation provided comments on EAO's assessment conclusions, including its views on Project effects, impacts on Quw'utsun Nation rights, title and interests, accommodation measures, and the overall sufficiency of the assessment. EAO acknowledges that Quw'utsun Nation disagrees with EAO's conclusions regarding Project effects, accommodation measures, and the adequacy of mitigation and accommodation. The following excerpt, from Quw'utsun Nation, highlights their position regarding EAO's conclusions:

Quw'utsun Nation does not agree with EAO's conclusions regarding the proposed Fortis BC Phase 2 LNG Project's (Project) effects on Quw'utsun Nation rights, title, and interests.

Quw'utsun Nation's Indigenous-Led Assessment (ILA) concludes that the Project contributes to ongoing barriers to the recovery and restoration of the Lands of Tl'uqtinus, including the Cowichan Title Lands, as defined in *Cowichan Tribes v. Canada (Attorney General)*, 2025 BCSC 1490, the re-establishment of Quw'utsun Nation presence and river access, the continuation and revitalization of culturally integral practices, and the restoration and maintenance of relationships among lands, waters, salmon, sturgeon, and other kinship beings and Quw'utsun Mustimuhw.

Quw'utsun Nation's assessment further concludes that the Project deepens existing cumulative effects arising from colonial displacement, industrial development, and ecological degradation rather than supporting reconciliation, restoration, or return. The Project as proposed provides no benefits, either tangible or intangible, to the Quw'utsun Nation, nor has the Crown or the proponent proposed any meaningful accommodation for infringements of Quw'utsun Nation Aboriginal and Indigenous rights identified in the Quw'utsun Nation Indigenous-Led Assessment.

Quw'utsun Nation's Indigenous-Led Assessment remains the authoritative assessment of Project impacts on Quw'utsun Nation rights, title, interests, responsibilities, and way of life. It was undertaken pursuant to Quw'utsun Nation Law by the Nation whose rights, title, lands, waters, and future are directly affected by the Project. No other assessment can determine the significance of impacts to Quw'utsun Nation rights, title, and interests on behalf of Quw'utsun Nation.

Quw'utsun Nation is concerned that EAO's conclusions do not reflect developments in the law respecting Quw'utsun Nation rights, title, and future use of the lands and waters at issue, including court-declared Aboriginal title and fishing rights and Quw'utsun Nation's objectives for the restoration of the Lands of Tl'uqtnus, Shnuwiilh, and the South Arm of the Fraser River. These matters form part of the context within which Quw'utsun Nation assessed Project effects and are fundamental to understanding the significance of impacts on Quw'utsun Nation rights, title, interests, responsibilities, and way of life.

Quw'utsun Nation does not agree that the proposed provincial conditions, federal Key Mitigation Measures, or future management processes demonstrate that impacts to Quw'utsun Nation's rights and title have been adequately avoided, minimized, or otherwise accommodated. Mitigation is not accommodation, and mitigation still results in a net adverse impact to Quw'utsun Nation. While the assessment record identifies numerous plans, monitoring programs, consultation requirements, and adaptive management mechanisms, it does not demonstrate how those measures support the conclusions reached regarding residual effects, accommodation, restoration, re-establishment, harvesting, or other rights-based outcomes.

Quw'utsun Nation remains concerned that its Indigenous-Led Assessment was acknowledged but not substantively engaged as an assessment framework. The record does not demonstrate how the Indigenous-Led Assessment informed baseline selection, effects characterization, residual effects conclusions, mitigation design, significance determinations, or accommodation conclusions, nor does it explain any departure from Quw'utsun Nation's findings.

For these reasons, Quw'utsun Nation maintains that the assessment record does not support EAO's conclusions regarding the adequacy of mitigation, accommodation, or the significance of project effects on Quw'utsun Nation's rights, title, interests, responsibilities, and way of life.

## 16.8 Leq'á:mel First Nation

### 16.8.1 Community Profile

Leq'á:mel First Nation (Leq'á:mel) is located in Deroche, B.C., 22 km east of Mission, B.C., in the Fraser Valley region. Leq'á:mel used to be one of the most popular trading hubs in Stó:lō territory and served as a natural place for families from up and down the Fraser River to gather. It is also the cradle of Halq'eméylem, the traditional language of the Stó:lō people.

The Sxwōxwiyám, which are the ancient accounts of how the world came to be, stated that the ancestors of Leq'á:mel did not have fire. Seeing this, the sun descended from the sky as a man and provided fire to EE-AY-lep-kelem and taught him how to use it. In a fight with his enemy Qals, EE-AY-lep-kelem sprinkled some white wood ashes over himself and proclaimed that he was powerful and wise after the sun's help, leaping high into the air. Qals then transformed EE-AY-lep-kelem into a sturgeon and challenged him to do the same in the water in the future. Therefore, Leq'á:mel are also known as Skowó:wech or the sturgeon people and consider themselves to be resilient like the sturgeon, who have stood up against the test of time.

Leq'á:mel is a part of the Stó:lō Nation. As a Stó:lō people, Leq'á:mel have lived on the territory of S'ólh Téméxw (which is the Halq'eméylem name for the shared asserted territory of the Stó:lō) since time immemorial. The Stó:lō are also considered part of the Coast Salish Peoples.

In 2022, Leq'á:mel and Leq'á:mel First Nation signed a Strategic Engagement Agreement (SEA) with the B.C. government. The Agreement Area in the SEA includes Tilbury Island and nearby portions of the Fraser River.

According to the 2021 Canada Census, the population of Leq'á:mel is 453 members, of which 147 members reside on reserve.

### 16.8.2 Leq'á:mel First Nation Involvement in the Environmental Assessment

During the Early Engagement Phase, Leq'á:mel did not identify as a participating Indigenous nation.

The EAO and IAAC provided funding to support Leq'á:mel's engagement in the environmental assessment process. They provided documents, project updates, the draft IPD and DPD, and Process Planning documents for review. During Process Planning phase, it was agreed that the EAO would assess Tilbury Phase 2 effects on Leq'á:mel's Indigenous interests, as identified in Section 4 of the Assessment Plan.

On April 29, 2025, Leq'á:mel submitted a [technical memorandum](#) expanding on their key areas the Indigenous interests to be assessed by the EAO. This memo was shared with the FortisBC to include in their Revised Application. [Section 11.17](#) of the Revised Application summarizes FortisBC's engagement with the Leq'á:mel since 2020.

### 16.8.3 Assessment Boundaries

Leq'á:mel asserts Aboriginal rights and title over their traditional territory, which includes everything as far as the eye can see from Leq'á:mel, south to the Nooksack River, east to the Harrison knob, northwest to the north shore of Stave Lake, southwest to the northern shores of the Alouette Lake and down the west side of Silver Creek.

The spatial assessment boundaries for each Indigenous interest were identified based on overlap of Leq'á:mel's territory with the combined LAA and the combined RAA identified for linked VCs, see Stó:lō Nation's section in the Revised Application (see Figure 11.17-1a). The LAA of each Indigenous interest consists of the combined LAAs of VCs that are linked to the Indigenous interest, whereas the RAA of each Indigenous interest consists of the combined RAAs of VCs that are linked to the Indigenous interest.

#### 16.8.4 Regional Context

Leq'á:mel's traditional territory lies within S'ólh Téméxw, encompassing lands and waters along the lower Fraser River and its tributaries. This area has historically supported dense populations due to its abundant resources and strategic location for trade and cultural exchange. The Fraser River remains central to Leq'á:mel's identity, serving as a vital corridor for fishing, transportation, and spiritual practices.

Historically, Nicomen Slough and adjacent waterways provided safer and more accessible fishing grounds compared to the main river channel, enabling sustainable harvests of salmon, sturgeon, and eulachon. These resources were not only critical for food security but also for ceremonial and social functions, reinforcing cultural continuity and governance systems. Today, Leq'á:mel maintains strong connections to these areas through stewardship responsibilities and land use planning that prioritize ecological integrity and cultural heritage. While Tilbury Phase 2 on Tilbury Island is located downstream in a heavily industrialized zone, far removed from Leq'á:mel's primary fishing and cultural use areas, the Fraser River continues to hold profound cultural and spiritual significance for the community.

The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with very little to no habitat value for wildlife. The vegetation within Tilbury Phase 2 is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species. Public access to Tilbury Phase 2 is limited, although there is currently public use of the dike to the north of Tilbury Phase 2 along the Fraser River.

#### 16.8.5 Indigenous Interests

The EAO engaged Leq'á:mel during the Early Engagement phase in the development of the [Joint Summary of Issue and Engagement for the Tilbury Phase 2 LNG Expansion Project](#); however, they did not provide comment at that time.

During the Readiness Decision phase in the development of the [Readiness Decision Report](#), EAO attempted to engage with Leq'á:mel to understand their primary concerns regarding Tilbury Phase 2, however the EAO did not receive any input.

The EAO received the technical memo (see below for linked attachment), submitted April 29, 2025, from Leq'á:mel during the Application Development and Review phase, which expanded on and confirmed the Indigenous interests listed on [Tilbury Phase 2- Schedule C – Application Information Requirements](#) Table 6, see Proposed Preliminary List of Indigenous interests.

The Proponent identified Leq'á:mel Indigenous interests to be assessed in the Revised Application through:

- Reviewing requirements and guidance from the EAO and AIR;
- Conducting engagement efforts with Leq'á:mel to gather information on their Indigenous interests, as outlined in Section 11.17.3 Summary of Engagement of the Leq'á:mel section of the Revised Application;
- Leq'á:mel's [technical memorandum](#) to EAO, submitted on April 29, 2025, which introduces the the Zone of Influence (ZOI) which is an area defined by Leq'á:mel First Nation to represent the geographic scope where the Tilbury Phase 2 could affect their rights, cultural values, and ecological interests, particularly around the mouth of the Fraser River and adjacent lands like Burns Bog, all the way up river 60 km to Leq'á:mel's core territory. It signifies the interconnectedness of these waterways and lands to Leq'á:mel's identity, stewardship responsibilities, and traditional practices, highlighting that Tilbury Phase 2 impacts within this zone may have far-reaching cultural and ecological consequences and was used in the assessment of potential impacts to Leq'á:mel.

The EAO engaged with Leq'á:mel during the development of the Report, and considered the technical memo, which resulted in beneficial information that supported the EAO to confirm the list of Indigenous interests identified in the AIR. These include:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions; and,
- Indigenous health and well-being.

The assessment of Leq'á:mel's Indigenous interests in this section uses these categories. The EAO's assessment of Leq'á:mel's Indigenous interests includes describing the Indigenous interest, current context, potential effects, mitigation, and effects analysis. If there is an adverse residual effect a characterization of effects and cumulative effects assessment is also completed.

### 16.8.6 Harvesting and Subsistence Activities

#### Background

Leq'á:mel First Nation, a distinct member of the Stó:lō Nations, holds a deep and enduring connection to their traditional territory known as S'ólh Téméxw, which encompasses lands and waters around the Fraser River extending northeast to Agassiz, B.C. This territory includes culturally important areas such as the Fraser River, Nicomen Slough, wetlands, and Burns Bog—a vital medicinal plant harvesting and cultural teaching site.

Historically, fishing for salmon, sturgeon, and eulachon has been central to Leq'á:mel's diet, health, and ceremonial life. However, members currently face challenges in harvesting sufficient salmon within Department of Fisheries and Oceans (DFO) prescribed boundaries due to industrial impacts downstream, leading them to rely on neighboring communities and commercial sources for key fish species.

Hunting remains important, particularly for deer and ducks, with intact habitats necessary to sustain healthy wildlife populations. Plant gathering, especially medicinal plants like bog labrador tea found in Burns Bog, is critical to the community's health and cultural continuity, though habitat degradation and access limitations have been noted.

Tilbury Phase 2 is largely industrial, situated on private property within the existing Tilbury LNG facility on Tilbury Island, and is not accessible for harvesting or gathering activities.

Leq'á:mel have asserted Section 35 rights, title, and responsibilities for their territory. They also assert the right to ensure that their members benefit socially, culturally, spiritually, and economically from resources from their land.

#### Current Context

Past activities such as agriculturalization, industrialization, and urbanization have affected Stó:lō Nations' ability to harvest and carry out subsistence practices.

Regarding fishing, Leq'á:mel stated that they do not fish below the Port Mann Bridge, which includes Tilbury Phase 2, but they do fish in the areas between Port Mann Bridge to Sawmill Creek. According to Leq'á:mel, they currently cannot harvest adequate numbers of salmon within DFO-prescribed fishing boundaries to support healthy citizens and critical cultural ceremonies.

Furthermore, although Tilbury Phase 2 is around 60 to 70 km from Nicomen Island, at the core of Leq'á:mel territory, according to Leq'á:mel knowledge holders, salmon can swim that distance in one to one-and-a-half days. This means that salmon passing by Tilbury Phase 2 will reach the core of Leq'á:mel territory in less than two days' time.

Leq'á:mel relies on various fish species that pass through the mouth of the Stó:lō for food and ceremony. Thus, Leq'á:mel have concerns that Tilbury Phase 2 may impact critically important fish species, thus affecting their ability to reach the waters at the core of Leq'á:mel territory.



Regarding hunting, Tilbury Phase 2 has heavily disturbed vegetation. There is a lack of high-quality foraging and nesting habitat for migratory and resident bird species. Wildlife use is mainly limited to the small riparian areas on the Tilbury Slough banks. According to the Revised Application, Leq'á:mel did not identify hunting locations near Tilbury Phase 2 during the environmental assessment of the nearby Tilbury Marine Jetty (TMJ) project.

Regarding plant gathering, Burns Bog, located near Tilbury Phase 2, is a cultural teaching area and medicinal plant harvesting area for Leq'á:mel and provides important ecosystem services as a unique wetland environment. Burns Bog hosts a high density of bog labrador tea, a culturally and medicinally important plant for Leq'á:mel citizens.

#### Potential Project Effects

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with associated VCs outlined in [Appendix 6](#), that may affect Leq'á:mel's harvesting rights during Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources** from increased noise, light, and air pollution (acoustics, air quality, soil, groundwater, land and resource use VCs) may deter Leq'á:mel members from accessing preferred harvesting areas near Tilbury Phase 2 site. Changes in fish distribution and abundance (fish and fish habitat VC) and the introduction of invasive plant species (vegetation VC) may further reduce the experience and preference of the practicing of harvesting rights;
- **Effects to Leq'á:mel Rights to fish, harvest, and hunt for Food, Social and Ceremonial (FSC) purposes** from habitat loss, (wildlife, fish, vegetation VCs), increased mortality risks to fish, birds, and wildlife (wildlife and wildlife habitat VCs), and changes in their behaviour due to sensory disturbances (acoustics, air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water VC) and Fraser River downstream, as well as contaminated soil (soil VC) could impact important plant species, that may further impact traditional harvesting and cultural practices closer to Leq'á:mel core territory (see current context section above, statement regarding Nicomen Island); and,
- **Effects to the accessibility and availability of traditional lands and resources** from time and space may be lost when trying to access Burns Bog for plant gathering (vegetation VC).

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on harvesting and subsistence practices. A full table of Proponent mitigations can be found in Section XX of the Revised Application. Below is a summary of KMMs, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Leq'á:mel's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Leq'á:mel's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and -sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta -storm sewer system. These protections support water quality and fish habitat relied on to support Leq'á:mel's harvesting and cultural practices;

- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Leq'á:mel for harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Leq'á:mel for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing Construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Leq'á:mel's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding -in water works and implementing erosion, sediment, and -spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to Leq'á:mel's FSC harvesting rights and cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas; used for harvesting or cultural practices; and,
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to Leq'á:mel's harvesting and cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on Leq'á:mel's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting rights [see also [Section 8](#) of this Report]:

- **Condition 10 (Community Feedback Process)** creates a clear way for Leq'á:mel to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Leq'á:mel's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Leq'á:mel's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Leq'á:mel's harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support Leq'á:mel's harvesting and cultural practices; and,
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project related roads, which may lower potential impacts on salmon and other fish important to Leq'á:mel's harvesting and cultural practices.



In addition to the Proponent's mitigations and the provincial conditions, the EAO identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Leq'á:mel's harvesting practices and broader ecosystem conditions important to their way of life.

#### The EAO's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Leq'á:mel's harvesting rights and interests:

- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources;
- Effects to Leq'á:mel's asserted Aboriginal rights to fish for FSC purposes; and,
- Effects on the accessibility and availability of traditional lands and resources.

Table 28: Summary of residual effects and rationale on Leq'á:mel and its harvesting and subsistence activities

| Residual Effects                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Assessment Rating*                                                                                                                                                                                                                                                              | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Harvesting and subsistence activities</p> <ul style="list-style-type: none"> <li>- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources</li> <li>- Effects to Leq'á:mel asserted Aboriginal rights to fish for FSC purposes closer to their core territory</li> <li>- Effects on the accessibility and availability of traditional lands and resources for plant gathering</li> </ul> | <p>Context (resilience): Low</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium Term</p> <p>Reversibility: Fully reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> The interest is rated as having a low resiliency. Industrial development has already affected harvesting and subsistence activities, and some harvested species are of conservation concern.</p> <p><b>Magnitude:</b> The magnitude is rated as negligible, based on the Project negligible magnitude residual effect on fish and fish habitat and surface water VCs. Other key potential residual effects are rated as negligible to low in magnitude.</p> <p><b>Extent:</b> Rated as local, since the spatial scale of residual effects to applicable VC's is limited, the impact on harvesting is expected to remain local, primarily within the immediate Tilbury Phase 2 area. Leq'á:mel views the extent as regional, due to their view that an increased storage capacity from Tilbury Phase 2 will link with TMJ and increase vessel traffic on the Stó:lō, and impact fish and aquatic species.</p> <p><b>Duration:</b> The effects on harvesting will persist for as long as the Tilbury Phase 2 facility remains operational, making them medium-term.</p> <p><b>Reversibility:</b> Most effects, particularly those related to sensory disturbances such as noise and light, would cease if Tilbury Phase 2 were halted or upon Decommissioning, making them fully reversible.</p> <p><b>Frequency:</b> Rated as continuous as effects would be most prominent during Construction, but some effects (noise, light disturbance) would occur continuously.</p> <p><b>Affected Populations:</b> Tilbury Phase 2's impacts will primarily affect Leq'á:mel members who actively participate in harvesting. However, there may be indirect effects on those who choose not to harvest due to negative perceptions of environmental degradation in a highly developed area. These effects are considered disproportionate.</p> <p><b>Risk:</b> The likelihood of these effects occurring is low due to the effectiveness of mitigation measures, and due to their negligible magnitude and limited extent, the overall consequences are expected to be minor. Therefore, the risk is rated as low.</p> <p><b>Uncertainty:</b> The pathways of effects—such as noise, light, vibration, and impacts on harvesters—are well understood. While mitigation measures are expected to be moderately to highly effective, some uncertainty remains regarding their</p> |

| Residual Effects                                                                                                                  | Assessment Rating* | Rationale                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | effectiveness in fully addressing harvesters' experiences and perceptions. As a result, the level of uncertainty is rated as moderate. |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                        |

### *Cumulative Effects*

Leq'á:mel's harvesting and subsistence activities have already been affected by historical environmental degradation (see Background and Current Context section). The Revised Application identifies two foreseeable projects – the T1B and TMJ Projects – that are expected to add shipping to the Stó:lō and further alter the Tilbury Island foreshore prior to Construction of Tilbury Phase 2. These developments may introduce additional sensory disturbances (noise, light, vibration), degrade habitat and water quality, and impact culturally important plant, fish and wildlife resources.

Leq'á:mel has raised concerns about noise pollution from Construction negatively impacting fish navigation in the south arm of the Fraser River. The T1B Project will remove vegetation from the existing facility site, potentially impacting plant resources that Leq'á:mel members may harvest now or in the future. The TMJ Project's shipping activities in the Fraser River could also contribute to noise and disturbance in the aquatic environment, potentially affecting fish and marine mammals. In Leq'á:mel's view, Tilbury Phase 2 and TMJ are linked in that an increased storage capacity from Tilbury Phase 2 will affect TMJ and increase vessel traffic thereby effecting Leq'á:mel's access to culturally important fish species for harvesting.

The EAO notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### **Conclusion**

Considering the above analyses, including proposed proponent mitigations, EAO's conditions, and KMMs, and based on the Project specific effects of Tilbury Phase 2, the EAO concludes that the Project will have a negligible effect on the harvesting and substance activities of Leq'á:mel.

## **16.8.7 Cultural Use Sites and Areas**

### **Background**

Historically, Leq'á:mel have used the Stó:lō for various cultural purposes. Specifically, Leq'á:mel fished throughout their fishing areas on the Stó:lō and relied on sharing, gifting, trading from neighbouring First Nations at the mouth of the Fraser River. Close to Leq'á:mel's core territory, fishing followed protocols and ceremonies that embedded respect for the Creator. Salmon served an important cultural purpose for winter dances, funerals, burnings, marriages, and gatherings. Hunting provided a connection to the land, a strong sense of place, and an opportunity for traditional knowledge to be shared. The Stó:lō served as a focal point for spirituality, oral traditions, with most spiritual sites being linked directly to the river. Leq'á:mel was home to many large longhouses, where traditional knowledge was shared.

### **Current Context**

According to Leq'á:mel, Burns Bog, located 1.9 km to the southeast of Tilbury Phase 2, is a cultural teaching area and medicinal plant harvesting area.

From Leq'á:mel's perspective, immediate (Construction phase) and ongoing (Operation phase) increases in vehicle traffic for Tilbury Phase 2 will impede their citizens' ability to access critical teaching and medicinal plant harvesting areas, while also increasing traffic to and potential disturbance of places highly valued by Leq'á:mel citizens.

Teaching Leq'á:mel youth about the importance of cultural plants for medicinal and subsistence purposes is an integral component of Leq'á:mel identity and connection to the lands and waters. Medicinal plants are also critical to the health and well-being of Leq'á:mel citizens. Any disruption in Leq'á:mel citizens' ability to access medicinal plant harvesting and teaching places will have adverse effects on Leq'á:mel cultural continuity, especially as Leq'á:mel citizens see the habitat for these medicinal plants dwindling.

Furthermore, in Leq'á:mel's view, the concept of Shxweli (the interconnectedness of all things) is at the centre of Leq'á:mel culture, knowledge, and identity. Thus, according to Leq'á:mel, any potential impacts from Tilbury Phase 2 will impact Leq'á:mel culture and identity.

As mentioned in the Harvesting and Subsistence Activities section above, past activities have had adverse effects on cultural use. In addition, the Revised Application identified a decline in access to cultural use areas for Stó:lō Nations due to railway developments and expansions.

#### Potential Project Effects

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with associated VCs outlined in Appendix XX, that may affect Leq'á:mel's cultural use sites and areas during Construction, Operation and Decommissioning phases of the Tilbury Phase 2:

- **Effects to cultural heritage and structures, sites, or things historical, archeological, paleontological, or architectural significance;** While Tilbury Phase 2 is private property and not currently accessible for activities like plant harvesting and will remain restricted, Leq'á:mel currently uses areas adjacent to Tilbury Phase 2 and could use the site if they had the opportunity. While sensory disturbances (acoustic, air quality, culture, and land and resource use VCs) are predicted to have low magnitude impacts compared to existing industrial conditions, they do have the potential to alter the experience of Leq'á:mel members using cultural sites in the vicinity;
- **Loss of access to and disenfranchisement from cultural sites;** Leq'á:mel harvesters could experience direct adverse effects to cultural and spiritual practices if access to cultural sites is altered or lost due to closure or modification of trails, parking areas, or access points between Tilbury Phase 2 and the Fraser River for safety or construction purposes (land and resource use VC). Changes in sensory effects (acoustic, air quality, culture, and land and resource VCs) could change the experience of Leq'á:mel members using cultural sites, such as harvesting areas along the south arm of the Fraser River and Burns Bog; and,
- **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas;** Access to cultural sites could be affected (soil, land and resource use, and archaeological and heritage resources VCs) by Tilbury Phase 2. Adverse effects to culture (culture VC) which are connected to potential effects on wildlife, habitat, and vegetation (See Harvesting and Subsistence section above) could influence the ability or desire to access these sites.

#### Mitigation Measures

The Revised Application summarizes relevant mitigation measures proposed by the Proponent to address potential Tilbury Phase 2 related effects on cultural use sites and areas, including:

- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and the ecological integrity of adjacent areas, including those used by Leq'á:mel for cultural practices, teaching, and medicinal plant harvesting, thereby

helping to maintain the quality and accessibility of cultural use sites and areas relied upon by Leq'á:mel citizens;

- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species associated with Leq'á:mel cultural use sites and areas. These measures help maintain the availability and quality of plants used for cultural practices, teaching, and medicinal harvesting. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities, supporting the ecological conditions necessary for the continued use and integrity of Leq'á:mel cultural use sites and areas;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing Construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the wildlife and ecosystems associated with Leq'á:mel cultural use sites and areas. These measures contribute to sustaining the ecological conditions necessary for cultural practices, teaching, and harvesting activities, and help preserve the integrity and experience of Leq'á:mel cultural use sites and areas;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the ecological conditions associated with Leq'á:mel cultural use sites and areas, including areas relied upon for fishing, teaching, and cultural practices, and help maintain the availability of fish species central to the ongoing use and integrity of these cultural sites and areas;
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream ecosystems associated with Leq'á:mel cultural use sites and areas. These measures contribute to sustaining the conditions necessary for vegetation, fish, and other resources relied upon for cultural practices, teaching, and harvesting, and help preserve the integrity and continued use of Leq'á:mel cultural use sites and areas;
- **Land and Resource Use (Section 7.11)** Traffic-management planning, noise and lighting controls, and communication regarding project activities, help reduce disruptions to access and use of culturally important areas. These measures support Leq'á:mel's ability to safely access and continue cultural practices within their traditional territory;
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Leq'á:mel's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water;
- **Soil (Section 7.6)** Soil-management measures, including erosion control, spill-prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Leq'á:mel;
- **Acoustics (Section 7.3)** Noise-reduction measures during Construction and Operation, including idle-reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by Leq'á:mel;

- **Air Quality (Section 7.2)** The air-quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Leq'á:mel's harvesting rights and cultural practices; and,
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance-find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support Leq'á:mel's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on cultural use sites and areas (see [Section 8](#) of this Report):

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance;
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for Leq'á:mel to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting Leq'á:mel's continued access to and use of cultural sites during the Project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Leq'á:mel;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions-control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by Leq'á:mel; and,
- **Condition 15 (Chance Find Protocol)** requires the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Leq'á:mel historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### The EAO's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Leq'á:mel's cultural use sites and areas rights and interests:

- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance;
- Loss of access to and disenfranchisement from cultural sites; and,

- Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas.

The EAO's characterization of the residual effects of Tilbury Phase 2 on cultural use sites and areas are summarized in the table below.

Table 29: Summary of residual effects and rationale on Leq'á:mel and its cultural use sites and areas

| Residual Effect                                                                                                                                                                                                                                                                                                                                                                 | Assessment Rating*                                                                                                                                                                                                                                                          | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cultural use sites and areas<br><br>- Loss of access to and disenfranchisement from cultural sites<br><br>- Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas<br><br>- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance | Context (resilience): Low Resiliency<br><br>Magnitude: Negligible<br><br>Extent: Local<br><br>Duration: Medium-term<br><br>Reversibility: Partially Reversible<br><br>Frequency: Continuous<br><br>Affected Populations: Even<br><br>Risk: Low<br><br>Uncertainty: Moderate | <p><b>Context:</b> Rated as having low resiliency, recognizing that while Leq'á:mel culture has demonstrated resilience despite historical impacts, it is difficult to quantify how adaptable members are to additional adverse effects. Cultural strength may have been greater in the absence of cumulative disturbances, and potential linkages between cultural impacts and community health add to the complexity of assessment. Given the historical and ongoing challenges, this rating represents a conservative estimate.</p> <p><b>Magnitude:</b> Rated as negligible, based on the Project's negligible magnitude residual effects on fish and fish habitat and surface water VCs. Other connected VC residual effects are rated as negligible to low magnitude and are of local extent. Tilbury Phase 2 site is located on fee simple land with no public access.</p> <p><b>Extent:</b> Rated as local, as the residual effect will be within the local assessment area with Burns Bog being adjacent to Tilbury Phase 2.</p> <p><b>Duration:</b> Rated as medium-term, as residual effects will likely cease after the Decommissioning phase.</p> <p><b>Frequency:</b> Rated as continuous, particularly for loss of site use for cultural purposes, which is an ongoing effect.</p> <p><b>Reversibility:</b> Most sensory-related disturbances (e.g., noise, light) would be fully reversible following Tilbury Phase 2 Decommissioning. However, cultural impacts linked to the loss of access or disruption to traditional practices may be irreversible.</p> <p><b>Affected Populations:</b> The effect is expected to be evenly distributed among Leq'á:mel members. While direct impacts would disproportionately affect those actively practicing or seeking to practice their culture, indirect effects could extend to all members due to the interconnected nature of Leq'á:mel cultural identity.</p> <p><b>Risk:</b> The likelihood of negative cultural impacts occurring is low, but the overall consequence is expected to be minor, given the negligible magnitude of direct Tilbury Phase 2-related effects and the application of mitigation measures. Risk is therefore rated as low.</p> <p><b>Uncertainty:</b> Rated as moderate, as cultural effects are inherently challenging to quantify and may be subject to individual and community-specific experiences that are difficult to predict with certainty.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a>                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

#### Cumulative Effects

The Leq'á:mel's cultural use sites have already been extensively impacted by historical environmental degradation and land-use changes, as outlined in the Background and Existing Conditions section. These impacts have limited the nation's ability to use culturally important areas and have disrupted the transmission of Indigenous Knowledge.



As stated in the Revised Application, FortisBC notes that two foreseeable projects, T1B and TMJ, are expected to modify the Tilbury Island foreshore prior to construction of Tilbury Phase 2. TMJ would also introduce additional vessel traffic in the Fraser River. These developments are expected to introduce additional sensory disturbance (noise, light, vibration) affecting nearby cultural site access and use. T1B could remove vegetation, impacting culturally important plants and wildlife habitat, while TMJ shipping activities may increase aquatic disturbance, with potential effects on fish populations and cultural connections to the Fraser River.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

#### Conclusion

Considering the above analyses, including proposed proponent mitigations, EAO's conditions, and KMMs, and based on the Project specific effects of Tilbury Phase 2, the EAO concludes that the Project will have a negligible effect on the cultural use sites and areas of Leq'á:mel.

### 16.8.8 Social and Economic Conditions

#### Background

Harvesting and subsistence activities traditionally formed an essential economic foundation and access to cultural sites contributions to social and cultural identity for Leq'á:mel. For example, in Leq'á:mel's view, their roles as caretakers of the lands are tied heavily to their obligations to protect their wealth, which includes access to sturgeon, eulachon, salmon, and medicinal plants. Furthermore, from Leq'á:mel's perspective, lack of available fish in recent years has impacted its own redistributive economy and fragmented their cultural relationship with salmon in the Fraser River. The Revised Application uses indicators such as population, health, housing, education, employment, and economic development to reflect the nation's current social and economic conditions and connection to their traditional territory.

#### Current Context

The impacts of colonization and a history of industrial development have affected the social and economic conditions experienced by Leq'á:mel, either through adverse effects on traditional activities or independently. These historic and ongoing challenges have influenced various aspects of their community.

According to the 2021 Canada Census, 306 of Leq'á:mel's 453 members reside off reserve, relying on off-reserve economic activities. Leq'á:mel experiences housing challenges while also facing barriers to education and employment. Despite these systemic challenges, Leq'á:mel actively engages in economic development.

Leq'á:mel stated in their technical memo that disruptions to transportation routes and navigation along the south arm of the Fraser River directly effects their ability to access traditional territories, fisheries, and inter-community networks. These barriers undermine cultural practices such as harvesting and distribution, while also constraining opportunities for trade and social exchange that sustain Leq'á:mel's redistributive economy. Over time, these cumulative effects erode both the social cohesion and economic resilience of the community.

The loss of traditional activities has had profound social and economic effects. Over time, settlement, urban growth, railway expansions, industrial accidents, and pollution have reduced access to lands, fish, and wildlife habitats. Fishing and shellfish harvesting, once a cornerstone of their traditional economy, have been severely restricted due to contamination, further impacting their social and economic well-being. See Cultural Use Sites and Areas and Harvesting and Subsistence Activities sections for additional context.

### Potential Project Effects

The EAO identified the following pathway of effects, along with associated VCs in [Appendix 6](#), that may affect Leq'á:mel's social and economic conditions during Construction, Operation, and Decommissioning phases:

- **Effects on infrastructure and services;** Tilbury Phase 2 may add pressure on services if out-of-region workers are used, but according to the Revised Application effects are expected to be limited and not distinguishable from existing conditions (infrastructure services VC);
- **Effects on Leq'á:mel's intercommunity relations and trade;** Tilbury Phase 2 may move Leq'á:mel further away from their goal of strengthening an intra-community economy and inter-community economies along Tilbury Phase 2, given barriers faced in using waters and roadways for travel, and in potential impacts to fisheries on the Fraser River (employment and economy, fish and fish habitat, culture, wildlife and wildlife habitat, and land and resource use VCs);
- **Effects to Leq'á:mel's employment opportunities, Indigenous businesses, procurement opportunities, and Leq'á:mel revenue;** Tilbury Phase 2 could positively affect Leq'á:mel's employment and procurement opportunities, depending on member participation and access to contracts (employment and economy VC). While there may be more opportunities especially during Construction, smaller Indigenous businesses, including those linked to Leq'á:mel, may face challenges competing for workers or meeting Tilbury Phase 2 demands;
- **Effects to Leq'á:mel's ability to improve social and economic conditions;** Tilbury Phase 2 may support Leq'á:mel's ability to improve social and economic conditions by creating employment, training, and business opportunities (employment and economy, culture, fish and fish habitat, and wildlife and wildlife habitat VCs);
- **Effects to Leq'á:mel's commercial and non-commercial fishing, gathering, and cultural or ceremonial activities and practices;** Since Leq'á:mel traditional economies rely on economic practices such as feasting, sharing, gifting, and trading, with Leq'á:mel and neighbouring Indigenous communities, Tilbury Phase 2 could potentially further disrupt these already strained economies that shape relationships between Indigenous communities on the Fraser River and that are central to Leq'á:mel identity (fish and fish habitat, wildlife and wildlife habitat, employment and economy, and culture VCs).

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the proponent has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions. These include the following

- **Land and Resource Use VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Leq'á:mel's long-term aspirations for land and water restoration and reducing stressors that can impact economic development and community well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Leq'á:mel members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socioeconomic impacts on Leq'á:mel and supporting and community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Leq'á:mel's food security and cultural identity by safeguarding salmon and other species essential to FSC



harvesting;

- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Leq'á:mel's cultural continuity and nutritional well-being;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Leq'á:mel's physical health and cultural practices;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Leq'á:mel's social and economic interest;

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on social and economic conditions:

- **Condition 10 (Community Feedback Process)** provides Leq'á:mel with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting ongoing social and economic interests;
- **Condition 12 (CEMP)** requires mitigation measures to manage dust, noise, traffic, spills, surface water, erosion, and wildlife interactions during Construction. These measures help minimize Construction related disturbances that could affect community comfort of Leq'á:mel members;
- **Condition 13 (OEMP)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation. By limiting long-term environmental disturbances, this condition supports stable conditions that protect Leq'á:mel's social and economic interests;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality mitigates environmental stressors that may impact traditional resources, supporting the Social and Economic Conditions of Leq'á:mel by preserving the cultural acceptability of harvested species and ensuring that the traditional economies of feasting, sharing, and trading do not become more difficult or costly to maintain;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Leq'á:mel historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated cultural or social harm; and,
- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support Leq'á:mel First Nation's socio-economic well-being through increased access to jobs, skills development, and business opportunities associated with Tilbury Phase 2.

#### The EAO's Analysis and Conclusions

After considerations in the EAO's conclusions on the linked VCs, and proposed mitigation measures, the EAO concludes that Tilbury Phase 2 is expected to result in no residual adverse effects on Leq'á:mel's social and economic conditions.

While the nation continues to experience extensive systemic challenges - including limited access to housing, employment, and culturally important lands - these are primarily the result of historic and ongoing regional industrial development, and not directly attributable to Tilbury Phase 2.

Tilbury Phase 2 is situated in an already industrialized area with limited current access or use by Leq'á:mel members,

and any additional demands on local services are expected to change compared to existing pressures.

There is potential for positive effects and combined with the absence of any material adverse effects from Tilbury Phase 2, supports the EAO's conclusion of no residual effect on social and economic conditions. Therefore, no characterization of effects or cumulative effects assessment was undertaken.

### 16.8.9 Indigenous Health and Well-being

#### Background

Colonialism has affected Indigenous peoples' health, and social and economic well-being. Indigenous perspectives on determinants of health are holistic in nature and include social determinants of health. For example, Leq'á:mel's Strategic Plan recognizes that four aspects of health need to be addressed: mental, emotional, physical, and spiritual. Thus, the effects on Leq'á:mel's harvesting and subsistence activities, cultural use sites and areas, and social and economic conditions all have a bearing on Leq'á:mel's Indigenous health and well-being.

#### Current Context

Historically, in the Fraser River delta, Indigenous well-being faced declines after loss of land and resources following agricultural and industrial development after European settlement. More recently, past projects have adversely affected the environment in the Fraser River, and thus Stó:lō Nations' Indigenous health and well-being.

The ability to fish is critical to the health and well-being of Leq'á:mel citizens and the practice of ceremony. Leq'á:mel stated that they currently cannot harvest enough salmon within DFO-prescribed fishing boundaries to support health and ceremonies. Although these DFO fishing areas stretch from the Mission Bridge to Sawmill Creek in the Fraser Canyon, the reduced fish populations in Leq'á:mel territory result in competition among all fishermen and impacts the health and well-being of Leq'á:mel citizens. Leq'á:mel worries that any additional impacts at the mouth of the Fraser River will potentially further affect their health and well-being.

#### Potential Project Effects

The EAO identified the following pathway of effects, along with associated VCs outlined in [Appendix 6](#) that may affect Leq'á:mel's Indigenous health and well-being during Construction, Operation, and Decommissioning phases of Tilbury 2:

- **Effects on the quality, quantity, and availability of harvested country foods:** Land, water or air-based contamination from Tilbury Phase 2 could adversely affect country foods such as fish and traditional plants. See Harvesting and Subsistence Activities section above;
- **Effects on the value and perceived quality of country foods:** Quality, quantity, or availability of plants or wildlife could be impacted from Tilbury Phase 2. Country foods could become contaminated (see list of potential project effects above). Community perceptions with respect to the quality of country foods have the potential to interact with Leq'á:mel members participation in harvesting and subsistence activities and cultural and spiritual practices in the absence of adverse effects (land and resource use and culture VCs);
- **Effects on air quality, noise and water quality:** Tilbury Phase 2 activities have the potential to contribute contaminants of concern to air and water, and increased noise levels in proximity to the facility property line (air quality, acoustics, surface water, land and resource use, and human health VCs); and,
- **Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites:** Tilbury Phase 2 may interact with Leq'á:mel's health and well-being through changes to traditional practices, access to cultural sites, and socio-economic factors. Leq'á:mel has identified the loss of traditional food sources, harvesting access (Burns Bog) as contributing to chronic health issues and limiting intergenerational knowledge transfer. Positive effects may include increased income and employment opportunities for members, while potential adverse effects relate to shift work and family stress.

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on Indigenous health and well-being. These include the following:

- **Land and Resource Use VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Leq'á:mel's long-term aspirations for land and water restoration and reducing stressors that can affect well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Leq'á:mel members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socioeconomic impacts on Leq'á:mel and supporting health and community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Leq'á:mel's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Leq'á:mel's cultural continuity and nutritional well-being;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Leq'á:mel's physical health and cultural practices;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Leq'á:mel's well-being;
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for Leq'á:mel's subsistence and health;
- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting Leq'á:mel's cultural and nutritional reliance on healthy salmon and aquatic ecosystems;
- **Acoustics (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting Leq'á:mel's comfort, well-being, and connection to land and water;
- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting Leq'á:mel's physical well-being and confidence in harvesting; and,
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Leq'á:mel members' physical, cultural, and mental health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides Leq'á:mel with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with Leq'á:mel to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting Leq'á:mel's physical health and overall well-being;
- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requires a plan to support economic participation for First Nations and local communities. By facilitating access to employment, training, and business opportunities, this condition supports the mental health and well-being of the Leq'á:mel' through increased community stability and economic security; and,
- **Condition 17 (Dry Street Sweeping Report)** requires FortisBC to submit a report on the effectiveness Dry Street Sweeping to mitigate the effects of 6-PPDQ on fish within eighteen months of a Certificate being issued. By informing measures to protect downstream aquatic environments, this condition supports Leq'á:mel's health and well-being by helping maintain confidence in environmental quality and minimizing potential concerns related to contamination of culturally important fish and waterways.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- **Accidents and Malfunctions Reporting** would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### The EAO's Analysis and Conclusions

After considerations in the EAO's conclusions on the linked VCs, and proposed mitigation measures, the EAO concludes that Tilbury Phase 2 is not expected to result in residual adverse effects on Leq'á:mel's Indigenous health and well-being.

While the nation continues to experience extensive systemic challenges - including limited access to cultural sites and harvesting areas - these are primarily the result of historic and ongoing regional industrial development, and not directly attributable to Tilbury Phase 2.

Tilbury Phase 2 is situated in an already industrialized area with limited current access or use by Leq'á:mel members, and any additional demands on local services are expected to be negligible compared to existing pressures. Therefore, there is no characterization of effects or cumulative effects assessment undertaken for Indigenous health and well-being.

### 16.8.10 Positive Effects of Tilbury Phase 2

According to the Revised Application, Tilbury Phase 2 is expected to create job opportunities, particularly in construction, benefit Indigenous businesses through contracting and procurement, and potentially increase revenue for the Leq'á:mel government, while improving social and economic conditions and providing long-term skills training opportunities for Leq'á:mel members.

The positive effects of Tilbury Phase 2 depend on the level of participation and access Leq'á:mel members and businesses have to the opportunities generated, with direct positive effects on Leq'á:mel interests being limited compared to existing conditions.

For example, since Construction would have the greatest demand for skilled and semiskilled workers, Leq'á:mel members with a trades certificate and experience in the construction sector would be most likely to benefit from direct employment with Tilbury Phase 2. The potential positive effect on Leq'á:mel's employment and procurement opportunities depend on whether their members are directly or indirectly employed by Tilbury Phase 2 and whether their businesses can access contracting and procurement opportunities for Tilbury Phase 2.

### 16.8.11 Conclusions

Considering the above analyses, EAO's engagement with Leq'á:mel, their technical memo, the proponent's proposed mitigation measures, provincial conditions, and Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is anticipated to have the following impacts on Leq'á:mel Indigenous interests:

- Negligible residual effects to harvesting and subsistence activities; and,
- Negligible residual effects to cultural use sites and areas.

Considering the above analysis the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on the Indigenous interests of Leq'á:mel has been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with Leq'á:mel on Tilbury Phase 2, as outlined above in Section 16.9.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Leq'á:mel.

## 16.9 Lummi Nation

### 16.9.1 Community Profile

The Lummi Nation identifies as a self-governing nation in the U.S., the third largest tribe in Washington State, serving over 5,000 members. Also known as the *Lhaq'temish* people, Lummi Nation manages nearly 13,000 acres of tidelands on the Lummi Nation Reservation, which is situated to the west of Bellingham and to the south of Ferndale, Washington.

According to Lummi Nation, they were an independent and self-sufficient people for thousands of years. Their mission is to sustain that way of life.

### 16.9.2 EAO's consultation with Lummi Nation on Tilbury Phase 2

On January 31, 2024, Lummi Nation notified the EAO of their view that Tilbury Phase 2, along with three other projects in the Lower Mainland, have the potential to impact their asserted Section 35 rights. Lummi Nation requested to be a participating Indigenous nation on Tilbury Phase 2. The request was considered but in June 2024, the Province issued an order pursuant to the *Environment and Land Use Act* (ELUA Order) that set out Lummi Nation may not be a participating Indigenous nation, and Section 14 of the Act does not apply to them, in relation to the four projects in the Lower Mainland, including Tilbury Phase 2. The ELUA Order does not restrict the Province's ability to meet any constitutional obligations and the EAO is discharging any constitutional obligations owed to Lummi Nation on Tilbury Phase 2 in a manner consistent with *Haida Nation v. British Columbia* and *R v. Desautel*, and as laid out in a letter sent from EAO to Lummi Nation on [July 3, 2024](#). In addition to the consultation opportunities outlined in the July 3 letter, EAO also offered to meet with Lummi Nation to discuss the Project and its potential impacts on Lummi Nation's asserted Section 35 rights.

In a letter sent to Lummi Nation on [December 19, 2024](#), the EAO committed to continuing its previous engagement with Lummi Nation on potential transboundary impacts and consulting Lummi Nation in relation to potential impacts of the four specified EA projects, including Tilbury Phase 2, to Lummi Nation's asserted Section 35 rights. The EAO confirmed that the ELUA Order in no way restricts the EAO from consulting meaningfully and adequately despite this consultation being undertaken outside the participating Indigenous nation framework under the Act.

On March 5, 2025, the EAO met with Lummi Nation to discuss the Project and provide an overview of the assessment of Tilbury Phase 2. On [April 29, 2025](#), the EAO confirmed that it would be assessing the potential impacts to Lummi Nation and its asserted Section 35 rights during the Effects Assessment phase of the EA.

On May 5, 2025, the EAO amended the [Process Order](#) after sharing the amendment with Lummi Nation for review and comment, to reflect the CEO's [July 3, 2024](#), letter to Lummi Nation. Lummi Nation received funding from IAAC's public participation program to support its involvement in the Application Review and Effect Assessment Phases of the EA.

On April 18, 2026, Bill 15 - *Environmental Assessment Amendment Act, 2026* received Royal Assent. Bill 15 clarified that United States-based Indigenous nations are not eligible to participate in environmental assessments as participating Indigenous nations under the Act.

On July 23, 2026, Lummi Nation submitted a letter to EAO outlining concerns with the Assessment Report and referral materials. EAO reviewed the feedback, revised this section accordingly, and responded directly to Lummi Nation regarding their feedback.

The EAO used the following sources in drafting the assessment of Tilbury Phase 2 effects on Lummi Nation's asserted Section 35 rights:

- FortisBC's (Proponent) Revised Application;
- Information submitted during the EA;



- Conclusions from the EAO's assessment of VCs and other conclusions in this Report;
- Other sources of information publicly available and relevant to the EA of Tilbury Phase 2 or Lummi Nation, including information from other EAs along or near the Fraser River and Salish Sea; and
- Previous correspondence between Lummi Nation and the Province or Canada (including the EAO and IAAC).

To date, Lummi Nation has not provided feedback to the EAO on how Tilbury Phase 2 might impact Lummi Nation's asserted Section 35 rights nor have they provided information during the EA process on any current use by Lummi Nation members in the project area.

### 16.9.3 Assessment Boundaries

The spatial assessment boundaries for each Indigenous interest were identified based on the overlap of cultural use and occupancy area with the combined LAAs and combined RAAs identified for linked VCs. The LAA of each Indigenous interest consists of the combined LAAs of VCs that are linked to the Indigenous interest, whereas the RAA of each Indigenous interest consists of the combined RAAs of VCs that are linked to the Indigenous interest.

### 16.9.4 Regional Context

Lummi Nation is a signatory to the 1855 Treaty of Point Elliott with the U.S. Government. According to Lummi Nation, this treaty guarantees Lummi Nation's right to fish in their "usual and accustomed" fishing grounds, which comprise the fresh and salt waters of the Salish Sea. Canada is not a party to the 1855 Treaty.

Lummi Nation participated as an intervener before the Supreme Court of Canada in [R v Desautel](#). In its April 2021 decision, the Court concluded that groups whose members are neither citizens nor residents of Canada can be considered "Aboriginal peoples of Canada" and claim an Aboriginal right under Section 35 of the *Constitution Act, 1982*.<sup>23</sup> Lummi Nation asserts that it is an Aboriginal people of Canada within the meaning of Section 35.

In October 2021, Lummi Nation wrote to Canada and B.C. asserting Section 35 rights in Canada. Lummi Nation has stated that it intends to resume fishing, hunting, and gathering activities in the Canadian portion of the Salish Sea on the basis of the *Desautel* decision.<sup>24</sup>

### 16.9.5 Indigenous Interests

Based on EAO's analysis of the VCs ([Appendix 6](#)) and the information mentioned in Section 16.9 Lummi Nation, the following Lummi Nation Indigenous interests have been identified as having the potential to be affected by Tilbury Phase 2:

- Harvesting and subsistence activities; and
- Cultural use sites and areas.

The assessment of Lummi Nation's Indigenous interests in this section uses these categories. The EAO's assessment includes describing the Indigenous interest, the current context, potential effects, applicable mitigation, and the resulting effects analysis. If there is an adverse residual effect a characterization of effects and cumulative effects assessment is also completed. Indigenous governance systems and cultural continuation were not assessed as stand-alone interests, but were assessed as components of other Indigenous interests, with core analysis placed in the Cultural Use Sites and Areas Section.

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<sup>23</sup> *R v Desautel*, 2021 SCC 17, at para 23; Source: 5.9.2 of RBT2 CAR, page 124 of PDF.

Source: 5.9.2 of Roberts Bank Terminal 2 Consultation and Accommodation Report (RBT2 CAR), page 124 of PDF.

### 16.9.6 Harvesting and Subsistence Activities

#### Background

In October 2021, Lummi Nation asserted to Canada and B.C. that it has both Treaty Rights and unextinguished Aboriginal rights, to among other things, hunt, fish, and gather throughout its traditional territory, which it asserted includes areas that are now part of Canada.

The Review Panel Report for Roberts Bank Terminal 2 (RBT2) located approximately 16 km southwest of Tilbury Phase 2, notes that Lummi Nation informed the Panel that it has treaty-protected fishing rights to fishing areas and resources, which rely substantially on the Fraser River sockeye run. Regarding fishing, Lummi Nation self-identifies as a *scha'enexw* (salmon) people who hold salmon to be sacred. Salmon forms the basis of its culture, traditional life ways and livelihoods.<sup>25</sup> In the RBT2 Consultation and Accommodation Report (CAR), Lummi Nation stated that it used to catch sockeye salmon in the area around Point Roberts, U.S., and Boundary Bay, Canada.

Lummi Nation also stated that reef net fishing was an important traditional method of fishing that Lummi Nation was trying to restore for its members, noting that there were traditionally reef net sites at Roberts Bank.<sup>26</sup> The RBT2 CAR identified other fish species of interest for Lummi Nation to include salmon (coho, steelhead, chum, pink, and Spring), clams, eulachon herring, and sturgeon. However, the RBT2 CAR stated that it was unclear to Canada where Lummi Nation harvested those species<sup>27</sup>.

Regarding hunting, the RBT2 CAR also identified species of interest for Lummi Nation to include sandpiper, geese, martens, and other birds. However, it also stated that it was unclear to Canada where Lummi Nation harvested those species.<sup>28</sup>

#### Current Context

It is the EAO's understanding that currently, Lummi Nation does not fish, hunt, or gather plants in the LAA for harvesting and subsistence activities for Tilbury Phase 2, although as stated above, Lummi Nation has stated that it intends to do so in the Canadian portion of the Salish Sea, following *Desautel*.

The Lower Fraser River supports key fish species such as Pacific salmon, eulachon, and sturgeon. The Lummi Nation identifies it as the main source of salmon entering the Salish Sea, which is central to their cultural and subsistence fishing<sup>29</sup>. Lummi Nation has raised concerns about habitat degradation at Roberts Bank caused by existing port infrastructure, particularly its impact on juvenile salmon. Due to declining salmon populations and conservation concerns, Lummi Nation members have not fished sockeye in the Salish Sea in recent years. They view further industrial development as a threat to fish habitat, salmon viability, and their ability to exercise fishing rights and maintain cultural traditions.<sup>30</sup>

Regarding plant gathering, the Project Footprint for Tilbury Phase 2 is not currently accessible for plant harvesting and will remain restricted and no changes to vegetation are expected outside of the Project Footprint.

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<sup>25</sup> Source: <https://iaac-aeic.gc.ca/050/evaluations/proj/80054/contributions/id/58187>

<sup>26</sup> RBT2 CAR, pages 125-126 of PDF.

<sup>27</sup> RBT2 CAR, Page 113 of PDF

<sup>28</sup> RBT2 CAR, pages 125-126 of PDF.

<sup>29</sup> RBT2 CAR, page 112 of PDF

RBT2 CAR, Page 113 of PDF



### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#) that may affect Lummi Nation harvesting rights and subsistence activities during the Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Changes to the experiences and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources, including:** potential changes in fish distribution and abundance in the LAA (from fish and fish habitat, surface water, and malfunctions and accidents VCs) may have transboundary effects on the amount of fish reaching Lummi Nation's territory in the U.S and could also influence fish availability in Canadian waters where Lummi may exercise fishing rights. However, Lummi Nation has not specified the locations within Canada where these asserted rights may be practiced. Sensory disturbances like noise, odour, dust, and visual landscape (acoustics, air quality, land and resource VCs) may further deter Lummi Nation members from accessing harvesting areas near Tilbury Phase 2;
- **Effects on Lummi Nation asserted rights to fish, harvest, and hunt for food, social, and ceremonial (FSC) purposes** from habitat loss (wildlife and wildlife habitat, fish and fish habitat, and vegetation VCs), increased mortality risks to fish, birds, and wildlife (wildlife and wildlife habitat VC), and changes in their behavior due to sensory disturbances (acoustics and air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water VC) and Fraser River downstream, as well as contaminated soil (soil VC) could impact important plant species, may further impact traditional harvesting and cultural practices; and
- **Effects to the accessibility and availability of traditional lands and resources** may occur as a result of altered land or water based travel routes, access restrictions, or safety considerations, including changes to navigability and the usability of established travel corridors (land and resource use and surface water VCs), as well as indirect effects from sensory disturbances such as noise, dust, lighting, or visual changes that may discourage travel through otherwise accessible areas (air quality, acoustics, and land and resource use VCs).

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures that the Proponent has proposed in response to potential Tilbury Phase 2-related effects on harvesting and subsistence activities. A full table of Proponent mitigations can be found in [Appendix A](#) of the Revised Application. Below is a summary of mitigation measures, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Lummi Nation's harvesting and subsistence activities;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation—such as idle reduction policies, equipment enclosures, and engineered noise controls—help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Lummi Nation's harvesting and subsistence activities;
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on for harvesting and cultural practices;

- **Vegetation (Section 7.7)** Avoiding the Material Off-loading Facility, next to the Fraser River prevents disturbance to riparian areas and culturally important plant species relied on for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and fish habitat relied on to support Lummi Nation's harvesting and subsistence activities;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing Construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Lummi Nation's harvesting and subsistence activities;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to Lummi Nation's harvesting or subsistence activities and culture practices; and
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used by Lummi Nation for harvesting or cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions which would help reduce potential impacts on Lummi Nation's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting rights (see [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for Lummi Nation to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Lummi Nation's harvesting and subsistence activities;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Lummi Nation's harvesting and subsistence activities;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Lummi Nation's harvesting and subsistence activities;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support Lummi Nation's harvesting and subsistence activities; and
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project-related roads, which may lower potential impacts on salmon and other fish important to Lummi Nation's harvesting and subsistence activities.

In addition to the Proponent's mitigations and the provincial conditions, the EAO identified the following KMMs and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections;** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Lummi Nation harvesting practices and broader ecosystem conditions important to their way of life.

#### EAO's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Lummi Nation's harvesting and subsistence activities:

- Changes to the experience and preferences around the practice of asserted harvesting rights;
- Effects on Lummi Nation's asserted rights to fish, harvest, and hunt for food, social, and ceremonial (FSC) purposes; and
- Effects to the accessibility and availability of traditional lands and resources.

The EAO's characterization of the residual effects of Tilbury Phase 2 on harvesting and subsistence activities are summarized in the table below.

Table 30: Summary of residual effect and rationale on Lummi Nation and its harvesting and subsistence activities.

| Residual Effect                                                                                                                                                                                                                                                                                                        | Assessment Rating*                                                                                                                                                                                                                          | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Harvesting and subsistence activities<br>- Changes to the experience and preferences around the practice of asserted harvesting rights<br>- Effects on Lummi Nation's asserted rights to fish, harvest and hunt for FSC purposes<br>- Effects to the accessibility and availability of traditional lands and resources | Context (resilience): Medium<br>Magnitude: Negligible<br>Extent: Local<br>Duration: Medium-term<br>Frequency: Continuous<br>Reversibility: Fully reversible<br>Affected Populations: Disproportionate<br>Risk: Low<br>Uncertainty: Moderate | <p><b>Context:</b> Lummi Nation's Indigenous interests are considered to have medium resilience to current fishing-related stresses. Residual effects, including sensory disturbance (land and resources, culture VCs), are unlikely to affect their asserted harvesting areas.</p> <p><b>Magnitude:</b> The magnitude of impact on harvesting and subsistence activities is rated as negligible. Impacts to fishing rights are also rated negligible due to negligible magnitude residual effects on relevant VCs (surface water, fish and fish habitat), negligible to low magnitude impact to vegetation and wildlife and wildlife habitat VCs, negligible to low impacts to culture and land and resource use VCs, and uncertainty around Lummi Nation harvesting in areas that could be directly or indirectly affected by the Project.</p> <p><b>Extent:</b> Rated as local since the spatial scale of residual effects to applicable VC's is limited.</p> <p><b>Duration:</b> The effects on harvesting and subsistence activities will persist for as long as the Tilbury Phase 2 facility remains operational, making them medium-term.</p> <p><b>Frequency:</b> Rated as continuous as effects would be most prominent during Construction, but some effects (noise, light disturbance) would occur continuously.</p> <p><b>Reversibility:</b> Most effects, particularly those related to sensory disturbances such as noise and light, would cease if Tilbury Phase 2 were halted or upon decommissioning, making them fully reversible.</p> <p><b>Affected Populations:</b> Tilbury Phase 2's impacts would primarily affect Lummi Nation members who actively harvest in the LAA, though indirect effects may also be felt by those who refrain from harvesting due to perceived environmental degradation in the highly developed area.</p> <p><b>Risk (likelihood and consequences):</b> The likelihood of these effects is low, given the effectiveness of mitigation measures. With negligible magnitude and local extent, consequences are expected to be minor, resulting in a low-risk rating.</p> <p><b>Uncertainty:</b> Uncertainty is rated as moderate due to the uncertainty regarding Lummi Nation's current harvesting practices in the area and low confidence in historic or future use that could be directly or indirectly affected by the Project.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a>                                                                                                                                                                                      |                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### Cumulative Effects

As described in the Background and Current Context section, the Lower Fraser River and Tilbury Island areas have undergone longstanding industrial development, as well as impacts due to climate change, resulting in existing pressures on environmental conditions and on Lummi's harvesting and subsistence activities.

The Revised Application identifies several reasonably foreseeable projects that may affect Lummi's harvesting and subsistence interests. These include T1B, which would increase LNG production, and TMJ, which would introduce additional vessel traffic in the Fraser River and further development of the foreshore area. Both T1B and TMJ could contribute additional sensory disturbances (noise, light, vibration) and impact air quality in areas used by Lummi for harvesting. TMJ could further alter fish habitat and water quality in areas where Lummi assert harvesting and subsistence rights. The EAO also notes that the province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the Project-specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, FortisBC's proposed mitigation measures, EAO's Table of Conditions and KMMs, the EAO concludes that Tilbury Phase 2 would have negligible effects on Lummi's harvesting and substance activities.

## 16.9.7 Cultural Use Sites and Areas

### Background

According to Lummi Nation, the Salish Sea and affiliated landscapes contain hundreds of Lummi Nation archaeological sites registered with Washington State Historic Preservation Office as well as other tangible and intangible traditional cultural properties.<sup>31</sup> In Lummi Nation's view, the Salish Sea has an association with the culture, traditions, and history of the Lummi Nation people. The archaeological sites registered with Washington State are south of the Canada-U.S. border, and thus outside the LAA for archaeological and heritage resources for Tilbury Phase 2.

### Existing Conditions

On other EA projects in the Lower Mainland, Lummi Nation raised concerns about vessel traffic affecting cultural sites and areas. To date, Lummi Nation has not shared vessel traffic concerns specific to Tilbury Phase 2 and the EAO is not aware of any Lummi cultural use sites that interact with any VCs related to Tilbury Phase 2.

### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect Lummi Nation's cultural use sites and areas during the Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Effects to cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance;** The Project could affect cultural use sites and areas through Construction activities that disturb culturally significant places, such as archaeological sites, due to ground disturbance, accidental spills of deleterious substances, or other construction-related interactions (culture, soil, and archaeological and heritage resources VCs);

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<sup>31</sup>Lummi Indian Business Council letter to Review Panel Secretariat, Roberts Bank Terminal 2 Project. 2019. <https://iaac-geic.gc.ca/050/documents/p80054/129457E.pdf>

- **Loss of access to and disenfranchisement from cultural sites;** Lummi Nation harvesters could experience direct adverse effects to cultural and spiritual practices if access to cultural sites is altered or lost due to closure or modification of trails, parking areas, or access points between the Project site and the Fraser River for safety or construction purposes (land and resource use VC). Changes in sensory effects (acoustic, air quality, culture, land and resource use VC) could change the experience of Lummi Nation members using cultural sites such as a historic fishing village, harvesting areas along the South Arm of the Fraser River and Burns Bog; and
- **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas;** Access to cultural sites could be affected (land and resource use VC) by the Project. Adverse effects to culture (culture VC), which are connected to potential effects on wildlife, habitat, and vegetation (see Harvesting and Subsistence section above) could influence the ability or desire to access these sites.

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that FortisBC has proposed in response to potential Tilbury Phase 2 related effects on Lummi Nation's cultural use sites and areas. These include the following:

- **Air Quality (Section 7.2)** The air quality measures—such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls—limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support cultural activities;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation—such as idle reduction policies, equipment enclosures, and engineered noise controls—help limit disturbance to culturally important areas. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by Lummi Nation;
- **Soil (Section 7.6)** Soil management measures, including erosion control, spill prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Lummi Nation;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and fish habitat relied on to support Lummi Nation's harvesting and subsistence activities;
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used by Lummi Nation for harvesting or cultural practices;
- **Infrastructure and Services (Section 7.12)** Measures to manage traffic, workforce accommodation, emergency response, and waste help prevent indirect pressures on local lands, waters, and community services, reducing the risk of additional strain on the ecosystems and access conditions that support harvesting and cultural practices;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures and early notification to Indigenous nations, help protect culturally important sites and landscapes that support broader connection to territory and the continuity of cultural practices; and

- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Lummi Nation's land- and water-based cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on Lummi Nation's cultural use sites and areas:

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance.
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for Lummi Nation to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting Lummi Nation's continued access to and use of cultural sites during Project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Lummi Nation;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by Lummi Nation; and
- **Condition 15 (Chance Find Protocol)** requires the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Lummi Nation historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### The EAO's Analysis and Conclusions

After considering the EAO's conclusions on the linked VCs, potential effects, and proposed mitigation measures, the EAO concludes that Tilbury Phase 2 is not expected to result in residual adverse effects on Lummi Nation's cultural use sites and areas interest.

In relation to fishing as a cultural use, no residual effects to the fish and fish habitat VC were identified after mitigation measures were applied. Potential project residual effects to land and resource use and culture VCs were considered negligible to low in magnitude and limited in geographic extent.

The EAO is not aware of any Lummi Nation cultural use sites that interact with any VCs related to Tilbury Phase 2. Additionally, the EAO is not aware of any archaeological or heritage resources associated with Lummi Nation in the LAA.



The EAO's conclusion of a negligible effect on Lummi Nation's harvesting and subsistence activities in the previous section, as well as lack of connection between harvesting and cultural use sites and areas, supports the EAO's conclusion of no residual effect on Lummi Nation's cultural use sites and areas of interest and therefore, no characterization of residual effects or cumulative effects assessment was undertaken.

#### 16.9.8 Conclusions

Considering the above analyses, the EAO's and IAAC's engagement with Lummi Nation, the mitigation measures, the EAO's recommended Table of Conditions, and the Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is anticipated to have the following impacts on Lummi Nation's Indigenous interests:

- Negligible residual effect to harvesting and subsistence activities.

Considering the above analyses the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on Lummi Nation's Interests has been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with Lummi Nation on Tilbury Phase 2, as outlined above in Section 16.9.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Lummi Nation.

## 16.10 Matsqui First Nation

### 16.10.1 Community Profile

Màthexwi First Nation (Matsqui) is a Stó:lō community located in the central Fraser valley and member of the Sto:lo Nation Tribal Council. The core traditional territory of Matsqui stretches along the Fraser River from Crescent Island to Sumas Mountain, and southward beyond the Canada-United States border. Matsqui has five reserves: Pekw'xe:yles (Peckquaylis), Matsqui 4, Matsqui Main 2, Sahhacum 1, and Three Island 3. Matsqui has a registered population at this time of 289, with 115 members living on reserve.

Matsqui is also a member of the Stó:lō Nation, negotiating land and resources agreements outside the B.C. treaty process. Matsqui has, along with Leq'á:mel First Nation, a Strategic Engagement Agreement in place with the province (currently extended to September 30, 2027), which sets out the consultation process for activities under the *Forest Act*, *Forest and Range Practices Act*, and *Water Sustainability Act*.

### 16.10.2 Matsqui Involvement in the Environmental Assessment

During the Early Engagement Phase, Matsqui did not identify as a participating Indigenous nation.

The EAO and the IAAC provided funding to support Matsqui's engagement in the environmental assessment process. They provided documents, project updates, the Initial Draft Project Description and DPD, and Process Planning documents for review. During the Process Planning phase, it was agreed that the EAO would conduct an assessment of Tilbury Phase 2 effects on Matsqui's Indigenous interests, as identified in Section 4 of the Assessment Plan.

### 16.10.3 Assessment Boundaries

Matsqui is a party to the Stó:lō Nation protective *Writ of Summons*, which was filed in the B.C. Supreme Court on December 9, 2003, asserting Aboriginal title to a territory identified in the *writ*. The Stó:lō Nation assert collective Aboriginal title and rights to the lands encompassed by their member nations and bands – from the mouth of the Fraser River to the Lower Fraser Canyon, the asserted territory extends from the U.S. border in the south, to Garibaldi Provincial Park in the north, and from the City of Vancouver in the west, to just past the community of Hope in the east. All Tilbury Phase 2 components are within the Stó:lō Nation's asserted territory.

The spatial assessment boundaries for each Indigenous interest were identified based on overlap of Matsqui's territory with the combined Local Area of Assessment and the combined Regional Area of Assessment identified for linked VCs, see Stó:lō Nation's section in the Revised Application ([Figure 11.17-1a](#)). The LAA of each Indigenous interest consists of the combined LAAs of VCs that are linked to the Indigenous interest, whereas the RAA of each Indigenous interest consists of the combined RAAs of VCs that are linked to the Indigenous interest.

### 16.10.4 Regional Context

Tilbury Phase 2, including the LAA and RAA, are situated within a region deeply tied to the cultural, historical, and economic activities of Stó:lō Nations. The word "Stó:lō" is Halqemeylem for "river", so the Stó:lō are the river people. For upper Stó:lō communities, which includes Matsqui, salmon fishing is core to their culture and contributed the greatest amount of food, especially dried salmon that was stored over the winter months. Today members of the Stó:lō Nation's communities currently practice traditional travel (canoeing) in ceremonial and spiritual practices for fishing, hunting, trapping and plant gathering as well as for wind drying activities.

The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with very little to no habitat value for wildlife. The vegetation within Tilbury Phase 2 is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species. Public access to Tilbury Phase 2 is limited, although there is currently public use of the dike to the north of Tilbury Phase 2 along the Fraser River.



### 16.10.5 Indigenous Interests

The EAO engaged Matsqui during the Early Engagement phase in the development of the [Joint Summary of Issue and Engagement for the Tilbury Phase 2 LNG Expansion Project](#), however, they did not provide comment at that time.

During the Readiness Decision phase in the development of the [Readiness Decision Report](#), EAO attempted to engage with Matsqui to understand their primary concerns regarding Tilbury Phase 2, however, the EAO did not receive any input.

The EAO did not receive any input from Matsqui during the Application Development and Review phase, and therefore relied on the Indigenous interests listed on [Tilbury Phase 2- Schedule C – Application Information Requirements](#) Table 6; see Proposed Preliminary List of Indigenous interests.

FortisBC (Proponent) identified Matsqui's Indigenous interests to be assessed in the Revised Application through:

- Reviewing requirements and guidance from the EAO and AIR; and
- Conducting engagement efforts with Matsqui to gather information on their Indigenous interests, as outlined in Section 11.17.3 Summary of Engagement of the Matsqui section in the of the Revised Application.

The EAO engaged with Matsqui during the development of this Report and to gain input on the proposed Indigenous interests, however the nation did not provide any comments. The EAO, therefore relied on the list of Indigenous interests identified in the AIR. These include:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions; and
- Indigenous health and well-being.

The assessment of Matsqui's Indigenous interests in this section uses these categories. The EAO's assessment includes describing the Indigenous interest, the current context, potential effects, applicable mitigation, and the resulting effects analysis. If there is an adverse residual effect a characterization of effects and cumulative effects assessment is also completed.

### 16.10.6 Harvesting and Subsistence Activities

#### Background

Historically, Matsqui relied on the Fraser River and its tributaries for fishing, particularly salmon, which remains central to their social, ceremonial, and economic life. Oral histories emphasize salmon as descendants of ancestral beings, reinforcing its cultural importance. The Matsqui prairie was rich in food sources, including medicinal plants and berries such as huckleberries, cow parsnip, and skunk cabbage. Hunting of deer, waterfowl, and other species, as well as plant gathering for food and medicine, were integral to subsistence and cultural practices. These activities were guided by traditional knowledge systems and seasonal rounds, and stewardship responsibilities were passed through generations. Stó:lō territory was made up of four separate "food processing" zones, each with distinct biological and geographical characteristics, and traditionally Stó:lō would have used the area of the lower Fraser River for a variety of harvesting subsistence or cultural purposes, including fishing, hunting, plant gathering, ceremonial activities, or habitation.

#### Existing Conditions

Matsqui members continue to value harvesting and subsistence activities for food security, cultural continuity, and community well-being, though these practices have been constrained by cumulative effects of colonization, industrial development, and land fragmentation.

Fishing for Food, Social, and Ceremonial (FSC) purposes occurs primarily in areas between Mission and the confluence of the Fraser River with Sawmill Creek, well upstream of the Tilbury Phase 2. There is no evidence of current fishing, hunting, or plant gathering by Matsqui near the south arm of the Fraser River adjacent to Tilbury Island, which is heavily industrialized and inaccessible. Regulatory restrictions, habitat degradation, and urbanization have reduced opportunities for traditional harvesting within Matsqui territory. Despite these challenges, salmon and other resources remain culturally important, and the nation seeks to uphold its constitutionally protected rights and responsibilities related to land and resource stewardship.

#### Potential Project Effects

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with associated VCs outlined in [Appendix 6](#), that may affect Matsqui's harvesting rights during Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources** from increased noise, light, and air pollution (acoustics, air quality, soil, groundwater, land and resource use VCs) may deter Matsqui members from accessing preferred harvesting areas near Tilbury Phase 2. Changes in fish distribution and abundance (fish and fish habitat VC) and the introduction of invasive plant species (vegetation VC) may further reduce the experience and preference of the practicing of harvesting rights; and
- **Effects to Matsqui Rights to fish, harvest, and hunt for food, social and ceremonial (FSC) purposes** from habitat loss (wildlife, fish and fish habitat, vegetation VCs), increased mortality risks to fish, birds, and wildlife (wildlife and wildlife habitat VCs), and changes in their behaviour due to sensory disturbances (acoustics, air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water VC) and Fraser River downstream, as well as contaminated soil (soil VC) could impact important plant species, that may further impact traditional harvesting and cultural practices closer to Matsqui core territory.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on harvesting and subsistence practices, as mentioned in the section above. A full table of Proponent mitigations can be found in [Appendix A](#) of the Revised Application. Below is a summary of Key Mitigation Measures, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air-quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Matsqui's harvesting rights and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Matsqui's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and fish habitat relied on to support Matsqui's harvesting and cultural practices;
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting

soil and runoff quality supports the health of fish habitat and vegetation relied on by Matsqui for harvesting and cultural practices;

- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Matsqui for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Matsqui's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to Matsqui's FSC harvesting and cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices; and,
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to Matsqui's harvesting and cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on Matsqui's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting rights (see [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for Matsqui to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Matsqui's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Matsqui's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Matsqui's harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions-control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support Matsqui's harvesting and cultural practices; and
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project-related roads, which may lower potential impacts on salmon and other fish important to Matsqui's harvesting rights and cultural practices.

In addition to the Proponent's mitigations and the provincial conditions the EAO identified the following Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Matsqui's harvesting practices and broader ecosystem conditions important to their way of life.

#### The EAO's Analysis and Conclusions

After consideration of the proposed mitigation measures and potential effects, described above, the EAO identified the following residual effects:

- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources;
- Effects to Matsqui's asserted Aboriginal rights to fish for FSC purposes; and
- Effects on the accessibility and availability of traditional lands and resources.

Table 31: Summary of residual effects and rationale on Matsqui and its harvesting and subsistence activities.

| Residual Effects                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Assessment Rating*                                                                                                                                                                                                                                                              | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Harvesting and subsistence activities</p> <ul style="list-style-type: none"> <li>- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources</li> <li>- Effects to Matsqui asserted Aboriginal rights to fish for FSC purposes closer to their core territory</li> <li>- Effects on the accessibility and availability of traditional lands and resources for plant gathering</li> </ul> | <p>Context (resilience): Low</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Fully reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> Rated as having a low resiliency. Industrial development has already affected harvesting and subsistence activities, and some harvested species are of conservation concern.</p> <p><b>Magnitude:</b> The magnitude is rated as negligible, based on the negligible residual effects on fish and fish habitat and surface water VCs. Other key potential residual effects are rated as negligible to low in magnitude.</p> <p><b>Extent:</b> Rated as local, since the spatial scale of residual effects to applicable VC's is limited, the impact on harvesting is expected to remain local, primarily within the immediate Tilbury Phase 2 area. Matsqui views the extent as regional, due to their view that an increased storage capacity from Tilbury Phase 2 will link with Tilbury Marine Jetty (TMJ) and increase vessel traffic on the Stó:lō, and impact fish and aquatic species.</p> <p><b>Duration:</b> The effects on harvesting will persist for as long as the Tilbury Phase 2 facility remains operational, making them medium-term.</p> <p><b>Reversibility:</b> Most effects, particularly those related to sensory disturbances such as noise and light, would cease if Tilbury Phase 2 were halted or upon Decommissioning, making them fully reversible.</p> <p><b>Frequency:</b> Rated as continuous as effects would be most prominent during Construction, but some effects (noise, light disturbance, changes to experiences and preferences) would occur continuously.</p> <p><b>Affected Populations:</b> Tilbury Phase 2's impacts will primarily affect Matsqui members who actively participate in harvesting. However, there may be indirect effects on those who choose not to harvest due to negative perceptions of environmental</p> |

|                                                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                          |  | <p>degradation in a highly developed area. These effects are considered disproportionate.</p> <p><b>Risk:</b> The likelihood of these effects occurring is low due to the effectiveness of mitigation measures, and due to their negligible magnitude and limited extent, the consequences are expected to be minor, resulting in an overall risk rating of low.</p> <p><b>Uncertainty:</b> The pathways of effects—such as noise, light, vibration, and impacts on harvesters—are well understood. While mitigation measures are expected to be moderately to highly effective, some uncertainty remains regarding their effectiveness in fully addressing harvesters' experiences and perceptions. As a result, the level of uncertainty is rated as moderate.</p> |
| <p>* Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a></p> |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

### Cumulative Effects

Matsqui's harvesting and subsistence activities have already been affected by historical environmental degradation (see Current Context section). The Revised Application identifies two foreseeable projects, T1B and TMJ, that are expected to add shipping to the Stó:lō and further alter the Tilbury Island foreshore prior to Construction of Tilbury Phase 2. These developments may introduce additional sensory disturbances (noise, light, vibration), degrade habitat and water quality, and impact culturally important plant, fish and wildlife resources.

Matsqui has raised concerns about noise pollution from Construction negatively impacting fish navigation in the South Arm of the Fraser River. The T1B Project will remove vegetation from the existing facility site, potentially impacting plant resources that Matsqui members may harvest now or in the future. The TMJ Project's shipping activities in the Fraser River could also contribute to noise and disturbance in the aquatic environment, potentially affecting fish and marine mammals. In Matsqui's view, Tilbury Phase 2 and TMJ are linked in that an increased storage capacity from Tilbury Phase 2 will affect TMJ and increase vessel traffic thereby effecting Matsqui's access to culturally important fish species for harvesting.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the Lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, including FortisBC's mitigation measures, EAO's Table of Conditions and KMMs, the EAO concludes that Tilbury Phase 2 would have a negligible effect on Matsqui's harvesting and substance activities.

## 16.10.7 Cultural Use Sites and Areas

### Background

Matsqui First Nation has deep historical and spiritual connections to the Fraser River and surrounding lands. The Fraser River is central to Matsqui identity, oral traditions, and ceremonial life, with many spiritual sites linked to back-eddies, pools, rocks, and sloughs along its course. Historically, the Matsqui prairie was abundant in culturally important plants and resources, reflected in place names such as Mómeqwem (medicinal tea leaves) and Xoxá:q'wem (cow parsnip stems). Longhouses and communal spaces near the Fraser River served as hubs for ceremonies, governance, and cultural transmission.

These sites were integral to maintaining kinship networks, spiritual practices, and stewardship responsibilities.

#### Current Context

Matsqui continues to value cultural sites and areas as essential for identity, language, and intergenerational knowledge transfer. However, cumulative effects of colonization, land alienation, and industrial development have fragmented access to traditional cultural landscapes. The south arm of the Fraser River near Tilbury Island, where Tilbury Phase 2 is located, is heavily industrialized and not identified as an area currently used by Matsqui for cultural purposes. No cultural sites have been documented within or adjacent to Tilbury Phase 2, and public access is restricted. Despite these constraints, Matsqui maintains aspirations to protect and revitalize cultural practices tied to the Fraser River and its tributaries, emphasizing stewardship and cultural continuity in land use planning and governance.

As mentioned in the Harvesting and Subsistence Activities, Section 16.10.6 above, past activities have had adverse effects on cultural use. In addition, the Revised Application identified a decline in access to cultural use areas for Stó:lō Nations due to railway developments and expansions.

#### Potential Project Effects

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with associated VCs outlined in [Appendix 6](#), that may affect Matsqui's cultural use sites and areas during Construction, Operation and Decommissioning phases of the Tilbury Phase 2:

- **Effects to cultural heritage and structures, sites, or things historical, archeological, paleontological, or architectural significance:** While Tilbury Phase 2 is private property and not currently accessible for activities like plant harvesting and will remain restricted, Matsqui would like to use areas adjacent to Tilbury Phase 2 and could use the Tilbury Phase 2 site if they had the opportunity. While sensory disturbances (acoustic, air quality, culture, and land and resource use VCs) are predicted to have low magnitude impacts compared to existing industrial conditions, they do have the potential to alter the experience of Matsqui members using cultural sites in the vicinity;
- **Loss of access to and disenfranchisement from cultural sites:** Matsqui harvesters could experience direct adverse effects to cultural and spiritual practices if access to cultural sites is altered or lost due to closure or modification of trails, parking areas, or access points between Tilbury Phase 2 and the Fraser River for safety or construction purposes (land and resource use VC). Changes in sensory effects (acoustic, air quality, culture, and land and resource use VCs) could change the experience of Matsqui members using cultural sites, such as harvesting areas along the south arm of the Fraser River; and
- **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas:** Access to cultural sites could be affected (soil, land and resource use, and archaeological and heritage resources VCs) by Tilbury Phase 2. Adverse effects to culture (culture VC) which are connected to potential effects on wildlife, habitat, and vegetation (See Harvesting and Subsistence section above) could influence the ability or desire to access these sites.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed to potential Tilbury Phase 2 related effects on cultural use sites and areas. These include the following:

- **Land and Resource Use (Section 7.11)** Traffic-management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support Matsqui's ability to safely access and continue cultural practices within their traditional territory;



- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Matsqui's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water;
- **Soil (Section 7.6)** Soil-management measures, including erosion control, spill-prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Matsqui;
- **Acoustics (Section 7.3)** Noise-reduction measures during construction and operation, including idle-reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by Matsqui;
- **Air Quality (Section 7.2)** The air-quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Matsqui's harvesting rights and cultural practices; and
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support Matsqui's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to Indigenous cultural use sites and areas (see [Section 8](#) of this Report):

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance.
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for Matsqui to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting Matsqui's continued access to and use of cultural sites during project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Matsqui;

- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions-control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by Matsqui; and
- **Condition 15 (Chance Find Protocol)** requires the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Matsqui historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### The EAO's Analysis and Conclusions

After consideration of the mitigation measures and potential effects, described above, the EAO concludes that Tilbury Phase 2 is not expected to result in residual adverse effects on Matsqui's cultural use sites and areas. The primary reasoning behind this conclusion is because Matsqui has not identified any cultural use sites or areas within or adjacent to Tilbury Phase 2 or within the LAA. Archaeological assessments conducted in 2013 and 2020 did not record cultural heritage resources in the area surrounding Tilbury Phase 2, and in the Revised Application there is no information indicating current cultural use by Matsqui. As no residual effects were identified, no characterization of effects or cumulative effects assessment was undertaken.

#### 16.10.8 Social and Economic Conditions and Indigenous Health and Well-Being

##### Background

Matsqui's social and economic systems were rooted in kinship networks, seasonal harvesting, and stewardship of land and water resources. Community well-being was supported through traditional practices such as fishing, hunting, and plant gathering, which provided food security and reinforced cultural identity. These practices were interconnected with governance, education, and health systems that emphasized holistic well-being, mental, emotional, physical, and spiritual health.

##### Current Context

Matsqui faces socio-economic challenges shaped by colonial policies and cumulative effects of land dispossession and industrial development. According to census data, Matsqui has a registered population of 289, with approximately 39% living on reserve. Employment rates remain lower than provincial averages, with a 2016 employment rate of 23.1% and higher unemployment among women (22.2%) compared to men (0%). Education levels show progress at the high school level (47.4% attainment) but limited postsecondary completion, reflecting systemic barriers.

Housing is limited, with 40 dwellings on Matsqui Main 2 reserve, and lone-parent households are present. Community infrastructure includes a health and community center in Abbotsford, but access to specialized health services depends on regional providers such as Fraser Health Authority and the First Nations Health Authority. Health disparities persist, including higher rates of chronic illness and socio-economic stressors, though initiatives through Indigenous health governance aim to improve culturally safe care.

Despite these challenges, Matsqui continues to prioritize cultural continuity and community well-being through education programs, environmental stewardship, and participation in regional health and emergency planning. Economic development opportunities, such as leasing land for a mobile home park and forestry agreements, provide some revenue, but broader aspirations for social and economic equity remain constrained by historical and ongoing structural barriers.



## Potential Project Effects

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with associated VCs in [Appendix 6](#) that may affect Matsqui's social and economic conditions and Indigenous health and well-being during Construction, Operation, and Decommissioning:

- **Social and Economic Conditions:**
  - **Effects on infrastructure and services:** Tilbury Phase 2 may add pressure on services if out-of-region workers are used, but according to the Revised Application effects are expected to be limited and not distinguishable from existing conditions (infrastructure services VC);
  - **Effects to Matsqui's employment opportunities, Indigenous businesses, procurement opportunities, and Matsqui revenue:** Tilbury Phase 2 could positively affect Matsqui's employment and procurement opportunities, depending on member participation and access to contracts (employment and economy VC). While there may be more opportunities especially during construction, smaller Indigenous businesses, including those linked to Matsqui, may face challenges competing for workers or meeting Tilbury Phase 2 demands;
  - **Effects to Matsqui's ability to improve social and economic conditions:** Tilbury Phase 2 may support Matsqui's ability to improve social and economic conditions by creating employment, training, and business opportunities (employment and economy, culture, fish and fish habitat, and wildlife and wildlife habitat VCs); and
  - **Effects to Matsqui's commercial and non-commercial fishing, gathering, and cultural or ceremonial activities and practices:** Tilbury Phase 2 could potentially disrupt economies that shape relationships between Indigenous communities on the Fraser River and that are central to Matsqui's identity (fish and fish habitat, wildlife and wildlife habitat, employment and economy, and culture VCs).
- **Indigenous Health and Well-being:**
  - **Effects on the quality, quantity, and availability of harvested country foods:** Land, water or air-based contamination from Tilbury Phase 2 could adversely affect country foods such as fish and traditional plants. See above Harvesting and Subsistence Activities, Section 16.10.8;
  - **Effects on the value and perceived quality of country foods:** Quality, quantity, or availability of plants or wildlife could be impacted from Tilbury Phase 2. Country foods could become contaminated (see list of potential project effects above). Community perceptions with respect to the quality of country foods have the potential to interact with Matsqui members participation in harvesting and subsistence activities and cultural and spiritual practices in the absence of adverse effects (land and resource use, and culture VCs);
  - **Effects on air quality, noise and water quality:** Tilbury Phase 2 activities have the potential to contribute contaminants of concern to air and water, and increased noise levels in proximity to the facility property line (air quality, acoustics, surface water, land and resource use, and human health VCs); and,
  - **Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites:** Tilbury Phase 2 may interact with Matsqui's health and well-being through changes to traditional practices, access to cultural sites, and socio-economic factors. Positive effects may include increased income and employment opportunities for members, while potential adverse effects relate to shift work and family stress.

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions and Indigenous health and well-being.

These include the following:

- **Land and Resource Use VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Matsqui's on-going stewardship of land and water resources and reducing stressors that can affect well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Matsqui members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socio-economic impacts on Matsqui and supporting health and community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Matsqui's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Matsqui's cultural continuity;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Matsqui's physical health and cultural practices;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Matsqui's well-being;
- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting Matsqui's physical well-being and confidence in harvesting;
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Matsqui members' physical, cultural, and mental health;
- **Acoustics (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting Matsqui's comfort, well-being, and connection to land and water;
- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting Matsqui's cultural and nutritional reliance on healthy salmon and aquatic ecosystems; and,
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for Matsqui's subsistence and health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to social and economic conditions and Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides Matsqui with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** require ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with Matsqui First Nation to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting Matsqui's physical health and overall well-being;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Matsqui historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being;
- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being;
- **Condition 17 (Dry Street Sweeping Report)** requires FortisBC to submit a Report on the effectiveness Dry Street Sweeping to mitigate the effects of 6-PPDQ on fish within eighteen months of a Certificate being issued. By informing measures to protect downstream aquatic environments, this condition supports Matsqui's health and well-being by helping maintain confidence in environmental quality and minimizing potential concerns related to contamination of culturally important fish and waterways.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- **Accidents and Malfunctions Reporting** would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### The EAO's Analysis and Conclusions

After consideration of the EAO's conclusions on the linked VCs, potential effects, proposed mitigation measures and conditions, the EAO concludes that Tilbury Phase 2 is not expected to result in residual adverse effects on Matsqui's social and economic conditions or Indigenous health and well-being.

While the nation continues to experience extensive systemic challenges - including limited access to housing, employment, and culturally important lands - these are primarily the result of historic and ongoing regional industrial development, and not directly attributable to Tilbury Phase 2.

Tilbury Phase 2 is situated in an already industrialized area with limited current access or not used by Matsqui members.

The potential for positive effects, combined with the absence of any material adverse effects from Tilbury Phase 2, supports the EAO's conclusion of no residual effect on social and economic conditions or Indigenous health and well-being. Therefore, no characterization of effects or cumulative effects assessment was undertaken.

#### 16.10.9 Positive Effects of Tilbury Phase 2

According to the Revised Application, Tilbury Phase 2 is expected to create job opportunities, particularly in construction, benefit Indigenous businesses through contracting and procurement, and potentially increase revenue for the Matsqui government, while improving social and economic conditions and providing long-term skills training opportunities for Matsqui members.

The positive effects of Tilbury Phase 2 depend on the level of participation and access Matsqui members and businesses have to the opportunities generated, with direct positive effects on Matsqui interests being limited compared to existing conditions.

For example, since Construction would have the greatest demand for skilled and semiskilled workers, Matsqui members with a trades certificate and experience in the construction sector would be most likely to benefit from direct employment with Tilbury Phase 2. The potential positive effect on Matsqui employment and procurement opportunities depend on whether their members are directly or indirectly employed by Tilbury Phase 2 and whether their businesses can access contracting and procurement opportunities for Tilbury Phase 2.

#### 16.10.10 Conclusions

Considering the above analyses, EAO's engagement with Matsqui, FortisBC's and Matsqui's engagement, mitigation measures, cumulative effects, the EAO's recommended Table of Conditions, and the Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is anticipated to have negligible residual effects on harvesting and subsistence activities.

Considering the above analysis the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on the Indigenous interests of Matsqui has been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with Matsqui on Tilbury Phase 2, as outlined above in Section 16.10.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Matsqui.

## 16.11 Métis Nation British Columbia

### 16.11.1 Community Profile

Métis people are one of the three Indigenous peoples of Canada recognized in Section 35(2) of the *Constitution Act, 1982*. Métis are descendants of unions between European men (explorers, fur traders, pioneers) and Indigenous women, who developed distinct communities with their own collective identity, way of life, and traditions, separate from those of their First Nations, Inuit, and European ancestors. MNBC is the recognized provincial organization representing Métis interests in B.C. MNBC represents the interest of over 19,000 registered citizens in 40 Chartered Communities across seven regions of the province and states that it represents the broader interests of approximately 90,000 self-identified Métis people in B.C. Since 2003, following the ratification of its Constitution, MNBC has developed laws, policies, and governance structures to advance Métis culture and interests in the province.

While MNBC identifies areas of interest throughout B.C. where Métis citizens reside and maintain cultural connections, there is no legally recognized Métis traditional territory in B.C., and no court has confirmed the existence of a historic Métis community or Métis homeland in the province. Accordingly, Métis do not possess land, water, or air-based rights in B.C. equivalent to those held by First Nations, and engagement with MNBC in EA processes occurs on the basis of Métis cultural interests and community presence rather than constitutionally recognized territorial rights.

### 16.11.2 Métis Nation British Columbia Involvement in the Environmental Assessment

During the Early Engagement Phase MNBC did not identify as a participating Indigenous nation.

Métis Nation British Columbia has had minimal involvement in the EA for Tilbury Phase 2. The EAO notified MNBC of key assessment milestones, including the Readiness Decision, issuance of the Process Order, and the submission of FortisBC's Revised Application, and provided advance notice of upcoming opportunities to review and comment during the Application Review phase.

The EAO used the following sources in drafting the assessment of Tilbury Phase 2 effects on their Indigenous interests:

- The Proponent's Revised Application;
- Information submitted during the EA by the Proponent and MNBC;
- Conclusions from the EAO's assessment of VCs;
- The Proponent's Indigenous Consultation Report;
- A summary of the Proponent's engagement with MNBC is provided in [section 11.12](#) of the Revised Application; and
- Other sources of secondary information publicly available and relevant to the EA of Tilbury Phase 2.

### 16.11.3 Assessment Boundaries

The spatial assessment boundaries for each Indigenous interest were defined based on the overlap of the cultural use and occupancy area with the combined LAAs and combined RAAs identified for linked VCs. Refer to Figure 11.12-1 in *Section 11.12 of the Revised Application* (Indigenous Interests and Tilbury Phase 2 Location figure). The LAA of each Indigenous interest consists of the combined LAAs of VCs that are linked to the Indigenous interest, whereas the RAA of each Indigenous interest consists of the combined Regional Assessment Areas of VCs that are linked to the Indigenous interest. The LAA are used more for assessing direct or indirect Tilbury Phase 2 effects, while the RAA is for assessing cumulative effects.

The assessment of potential effects related to Tilbury Phase 2 considered three distinct phases:

- Construction phase, with an estimated duration of three to six years;
- Operation phase, expected to last more than forty years; and
- Decommissioning phase, anticipated to take approximately two years.

#### 16.11.4 Regional Context

Tilbury Phase 2 lies within MNBC Region 2 – Lower Mainland. More specifically, the North Fraser Métis Association, New Westminster, and the Surrey Delta Métis Association, Delta, are located directly in proximity to Tilbury Phase 2. While Tilbury Phase 2 is within MNBC's Region 2 – Lower Mainland, where Chartered Communities such as the North Fraser and Surrey Delta Métis Associations are located, Métis citizens have raised concerns about potential effects on harvesting areas along the Fraser River. Métis peoples have a long history of settlement and resource use in this region, with cumulative impacts from industrialization and urban growth reducing access to cultural sites and traditional resources. Fishing, hunting, and plant gathering continue to occur near Tilbury Phase 2, though opportunities are constrained by industrial land use, restricted access, and ecological pressures on species such as salmon, waterfowl, and native plants.

It is the Proponent's understanding, based on information available at the time of writing the Revised Application, that while MNBC members fish and harvest in the south arm of the lower Fraser River, they do not currently use Tilbury Phase 2 itself, and FortisBC's removal of all in-river activities means Tilbury Phase 2 is not expected to affect MNBC's ability to harvest.

The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with very little to no habitat value for wildlife. The vegetation within Tilbury Phase 2 is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species. Public access to Tilbury Phase 2 is limited, although there is currently public use of the dike to the north of Tilbury Phase 2 along the Fraser River.

#### 16.11.5 Indigenous Interests

The EAO notified MNBC during the Early Engagement phase in the development of the [Joint Summary of Issue and Engagement for the Tilbury Phase 2 LNG Expansion Project](#); however, they did not provide comments. The EAO did not summarize an initial understanding of MNBC's interests at that stage.

During the Readiness Decision phase, the [Readiness Decision Report](#) indicates that MNBC did not engage with the EAO and did not identify any Tilbury Phase 2-related concerns at that time. Therefore, the EAO drafted the [Tilbury Phase 2- Schedule C – Application Information Requirements](#) Table 6, which outlines the Proposed Preliminary List of Indigenous Interests based on conversations with other First Nations involved in Tilbury Phase 2 and a preliminary understanding of Tilbury Phase 2 effects and how they may impact First Nation interests.

The Proponent identified MNBC Indigenous interests to be assessed in the Revised Application through:

- Reviewing requirements and guidance from the EAO; and
- Conducting engagement efforts with MNBC to gather information on their Indigenous interests, as outlined in [Section 11.12.3 of the Revised Application](#) - Summary of Engagement.

The EAO notified MNBC during the development of this Report; however, no comments were received on their section, and the EAO relied on the preliminary list of Indigenous interests identified in the AIR, which include:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions; and
- Indigenous health and well-being.



The assessment of MNBC Indigenous interests in this section uses these categories. The EAO's assessment of MNBC Indigenous interest includes; describing the Indigenous interest, current context, potential effects, mitigation, effects analysis. If there is an adverse residual effect a characterization of effects and cumulative effects assessment is also completed.

### 16.11.6 Harvesting and Subsistence Activities

#### Background

MNBC has historical ties to the Fraser River region, which supported Métis settlement, the fur trade, transportation, and harvesting. Harvesting remains vital to Métis culture, emphasizing sustainable practices and respect for the land. Métis citizens have engaged in harvesting and subsistence activities in the Lower Mainland since the late 1700s, with an important presence established by the early 1800s.

A Use and Occupancy Study for the nearby Tilbury Marine Jetty (TMJ) Certificate Application confirmed active land and marine harvesting for food, social, and ceremonial use. Métis harvesters traditionally collect various resources, including salmon species, crab, cod, eulachon, shellfish, firewood, berries, roots, wild onions, mint, currants, rose hips, dandelion, stinging nettle, and other edible or medicinal plants. Hunting targets have historically included deer, black bear, muskrat, beaver, otter, seal, and coastal birds.

#### Current Context

Available regional land-use information indicates that individual MNBC members continue to fish in the south arm of the Fraser River and harvest plants and other resources in nearby areas. Plant gathering remains an important practice in riparian and estuarine locations beyond the industrial footprint of Tilbury Phase 2.

Ongoing industrialization, dredging, shoreline modification, and urban development along the Fraser River have reduced the availability and quality of resources relied on for Métis harvesting. These pressures intersect with the harvesting and subsistence activities LAA and RAA, where MNBC citizens continue to access culturally important species and harvesting locations. MNBC members currently fish in the south arm of the lower Fraser River, with active fishing occurring approximately 400 metres from Tilbury Phase 2. Hunting for coastal birds, particularly ducks and geese, continues along adjacent shoreline areas, including between Tilbury Island and Deas Island, at distances of roughly 1.5 km from Tilbury Phase 2. Plant harvesting areas used by Métis citizens occur further upstream and along nearby riparian zones, with the closest known gathering area located approximately 3.25 km from Tilbury Phase 2. Traditional harvesting sites associated with MNBC presence also extend throughout the Fraser River delta, Roberts Bank, and Boundary Bay areas that remain culturally important despite cumulative industrial pressures.

Tilbury Phase 2 is situated on an industrial brownfield site with no existing access for harvesting. However, MNBC citizens continue to use areas within the broader harvesting and subsistence activities LAA and RAA, particularly the lower Fraser River, Roberts Bank, Boundary Bay, and the Fraser River delta, for fishing, gathering, and cultural land use activities.

#### Potential Project Effects

The EAO has identified the following pathway of effects, prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#) that may affect MNBC's harvesting and subsistence practices during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Changes to the experience and preferences around the practice of harvesting and effects on the quality, quantity, and availability of resources:** Potential effects may arise from the loss or alteration of habitat supporting harvested wildlife, fish, bird, or plant species, including species of cultural and medicinal importance (wildlife and wildlife habitat, and vegetation VCs). Tilbury Phase 2 activities could result in changes to surface water quality or quantity, such as turbidity and hydraulic changes affecting the Fraser River and Tilbury Slough (surface water, and groundwater VCs). These environmental shifts may reduce the quality and quantity of habitat for harvested species and affect their availability, distribution, and abundance (fish and fish habitat VC). The quality of harvested species themselves may also be affected by changes in surrounding air, water, and soil conditions (air quality, and soil VCs). In addition, sensory disturbances—including noise, vibration, odour, dust, and visual change—could alter the qualitative experience of harvesting and diminish the cultural value of these practices (acoustic, and land and resources VCs);
- **Effects to Métis Nation British Columbia harvesting activities:** Potential effects include changes to harvesting methods and practices, such as timing and seasonality, which may alter the current use of lands and resources and harvesting-based livelihoods. Increased time, cost, and effort to reach harvesting sites could reduce harvesting success, while access restrictions may further limit opportunities. Habitat alteration may affect the quality, quantity, distribution, and abundance of species, as well as the quality of harvested resources. Shifts in timing or seasonal rounds could disrupt continuity of cultural traditions and livelihoods. Together, these changes may reduce MNBC citizens' ability to sustain harvesting practices (air quality, acoustic, surface water, groundwater, soil, vegetation, wildlife and wildlife habitat, fish and fish habitat, and land and resource use VCs); and
- **Effects to the accessibility and availability of traditional lands and resources:** Potential effects include changes in the ability to travel to or through current use areas, restrictions on access to culturally important places, and disruptions to accessible travelways. Use of the Fraser River and marine environment for navigation may also be affected, reducing opportunities to access traditional lands and resources (land and resource use, surface water, and infrastructure and services VCs).

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures that the Proponent has proposed in response to potential Tilbury Phase 2-related effects on harvesting and subsistence activities, as mentioned in the section above. A full table of Proponent mitigations can be found in [Appendix A](#) of the Revised Application. Below is a summary of mitigation measures, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support MNBC's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support MNBC's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and fish habitat relied on to support MNBC's harvesting and cultural practices;



- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by MNBC for harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by MNBC for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife-protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to MNBC's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill-prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to MNBC's FSC harvesting and cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices; and
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to MNBC's harvesting and cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on MNBC's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting activities (see [section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for MNBC to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of MNBC's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to MNBC's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to MNBC's harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support MNBC's harvesting and cultural practices; and,
- **Condition 17 (Dry Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project related roads, which may lower potential impacts on salmon and other fish important to MNBC's harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial conditions the EAO identified the following Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting MNBC's harvesting practices and broader ecosystem conditions important to their way of life.

#### The EAO's Analysis and Conclusions

After consideration of the mitigation measures and potential effects, described above, the EAO identified the following residual effects:

- Changes to the experience and preferences around the practice of harvesting and effects on the quality, quantity, and availability of resources;
- Effects to MNBC harvesting and subsistence activities; and
- Effects on the accessibility and availability of traditional lands and resources.

The EAO's characterization of the residual effects of Tilbury Phase 2 on Harvesting and subsistence activities are summarized in the table below.

Table 32: Summary of residual effects and rationale on Métis Nation British Columbia and its harvesting and subsistence activities

| Residual Effect                                                                                                                                                                                                                                                                                                                                                         | Assessment Rating*                                                                                                                                                                                                                                                      | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <p>Harvesting and subsistence activities</p> <p>- Effects to the accessibility and availability of traditional lands and resources</p> <p>- Effects to Métis Nation British Columbia harvesting and subsistence activities</p> <p>- Changes to the experience and preferences around harvesting and effects on the quality, quantity, and availability of resources</p> | <p>Context (resilience): Moderate</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Short-Term</p> <p>Reversibility: Fully Reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Even</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> Rated as moderate, since MNBC maintains enduring cultural and harvesting ties to the Fraser River despite cumulative degradation, but persistent environmental pressures continue to erode the viability of traditional harvesting areas.</p> <p><b>Magnitude:</b> Rated as negligible, because Tilbury Phase 2 does not overlap with known active harvesting zones. Residual effects such as noise, dust, emissions, and localized habitat change may negligibly effect harvesting experience, but are not expected to measurably reduce the ability to harvest.</p> <p><b>Extent:</b> Rated as local, given that residual effects are spatially limited to the Tilbury Island vicinity and do not extend across broader harvesting regions.</p> <p><b>Duration:</b> Rated as short-term, as most disturbances (e.g., construction-related noise, runoff, or emissions) are expected during Construction and early Operation, with operational effects managed through mitigation.</p> <p><b>Reversibility:</b> Most effects, particularly those related to sensory disturbances such as noise and light, would cease if Tilbury Phase 2 were halted or upon Decommissioning, making them fully reversible.</p> <p><b>Frequency:</b> Rated as continuous as effects would be most prominent during construction, but some effects (noise, light disturbance) would occur continuously.</p> <p><b>Affected Populations:</b> Tilbury Phase 2's impacts will primarily affect MNBC members who actively harvest, though indirect effects may also be felt by those who refrain from harvesting due to perceived environmental degradation in the highly developed area.</p> <p><b>Risk:</b> The likelihood of these effects occurring is low given effectiveness of mitigation measures, with negligible magnitude and limited extent, the overall consequences are expected to be minor.</p> <p><b>Uncertainty:</b> The pathways of effects such as noise, light, vibration, and</p> |

| Residual Effect                                                                                                                   | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | impacts on harvesters, are well understood. While mitigation is expected to be moderately to highly effective, some uncertainty remains regarding its ability to fully address harvesters' experiences and perceptions. Therefore, the level of uncertainty is rated as moderate. |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                   |

### Cumulative Effects

As described in the Background and Current Context section, the lower Fraser River and Tilbury Island area have undergone longstanding industrial development, as well as impacts due to climate change, resulting in existing pressures on environmental conditions and on MNBC's harvesting and subsistence activities

MNBC raised concerns about ongoing erosion of harvesting opportunities and culturally important resources due to cumulative regional development. The Revised Application identifies several reasonably foreseeable projects that may affect MNBC's harvesting and subsistence interests. These include T1B, which would increase LNG production, and TMJ, which would introduce additional vessel traffic in the Fraser River and further development of the foreshore area. Both T1B and TMJ could contribute additional sensory disturbances (noise, light, vibration) and impact air quality in areas used by MNBC for harvesting. TMJ could further alter fish habitat and water quality in areas where MNBC may have in the past, present or future take part in harvesting and subsistence practices.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, including FortisBC's proposed mitigation measures, EAO's Table of Conditions and the federal Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 would have a negligible effect on MNBC's harvesting and substance activities.

#### 16.11.7 Cultural Use Sites and Areas

##### Background

Although MNBC does not hold reserve lands in B.C., Métis families maintain enduring cultural connections through historic settlement sites, travelways, and areas of spiritual and historical importance across the Lower Mainland. The Revised Application identifies three cultural sites and two boat sites located approximately 4–7 km from Tilbury Phase 2 within the cultural use sites and areas LAA. Historical settlements such as Fort Langley and Fort Victoria, connected by long-standing travel routes along the Fraser River, remain central to Métis identity and history. A Métis Use and Occupancy Study for the Lower Mainland further documented more than 100 cultural locations, including cabins, burial sites, and culturally important landforms, underscoring the depth and persistence of MNBC cultural use across the region.

##### Current Context

MNBC citizens continue to harvest and use the lower Fraser River, particularly along its south arm, where individual members fish, gather plants, and access nearby shorelines and riparian areas. A recent Cultural Use and Occupancy Study completed for the adjacent TMJ Project identified subsistence fishing sites near—but not within—the Tilbury Phase 2 area, confirming contemporary Métis use of the region.

Tilbury Phase 2 itself is a highly industrialized and previously disturbed site within the existing Tilbury LNG facility, with limited wildlife habitat and restricted access. Existing industrial activity, dredging, shoreline modification, and urban development across the lower Fraser River continue to influence MNBC's ability to harvest in the region.

#### *Potential Project Effects*

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#) that may affect MNBC's cultural use sites and areas during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Effects to cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance;** Tilbury Phase 2 could affect cultural use sites and areas through Construction activities that disturb culturally important places, such as archeological sites, due to ground disturbances, accidental spills of deleterious substances, or other construction-related interaction (culture, soil, and archaeological and heritage resources VC's);
- **Loss of access to and disenfranchisement from cultural sites;** MNBC harvesters could experience direct adverse effects to cultural and spiritual practices if access to cultural sites is altered or lost due to closure or modification of trails, parking areas, or access points between Tilbury Phase 2 and the Fraser River for safety or construction purposes (land and resource use VC). Changes in sensory effects (acoustic, air quality, culture, and land and resource use VC's) could change the experience of MNBC members using cultural sites, such as harvesting areas along the south arm of the Fraser River; and
- **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas;** Access to cultural sites could be affected (land and resource use VC) by Tilbury Phase 2. Adverse effects to culture (culture VC) which are connected to potential effects on wildlife, habitat, and vegetation (See Harvesting and Subsistence section above) could influence the ability or desire to access these sites.

#### *Mitigation Measures*

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed to potential Tilbury Phase 2 related effects on cultural use sites and areas. These include the following:

- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and the ecological integrity of adjacent areas, including those used by MNBC for cultural practices, teaching, and medicinal plant harvesting, thereby helping to maintain the quality and accessibility of cultural use sites and areas relied upon by MNBC members;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species associated with MNBC cultural use sites and areas. These measures help maintain the availability and quality of plants used for cultural practices, teaching, and medicinal harvesting. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities, supporting the ecological conditions necessary for the continued use and integrity of MNBC cultural use sites and areas;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing Construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the wildlife and ecosystems associated with MNBC cultural use sites and areas. These measures contribute to sustaining the ecological conditions necessary for cultural practices, teaching, and harvesting activities, and help preserve the integrity and experience of MNBC cultural use sites and areas;

- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the ecological conditions associated with MNBC cultural use sites and areas, including areas relied upon for fishing, teaching, and cultural practices, and help maintain the availability of fish species central to the ongoing use and integrity of these cultural sites and areas;
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream ecosystems associated with MNBC cultural use sites and areas. These measures contribute to sustaining the conditions necessary for vegetation, fish, and other resources relied upon for cultural practices, teaching, and harvesting, and help preserve the integrity and continued use of MNBC cultural use sites and areas;
- **Land and Resource Use (Section 7.11)** Traffic management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support MNBC's ability to safely access and continue cultural practices within their traditional territory;
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support the MNBC's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water;
- **Soil (Section 7.6)** Soil management measures, including erosion control, spill prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by MNBC;
- **Acoustics (Section 7.3)** Noise reduction measures during Construction and Operation, including idle reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by MNBC;
- **Air Quality (Section 7.2)** The air quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support MNBC's harvesting and cultural practices; and
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support MNBC's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to Indigenous cultural use sites and areas (see [Section 8](#) of this Report):

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps

reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance.

- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for MNBC to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting MNBC's continued access to and use of cultural sites during project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by MNBC;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by MNBC; and
- **Condition 15 (Chance Find Protocol)** requiring the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If MNBC historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### The EAO's Analysis and Conclusions

After consideration of the mitigation measures, provincial conditions, and potential effects, described above, the EAO identified the following residual effects:

- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance;
- Effects of various project activities on cultural values and spiritual activities; and
- Loss of access to or disenfranchisement from cultural sites.

The EAO's characterization of the residual effects of Tilbury Phase 2 on Cultural Use Sites and Areas are summarized in the table below.



Table 33: Summary of residual effects and rationale on Métis Nation British Columbia and its cultural use sites and areas.

| Residual Effect                                                                                                                                                                                                                                                                                                                                                                                         | Assessment Rating*                                                                                                                                                                                                                                                                | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <p>Cultural use sites and areas</p> <ul style="list-style-type: none"> <li>- Effects of various project activities on cultural values and spiritual activities</li> <li>- Loss of access to or disenfranchisement from cultural sites</li> <li>- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance</li> </ul> | <p>Context (resilience): Moderate</p> <p>Magnitude: Low</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Frequency: Continuous</p> <p>Reversibility: Partially Reversible</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> Rated as having moderate resiliency, recognizing that MNBC has demonstrated adaptability in maintaining cultural practices despite historical and ongoing industrial development within their territory. However, the persistence of cumulative disturbances in the Fraser River corridor, including habitat alteration, sensory impacts, and reduced access to key cultural areas, has likely diminished overall capacity to absorb additional adverse effects. This rating reflects a balanced assessment acknowledging both cultural resilience and the challenges posed by the highly modified setting.</p> <p><b>Magnitude:</b> Rated as low, based on the Project's negligible magnitude residual effect on fish, fish habitat, and surface water, which underpin many cultural activities. Other connected VC residual effects, including those to wildlife, vegetation, air quality, acoustics, and land and resource use, are expected to be negligible to low in magnitude and of local extent. The Tilbury Phase 2 site is located on fee simple industrial land, where access for cultural use is already restricted.</p> <p><b>Extent:</b> Rated as local, as the anticipated residual effects are geographically confined to the project vicinity and immediate surrounding areas. While MNBC members maintain connections across the lower Fraser, the predicted effects are unlikely to extend beyond the local assessment area for cultural use.</p> <p><b>Duration:</b> Rated as medium-term, as residual effects, particularly sensory disturbances and restricted access, would persist throughout Construction and Operation but are expected to cease following Decommissioning.</p> <p><b>Frequency:</b> Rated as continuous for restrictions on access to the project footprint, which is an ongoing condition. Sensory disturbances (e.g., noise, odour, visual changes) may be continuous during Operation but variable during Construction depending on activity type.</p> <p><b>Reversibility:</b> Most sensory-related effects (e.g., noise, visual, air quality) are expected to be fully reversible upon Decommissioning. However, any cultural impacts arising from sustained loss of access or long-term changes in practice patterns could be partially reversible if intergenerational use or knowledge transfer is disrupted.</p> <p><b>Affected Populations:</b> Direct impacts would disproportionately affect MNBC members actively engaging in cultural and ceremonial practices in proximity to Tilbury Phase 2, while indirect effects, through changes to the cultural landscape or perceptions of site quality, could be felt more broadly by the Nation.</p> <p><b>Risk:</b> The likelihood of direct Tilbury Phase 2-related impacts on cultural use sites is low, and the overall consequence is minor, given the low magnitude of predicted effects and the application of mitigation measures. Risk is therefore rated as low.</p> <p><b>Uncertainty:</b> Rated as moderate, acknowledging that cultural effects are complex to quantify and may be experienced differently among individuals and families. While mitigation is expected to be effective in addressing physical and sensory disturbances, uncertainties remain regarding long-term perceptions of site suitability for cultural use.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a>                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

### Cumulative Effects

Incremental Project effects could interact with those from other foreseeable projects in the area, such as the TMJ Project, T1B, and other port-related expansions, potentially compounding sensory disturbances, navigation pressures, and loss of culturally important riparian landscapes.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, including proposed proponent mitigations, EAO's conditions, and KMMs, and based on the Project specific effects of Tilbury Phase 2, the EAO concludes that the Project will have a negligible effect on the cultural use sites and areas of MNBC.

#### 16.11.8 Social and Economic Conditions and Indigenous Health and Well-being

##### Background

MNBC is a distinct Indigenous people whose citizens primarily live off reserve and maintain strong cultural ties to land, harvesting, and resource use. The absence of reserve lands in B.C. and limited Métis-specific data contribute to persistent gaps in social outcomes, while long-standing inequities in housing, healthcare access, and cultural continuity continue to shape Métis well-being. Historically, Métis communities relied on intercommunity trade, labour mobility, and kinship networks throughout the Fraser River region. These practices continue to influence MNBC's economic development approach today, which prioritizes workforce participation, business partnerships, and procurement opportunities that align with Métis values of stewardship and self-reliance.

MNBC's understanding of health and well-being is rooted in a holistic worldview informed by the Cree concept of *miyopimatisiwin*, meaning "living well." This approach emphasizes the interconnectedness of spiritual, mental, physical, and emotional wellness and differs from biomedical models by placing cultural identity, community belonging, and cultural continuity at the center of health. Traditional harvesting practices play an important role in Métis wellness by supporting access to natural, nutrient-rich foods and reinforcing cultural values, intergenerational learning, and community cohesion. MNBC citizens emphasize that health is shaped not only by physical factors, but also by the ability to safely practice culture, maintain meaningful relationships, and access culturally grounded spaces and activities. Cultural safety, spiritual practices, and the transmission of Métis knowledge are recognized as essential determinants of well-being, and MNBC has identified concerns that disruptions to cultural practices or traditional ways of life may adversely influence health outcomes by weakening these cultural determinants.

##### Existing Conditions

MNBC citizens participate across diverse sectors in the Lower Mainland, with strong representation in construction and industrial trades. Despite these strengths, Métis households in the region experience some of the highest rates of core housing need in the province, alongside ongoing health and wellness challenges linked to cumulative colonial impacts.



MNBC continues to pursue training, employment, and procurement opportunities tied to major projects but has noted that large-scale developments can strain labour markets and reduce competitiveness for smaller Indigenous businesses. Social and economic resilience also depends on sustained access to culturally important resources; while individual MNBC members continue to use the lower Fraser River and adjacent lands for harvesting and cultural activities, the area is already heavily industrialized.

MNBC's current health and well-being are extensively shaped by the ongoing impacts of colonialism, resulting in disparities in social, economic, and health outcomes. Like other Indigenous peoples in Canada, MNBC continues to face systemic discrimination, influencing key social determinants of health. Harvesting and subsistence activities remain essential, as MNBC citizens emphasize harvesting their own food for FSC purposes, valuing the quality and cultural importance of traditional foods.

MNBC has expressed concerns that Tilbury Phase 2 could affect their well-being through impacts on cultural practices, traditional sites, and the environment. In particular, the Revised Application's assessment of potential effects on fish habitat is highly relevant to Indigenous health, given the cultural and dietary importance of harvesting.

#### Potential Project Effects

The EAO identified the following effect pathways of effect, prior to the application of mitigation measures, along with the associated VCs in [Appendix 6](#) that may affect MNBC's social and economic conditions and Indigenous health and well-being during Construction, Operation and Decommissioning phases of Tilbury Phase 2:

- **Social and Economic Conditions:**
  - **Effects on infrastructure and services:** Tilbury Phase 2 may add pressure on services if out-of-region workers are used, but according to the Revised Application effects are expected to be limited and not distinguishable from existing conditions (land and resource use, employment and economy, and infrastructure services VC's);
  - **Effects to MNBC's employment opportunities, Indigenous businesses, procurement opportunities, and MNBC revenue:** Tilbury Phase 2 could positively affect MNBC's employment and business opportunities, depending on member participation and access to contracts (employment and economy VC). Indigenous workers are also more likely to be in construction-related jobs. However, smaller Indigenous businesses may face challenges competing for workers or meeting Tilbury Phase 2 demands (culture VC);
  - **Effects to MNBC's ability to improve social and economic conditions:** Tilbury Phase 2 may support MNBC's efforts to improve social and economic conditions by creating employment, training, and business opportunities. Increased demand for skilled workers could also boost interest in trades training. (infrastructure and services, and employment and economy VC); and
  - **Effects on commercial and non-commercial harvesting, cultural activities, and intercommunity trade:** Tilbury Phase 2 may indirectly influence MNBC's participation in cultural or ceremonial activities tied to harvesting (culture VC), though effects are expected to be negligible. Pathways include potential changes to resource availability (fish and fish habitat, wildlife and wildlife habitat, and vegetation VCs) and access to harvesting areas (land and resource use VC). These could alter the scale or frequency of intercommunity trade and cultural exchange, though no direct interaction is anticipated.
- **Indigenous Health and Well-Being:**
  - **Effects on the quality, quantity, and availability of harvested country foods:** Land, water, or air-based contamination from Tilbury Phase 2 could adversely affect country foods such as fish and traditional plants (See Harvesting and Subsistence section above);

- **Effects on the value and perceived quality of country foods:** Quality, quantity or availability of plants or wildlife could be impacted from Tilbury Phase 2. Country foods could become contaminated. (See list of potential project effects above). Community perceptions with respect to the quality of country foods have the potential to interact with MNBC members' participation in harvesting and subsistence activities and cultural and spiritual practices even in the absence of adverse effects (land and resource use, and culture VCs);
- **Effects on air quality, noise and water quality:** Tilbury Phase 2 activities have the potential to contribute contaminants of concern to air and water, and increased noise levels in proximity to the facility property line (air quality, acoustics, surface water, land and resource use, human health VCs); and
- **Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites:** Tilbury Phase 2 may interact with MNBC's health and well-being through changes to traditional practices, access to cultural sites, and socio-economic factors. Effects on traditional ways of life due may still influence health outcomes indirectly. Positive effects may include increased income and employment opportunities for members, while potential adverse effects relate to shift work and family stress.

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that FortisBC has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions and Indigenous health and well-being. These include the following:

- **Land and resource use VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting MNBC's long-term aspirations for land and water restoration and reducing stressors that can affect well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for MNBC members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socioeconomic impacts on MNBC and supporting health and community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports MNBC's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting MNBC's cultural continuity and nutritional well-being;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to MNBC's physical health and cultural practices;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to MNBC's well-being;
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for MNBC's subsistence and health;

- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting MNBC's cultural and nutritional reliance on healthy salmon and aquatic ecosystems;
- **Acoustics (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting MNBC's comfort, well-being, and connection to land and water;
- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting MNBC's physical well-being and confidence in harvesting; and
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect MNBC members' physical, cultural, and mental health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on social and economic conditions and Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides MNBC with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** require ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with MNBC to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting MNBC's physical health and overall well-being;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If MNBC historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being;
- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being;
- **Condition 17 (Dry Street Sweeping Report)** requires FortisBC to submit a report on the effectiveness Dry Street Sweeping to mitigate the effects of 6-PPDQ on fish within eighteen months of a Certificate being issued. By informing measures to protect downstream aquatic environments, this condition supports MNBC's health and well-being by helping maintain confidence in environmental quality and minimizing potential concerns related to contamination of culturally important fish and waterways.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- **Accidents and Malfunctions Reporting** would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### The EAO's Analysis and Conclusions

After considering the EAO's conclusions on the linked VCs and proposed mitigation measures, the EAO concludes that Tilbury Phase 2 is not expected to result in residual adverse effects on MNBC's social and economic conditions or Indigenous health and well-being interests.

While MNBC continues to experience extensive systemic challenges - including limited access to housing, employment, culturally important lands, access to holistic and community-based health and well-being programs - these are primarily the result of historic and ongoing regional industrial development, systemic effects to healthcare and not directly attributable to Tilbury Phase 2. Tilbury Phase 2 is situated in an already industrialized area with limited current access or use by MNBC members.

Although Tilbury Phase 2 may interact with aspirations for land and water restoration, or for re-establishing cultural practices in the area, the potential for employment, training, and contracting benefits may also support Métis Nation B.C.'s efforts to strengthen their economic conditions. On balance, the potential for positive effects, alongside the lack of material new barriers introduced by Tilbury Phase 2, supports the EAO's conclusion of no residual effect on social and economic conditions and therefore no characterization of effects or cumulative effects assessment was undertaken.

#### 16.11.9 Positive Effects of Tilbury Phase 2

For MNBC, the Revised Application anticipates several positive outcomes, particularly during the three- to six-year Construction phase, which will require many skilled and semi-skilled workers. MNBC citizens, 11.7% of whom held trades certificates or apprenticeships in 2016, could benefit from employment opportunities linked to Tilbury Phase 2. Tilbury Phase 2 may also increase contracting and procurement opportunities for Indigenous businesses, including MNBC enterprises.

MNBC is actively pursuing training and employment through corporate partnerships and tools like the MNBC Economic Development Portal. Further benefits could include higher incomes, job security, and improved social conditions for MNBC members and families. Tilbury Phase 2 may also encourage long-term participation in education and skilled trades, supporting MNBC's workforce development initiatives such as the Skills Training, Employment & Post Secondary Program (STEPS) program. Additionally, increased MNBC Government revenue is possible depending on economic involvement levels.

Overall, the Revised Application predicts positive residual effects for MNBC through employment, business opportunities, and social improvements, with no anticipated adverse interactions.

#### 16.11.10 Conclusions

Considering the above analyses, the EAO's engagement with MNBC, MNBC's engagement with FortisBC, mitigation measures, cumulative effects, the EAO's recommended Table of Conditions and the identified Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is anticipated to have the following:

- Negligible residual effects to harvesting and subsistence activities; and
- Negligible residual effects to cultural use sites and areas.

Considering these analyses, the EAO concludes that the potential for adverse effects of Tilbury Phase 2 on the Indigenous interests of MNBC has been adequately avoided, minimized, or otherwise accommodated. Based on the engagement undertaken with MNBC on Tilbury Phase 2, as outlined above in Section 16.6.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with MNBC.

## 16.12 Pópkw'em First Nation

### 16.12.1 Community Profile

Pópkw'em (Popkum) is a Stó:lō community located along the Fraser River in the Upper Fraser Valley region, approximately 30 km west of Hope and 30 km east of Chilliwack. Pópkw'em is a modern descendant of the group ethnographically identified as Tait (or Tíyt). The Tíyt are one of several groups classified as upper Stó:lō. Though similar language and customs appear to have been shared between the upper Stó:lō that historically spoke the Halkomelem language, Tíyt spoke a unique dialect.

Pópkw'em is a member government of the Stó:lō Nation, negotiating land and resources agreements outside the B.C. treaty process. Pópkw'em has three reserves: Pekw'xe:yles (Peckquaylis), Popkum 1, and Popkum 2. Pópkw'em currently has a registered population of 13, with one member living on reserve.

### 16.12.2 Pópkw'em Involvement in the Environmental Assessment

During the Early Engagement phase, Pópkw'em did not identify as a participating Indigenous nation.

The EAO and the IAAC provided funding to support the Pópkw'em's engagement in the EA process. EAO provided documents, Tilbury Phase 2 updates, the draft Initial Project Description and DPD, and Process Planning documents for Pópkw'em's review. During the Process Planning phase, it was agreed that the EAO would assess the Project effects on Pópkw'em's Indigenous interests, as identified in Section 4 of the Assessment Plan.

### 16.12.3 Assessment Boundaries

All Tilbury Phase 2 components within the Project Footprint are within Pópkw'em's traditional territory.

The spatial assessment boundaries for each Indigenous interest were based on the overlap between Pópkw'em's traditional territory with the combined Local and RAAs identified for linked VCs. Refer to figure 11.17-1A in Section 11.17 of the Revised Application (Indigenous Interests and Proposed Project Location Figure). The LAA for each Indigenous interest reflects the combined LAAs of the VCs linked to that interest. The RAA is defined the same way, using the combined RAAs of the linked VCs. In general, the LAA is used to assess direct and indirect project effects, while the RAA supports the assessment of cumulative effects.

The assessment of potential effects related to Tilbury Phase 2 considered three distinct phases:

- Construction phase, with an estimated duration of three to six years;
- Operation phase, expected to last more than forty years; and
- Decommissioning phase, anticipated to take approximately two years.

### 16.12.4 Regional Context

The Project Footprint, as well as the Local and RAAs for Tilbury Phase 2, are situated within a region deeply tied to the cultural, historical, and economic activities of Stó:lō Nations. The word "Stó:lō" is Halqemeylem for "river", so the Stó:lō are the river people. For upper Stó:lō communities, which includes Pópkw'em, salmon fishing is core to their culture and contributed the greatest amount of food, especially dried salmon that was stored over the winter months. Today members of the Stó:lō Nation's communities currently practice traditional travel (canoeing) in ceremonial and spiritual practices for fishing, hunting, trapping and plant gathering as well as for wind drying activities.

The Project Footprint is located within the Stó:lō Nation's asserted territory, along the south arm of the lower Fraser River on Tilbury Island. The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with little to no habitat value for wildlife. The vegetation within the Project Footprint is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species.

Public access to the site is limited, although there is some use of a nearby dike directly opposite the fence line of Tilbury Phase 2 along the Fraser River.

#### 16.12.5 Indigenous Interests

The EAO engaged Pópkw'em during the Early Engagement phase in the development of the [Joint Summary of Issue and Engagement for Tilbury Phase 2 LNG Expansion Project](#); however, the EAO did not receive any input during that phase.

During the Readiness Decision phase in the development of the [Readiness Decision Report](#), EAO engaged with Pópkw'em who did not specifically indicate their primary concerns regarding Tilbury Phase 2. Therefore, the EAO relied on input gathered from technical advisors and participating Indigenous nations. This information was used in drafting the [Tilbury Phase 2- Schedule C – Application Information Requirements](#) Table 6; see Proposed Preliminary List of Indigenous Interests.

During the Application Development and Review phase, the EAO did not receive any input from Pópkw'em and therefore continued to rely on the Revised Application and external sources to confirm the Indigenous interests assessed in this Report.

FortisBC (Proponent) identified Pópkw'em's Indigenous interests to be assessed in the Revised Application through:

- Reviewing requirements and guidance from the EAO; and
- Conducting engagement efforts with Pópkw'em to gather information on their Indigenous interests outline in [Section 11.18.3](#) Summary of Engagement of the Pópkw'em's Section of the Stó:lō Nations section in the Revised Application.

The EAO attempted to engage Pópkw'em during the development of this Report. As no comments were received on their section, the EAO relied on the preliminary list of Indigenous interests identified in the AIR, which include:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions; and
- Indigenous health and well-being.

The assessment of with Pópkw'em's Indigenous interests in this section uses these categories. The EAO's assessment includes describing the Indigenous interest, the current context, potential effects, applicable mitigation, and the resulting effects analysis. If there is an adverse residual effect a characterization of effects and cumulative effects assessment is also completed.

#### 16.12.6 Harvesting and Subsistence Activities

##### Background

Pópkw'em members use, or have used, Pópkw'em's territory for generations, with multiple irreplaceable and interacting values spread along the Fraser River and throughout the Fraser Valley and Lower Fraser Canyon. Stó:lō territory was made up of four separate "food processing" zones, each with distinct biological and geographical characteristics, and traditionally Stó:lō would have used the area of the lower Fraser River for a variety of harvesting subsistence or cultural purposes, including fishing, hunting, plant gathering, ceremonial activities, or habitation.

##### Current Context

The Revised Application states that approximately 75% of Stó:lō community members continue to harvest traditional materials for food, social, and ceremonial (FSC) purposes, and have expressed concern regarding lost opportunities to gather, as well as the potential contamination. However, specifically to the Tilbury Phase 2 area, the Revised Application does not identify that Pópkw'em currently uses the south arm of the Fraser River for fishing, plant gathering, or hunting.



The present industrial developments, including land conversion, railway expansions, industrial accidents, the growth of the Port of Vancouver, and pollution, have had profound and far-reaching effects on Indigenous communities. These changes have reduced lands available for harvesting and gathering, adversely affected fish and fish habitat, wildlife, water quality, and access to cultural areas. The loss of land is considered an important factor contributing to cultural stress and decline in Indigenous well-being for Pópkw'em members.

#### Potential Project Effects

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#) that may affect Pópkw'em's harvesting rights during the Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources** from increased noise, light, and air pollution (acoustics, air quality, soil, groundwater, land and resource use VCs) may deter Pópkw'em members from accessing preferred harvesting areas near Tilbury Phase 2 site. Changes in fish distribution and abundance (fish and fish habitat VC) and the introduction of invasive plant species (vegetation VC) may further reduce the experience and preference of the practicing of harvesting rights. While Pópkw'em not currently fish or harvest close to Tilbury Phase 2, they could in the future if the site was decommissioned to a more natural state;
- **Effects to Pópkw'em Rights to fish for FSC purposes** from habitat loss, (wildlife, fish and fish habitat, vegetation VCs), increased mortality risks to fish, birds, and wildlife (wildlife and wildlife habitat VCs), and changes in their behavior due to sensory disturbances (acoustics, air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water VC) and Fraser River downstream, as well as contaminated soil (soil VC) could impact important plant species, may further impact traditional harvesting and cultural practices; and
- **Effects on the accessibility and availability of traditional lands and resources** may occur as a result of altered land or water based travel routes, access restrictions, or safety considerations, including changes to navigability and the usability of established travel corridors (land and resource use and surface water VCs), as well as indirect effects from sensory disturbances such as noise, dust, lighting, or visual changes that may discourage travel through otherwise accessible areas (air quality, acoustics, and land and resource use VCs).

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on harvesting and subsistence practices. A full table of Proponent mitigations can be found in [Appendix A of the Revised Application](#). Below is a summary of KMMs, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air-quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Pópkw'em's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during construction and operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Pópkw'em's harvesting and cultural practices;

- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and fish habitat relied on to support Pópkw'em's harvesting and cultural practices;
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Pópkw'em for harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Pópkw'em for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Pópkw'em's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill -prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to Pópkw'em's FSC harvesting and cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices; and,
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to Pópkw'em's harvesting and cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on Pópkw'em's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting rights (see [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for Pópkw'em to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Pópkw'em's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Pópkw'em's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Pópkw'em's harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions-control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support Pópkw'em's harvesting and cultural practices; and,



- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project-related roads, which may lower potential impacts on salmon and other fish important to Pópkw'em's harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial conditions the EAO identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Pópkw'em's harvesting practices and broader ecosystem conditions important to their way of life.

#### The EAO's Analysis and Conclusions

After consideration of the proposed mitigation measures and potential effects, described above, the EAO identified the following residual effects:

- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources;
- Effects to Pópkw'em Aboriginal rights to fish for FSC purposes; and
- Effects on the accessibility and availability of traditional lands and resources.

The EAO's characterization of the residual effects of Tilbury Phase 2 on harvesting and subsistence activities are summarized in the table below.

Table 34: Summary of residual effects and rationale on Pópkw'em and its harvesting and subsistence activities.

| Residual Effect                                                                                                                                                                                                                                                                                                                                             | Assessment Rating*                                                                                                                                                                                                                          | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Harvesting and subsistence activities<br>- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources<br>- Effects to Pópkw'em Aboriginal rights to fish for FSC purposes<br>- Effects on the accessibility and availability of traditional lands and resources | Context (resilience): Medium<br>Magnitude: Negligible<br>Extent: Local<br>Duration: Medium-term<br>Reversibility: Fully reversible<br>Frequency: Continuous<br>Affected Populations: Disproportionate<br>Risk: Low<br>Uncertainty: Moderate | <p><b>Context:</b> The interest is rated as having a medium resiliency. Pópkw'em harvesters historically frequented Tilbury Phase 2 site and surrounding areas for traditional harvesting before extensive industrial development. While current activity is reduced due to existing development pressures, the community remains moderately resilient to additional environmental stresses. If barriers were reduced, harvesting activity would likely increase.</p> <p><b>Magnitude:</b> Assessed as negligible, based on the absence of residual effects on fish, fish habitat, and surface water. Other key potential residual effects are rated as negligible to low (refer to the EAO's Analysis and Conclusion section and Table K). Historically, fishing and harvesting activities near Tilbury Phase 2 have been limited, with no current fishing activity reported. The only known ongoing harvesting may be minimal plant gathering along the site's edge.</p> <p><b>Extent:</b> Rated as local, since the spatial scale of residual effects to applicable VC's is limited, the impact on harvesting is expected to remain local, primarily within the immediate area of Tilbury Phase 2.</p> <p><b>Duration:</b> Effects on harvesting will persist for as long as the Tilbury Phase 2 facility remains operational, making them medium-term.</p> <p><b>Reversibility:</b> Most effects, particularly those related to sensory disturbances such as noise and light, would cease if Tilbury Phase 2 were halted or upon decommissioning, making them fully reversible.</p> <p><b>Frequency:</b> Rated as continuous as effects would be most prominent during Construction, but some effects (noise, light disturbance) would occur continuously.</p> |

| Residual Effect                                                                                                                   | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | <p><b>Affected Populations:</b> Tilbury Phase 2's impacts will primarily affect Pópkw'em members who actively harvest, though indirect effects may also be felt by those who refrain from harvesting due to perceived environmental degradation in the highly developed area.</p> <p><b>Risk:</b> Likelihood of these effects occurring is low given effectiveness of mitigation measures, with negligible magnitude of effects and limited extent, the overall consequences are expected to be minor. Therefore, the risk is rated as low.</p> <p><b>Uncertainty:</b> The pathways of effects—such as noise, light, vibration, and impacts on harvesters—are well understood. While mitigation is expected to be moderately to highly effective, some uncertainty remains regarding its ability to fully address harvesters' experiences and perceptions. Therefore, the level of uncertainty is rated as moderate.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

### Cumulative Effects

Pópkw'em's harvesting and subsistence activities have already been affected by historical environmental degradation (see Current Context section). The Revised Application identifies two foreseeable projects—T1BTMJ—that are expected to increase LNG production and add shipping to the Fraser River, altering the Tilbury Island foreshore prior to construction of Tilbury Phase 2. Both T1B and TMJ could contribute additional sensory disturbances (noise, light, vibration), degrade habitat and water quality, and impact culturally important plant and wildlife resources.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the Lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, including FortisBC's proposed mitigation measures, EAO's Table of Conditions and KMMs, the EAO concludes that Tilbury Phase 2 would have a negligible effect on Pópkw'em's harvesting and subsistence activities.

### 16.12.7 Cultural Use Sites and Areas

#### Background and Current Context

Pópkw'em's traditional territory spans approximately 3,077 km from Yale to Agassiz and into the Sunshine Valley. This area, along with the broader S'ólh Téméxw territory of the Stó:lō Nation, holds deep cultural, spiritual, and historical importance for Pópkw'em. Cultural use sites within these territories include places tied to oral histories, ancestral narratives, and spiritual practices, such as Lhílheqey (Mount Pópkw'em), which remains central to Pópkw'em identity and continuity.

Historically, Pópkw'em members relied on interconnected river systems and upland areas for fishing, hunting, plant gathering, and ceremonial activities, with cultural practices embedded in seasonal rounds and kinship-based stewardship. Pópkw'em continues to assert its rights and responsibilities to protect and maintain cultural connections to land and water, emphasizing the irreplaceable value of these sites for community well-being and intergenerational knowledge transfer.

Pópkw'em did not identify any specific cultural use sites or areas within Tilbury Phase 2 or within the cultural use sites and areas LAA.

#### Potential Project Effects

The EAO identified the following pathway of effects, along with associated VCs outlined in [Appendix 6](#), that may affect Pópkw'em's cultural use sites and areas during Construction, Operation and Decommissioning phases of Tilbury Phase 2:

- **Effects to cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance:** Tilbury Phase 2 could affect cultural use sites and areas through Construction activities that disturb culturally important places, such as archeological sites, due to ground disturbances, accidental spills of deleterious substances, or other construction-related interaction (culture, soil, and archaeological and heritage resources VC's);
- **Loss of access to and disenfranchisement from cultural sites:** Pópkw'em harvesters could experience direct adverse effects to cultural and spiritual practices if access to cultural sites is altered or lost due to closure or modification of trails, parking areas, or access points between Tilbury Phase 2 and the Fraser River for safety or construction purposes (land and resource use VC). Changes in sensory effects (acoustic, air quality, culture, and land and resource use VC's) could change the experience of Pópkw'em members using cultural sites, such as harvesting areas along the south arm of the Fraser River and Burns Bog; and
- **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas:** Access to cultural sites could be affected (land and resource use VC) by Tilbury Phase 2. Adverse effects to culture (culture VC) which are connected to potential effects on wildlife, habitat, and vegetation (See Harvesting and Subsistence Activities section above) could influence the ability or desire to access these sites.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed to potential Tilbury Phase 2 related effects on cultural use sites and areas. These include the following:

- **Land and Resource Use (Section 7.11)** Traffic-management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support Pópkw'em's ability to safely access and continue cultural practices within their traditional territory;
- **Culture VC (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Pópkw'em's land- and water-based cultural practices;
- **Soil (Section 7.6)** Soil-management measures, including erosion control, spill-prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Pópkw'em;
- **Acoustics (Section 7.3)** Noise-reduction measures during construction and operation, including idle-reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by Pópkw'em;
- **Air Quality (Section 7.2)** The air-quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or

degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Pópkw'em's harvesting and cultural practices; and

- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support Pópkw'em's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on cultural use sites and areas (see [Section 8](#) of this Report):

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance;
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for Pópkw'em to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting Pópkw'em's continued access to and use of cultural sites during project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Pópkw'em;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions-control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by Pópkw'em; and,
- **Condition 15 (Chance Find Protocol)** requires the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Pópkw'em historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### The EAO's Analysis and Conclusions

After consideration of the mitigation measures and potential effects, described above, the EAO has identified that there will not be any residual effects to Pópkw'em's cultural use sites and areas interest, primarily based on the above proposed mitigation measures, the EAO's analysis, and the lack of current use of Tilbury Phase 2 by Pópkw'em for cultural use sites and areas.

### 16.12.8 Social and Economic Conditions and Indigenous Health and Well-being

#### Background and Current Context

Pópkw'em is a small Stó:lō community with a registered population of 13 members, of which over 90 percent live off reserve. The nation holds three reserve parcels totaling approximately 160 hectares, including Popkum IR1 and IR2 near Bridal Falls. Housing on reserve is extremely limited, with only two private dwellings reported in 2021, reflecting extensive constraints on local residency and community development.

Economic development activities are minimal, with no documented business ventures beyond participation in provincial revenue-sharing agreements related to forestry and clean energy. Employment and income data for Pópkw'em were also unavailable; however, the nation has expressed interest in economic opportunities associated with major projects.

These conditions underscore systemic challenges linked to colonial policies and cumulative effects of land fragmentation, which have limited Pópkw'em's ability to sustain on-reserve housing, employment, and economic growth. Despite these constraints, Pópkw'em continues to assert its rights and seeks opportunities to improve social and economic well-being through partnerships and resource agreements.

Information specific to Pópkw'em's health and wellness is limited; however, the community shares many of the systemic challenges faced by other Stó:lō Nations. Pópkw'em members primarily reside off-reserve, which can create barriers to accessing culturally appropriate health services and community-based programs.

Broader Indigenous health determinants, such as intergenerational trauma, limited access to health care, and socio-economic disparities, continue to influence well-being. While regional services are provided through the Fraser Health Authority and the First Nations Health Authority, Pópkw'em relies on external programs for mental health, reproductive health, and chronic disease management.

The nation has expressed concerns about cumulative effects of industrial development on traditional ways of life, which are closely tied to holistic health, including physical, emotional, spiritual, and cultural dimensions. Loss of access to land-based practices, such as fishing, hunting, and plant gathering, has further impacted opportunities for cultural continuity and food security, both of which are integral to Indigenous health and well-being.

#### Potential Project Effects

The EAO identified the following pathway of effects, along with the associated VCs in [Appendix 6](#) that may affect Pópkw'em's social and economic conditions and Indigenous health and well-being during Construction, Operation and Decommissioning phases of the Tilbury Phase 2:

- **Social and Economic Conditions:**
  - **Effects on infrastructure and services:** Tilbury Phase 2 may add pressure on services if out-of-region workers are used, but according to the Revised Application effects are expected to be limited and not distinguishable from existing conditions (land and resource use, employment and economy, infrastructure services VC's);
  - **Effects to Pópkw'em's employment opportunities, Indigenous businesses, procurement opportunities, and Pópkw'em revenue:** Tilbury Phase 2 could positively affect Pópkw'em's employment and business opportunities, depending on member participation and access to contracts (employment and economy VC). Indigenous workers are also more likely to be in construction-related jobs. However, smaller Indigenous businesses may face challenges competing for workers or meeting Tilbury Phase 2 demands (culture VC);

- **Effects to Pópkw'em's commercial and non-commercial fishing, gathering, and cultural or ceremonial activities and practices:** Tilbury Phase 2 could potentially disrupt economies that shape relationships between Indigenous communities on the Fraser River and that are central to Pópkw'em's identity (fish and fish habitat, wildlife and wildlife habitat, employment and economy, and culture VCs); and
- **Effects to Pópkw'em's ability to improve social and economic conditions:** Tilbury Phase 2 may support Pópkw'em's efforts to improve social and economic conditions by creating employment, training, and business opportunities. Increased demand for skilled workers could also boost interest in trades training. (infrastructure and services, and employment and economy VC).
- **Indigenous Health and Well-Being:**
  - **Effects on the quality, quantity, and availability of harvested country foods:** Land, water or air-based contamination from Tilbury Phase 2 could adversely affect country foods such as fish and traditional plants. See Harvesting and Subsistence Section above;
  - **Effects on the value and perceived quality of country foods:** Quality, quantity or availability of plants or wildlife could be impacted from Tilbury Phase 2. Country foods could become contaminated (See list of potential project effects above). Community perceptions with respect to the quality of country foods have the potential to interact with Pópkw'em members' participation in harvesting and subsistence activities and cultural and spiritual practices even in the absence of adverse effects (land and resource use, and culture VCs);
  - **Effects on air quality, noise and water quality:** Tilbury Phase 2 activities have the potential to contribute contaminants of concern to air and water, and increased noise levels in proximity to the facility property line (air quality, acoustics, surface water, land and resource use, and human health VCs); and
  - **Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites:** Tilbury Phase 2 may interact with Pópkw'em's health and well-being through changes to traditional practices, access to cultural sites, and socio-economic factors. Effects on traditional ways of life due may still influence health outcomes indirectly. Positive effects may include increased income and employment opportunities for members, while potential adverse effects relate to shift work and family stress.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions and Indigenous health and well-being. These include the following:

- **Land and Resource Use VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Pópkw'em's on-going stewardship of land and water resources and reducing stressors that can affect well-being;
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollution from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Pópkw'em's health and well-being;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbances to archeological and heritage materials, including chance find procedures and early notification to Indigenous nations, help protect culturally important sites and landscapes that support the spiritual and emotional well-being of Pópkw'em;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Pópkw'em members and businesses to participate economically in the project, supporting improved social conditions and community well-being;



- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socioeconomic impacts on Pópkw'em and supporting health and community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Pópkw'em's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Pópkw'em's cultural continuity and nutritional well-being;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Pópkw'em's physical health and cultural practices;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Pópkw'em's well-being;
- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting Pópkw'em's physical well-being and confidence in harvesting;
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Pópkw'em members' physical, cultural, and mental health;
- **Acoustics (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting Pópkw'em's comfort, well-being, and connection to land and water;
- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting Pópkw'em's cultural and nutritional reliance on healthy salmon and aquatic ecosystems; and,
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for Pópkw'em's subsistence and health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to social and economic conditions and Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides Pópkw'em with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** require ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with Pópkw'em to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;

- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting Pópkw'em's physical health and overall wellbeing;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Pópkw'em historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being;
- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being;
- **Condition 17 (Dry Street Sweeping Report)** requires FortisBC to submit a report on the effectiveness Dry Street Sweeping to mitigate the effects of 6-PPDQ on fish within eighteen months of a Certificate being issued. By informing measures to protect downstream aquatic environments, this condition supports Pópkw'em's health and well-being by helping maintain confidence in environmental quality and minimizing potential concerns related to contamination of culturally important fish and waterways.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- **Accidents and Malfunctions Reporting** would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### The EAO's Analysis and Conclusions

After considerations in the EAO's conclusions on the linked VCs, potential effects, mitigation measures and conditions, the EAO concludes that Tilbury Phase 2 is not expected to result in residual adverse effects on Pópkw'em social and economic conditions and Indigenous health and well-being.

While the nation continues to experience extensive systemic challenges, including limited access to housing, employment, culturally important lands, access to holistic and community-based health and well-being programs, these are primarily the result of historic and ongoing regional industrial development, systemic effects to healthcare and not directly attributable to Tilbury Phase 2. Tilbury Phase 2 is situated in an already industrialized area with limited current access or use by Pópkw'em members.

Although Tilbury Phase 2 may interact with aspirations for land and water restoration, or for re-establishing cultural practices in the area, the potential for employment, training, and contracting benefits may also support the nation's efforts to strengthen their economic conditions. On balance, the potential for positive effects, alongside the lack of material new barriers introduced by Tilbury Phase 2, supports the EAO's conclusion of no residual effect on social and economic conditions. Therefore, no characterization of residual effects or cumulative effects assessment was undertaken.

#### 16.12.9 Positive Effects of Tilbury Phase 2

According to the Revised Application, Tilbury Phase 2 is expected to create job opportunities, particularly in Construction, benefit Indigenous businesses through contracting and procurement, and potentially increase revenue for the Pópkw'em, while improving social and economic conditions and providing long-term skills training opportunities for Indigenous people in the area.



The positive effects of Tilbury Phase 2 depend on the level of participation and access for Indigenous people and businesses that may have to the opportunities generated, with direct positive effects on Pópkw'em's interests being limited compared to existing conditions.

#### 16.12.10 Conclusions

Considering the above analyses, the EAO's engagement with Pópkw'em, FortisBC's and Pópkw'em's engagement, the mitigation measures, cumulative effects, the EAO's recommended Table of Conditions and the identified Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is anticipated to have a negligible residual effect on Pópkw'em's harvesting and subsistence activities.

Considering the above analyses, the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on the Indigenous interests of Pópkw'em has been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with Pópkw'em on Tilbury Phase 2, as outlined above in Section 16.12.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Pópkw'em.

## 16.13 Semiahmoo First Nation

### 16.13.1 Community Profile

Semiahmoo First Nation (Semiahmoo) are Coast Salish peoples located near White Rock, the U.S. border and Boundary Bay (Indigenous and Northern Affairs Canada 2019). Semiahmoo's traditional territory extends in a half-moon shape around Boundary Bay including sections of Point Roberts, the Serpentine and Nicomekl Rivers, and Lake Terrell (Brown 2014).

Semiahmoo is a transboundary nation that has historically inhabited and used areas of the Lower Mainland of B.C., the Salish Sea, and the state of Washington in the U.S. (Semiahmoo n.d.c). Semiahmoo people have deep connections to the land and resources in and around their traditional territory and continue to have close ties with the Lummi and Nooksack Peoples in the state of Washington.

Semiahmoo has approximately 151 members. The population of Semiahmoo Reserve was reported as 71 in the 2021 Canada Census, decreasing from 120 in 2016 (Statistics Canada 2023a).

### 16.13.2 Semiahmoo First Nation Involvement in the Environmental Assessment

During the Early Engagement Phase Semiahmoo did not identify as a participating Indigenous nation; however, the EAO worked collaboratively with Semiahmoo throughout the assessment process. As part of the TAC, Semiahmoo participated in technical meetings throughout the EA for Tilbury Phase 2.

The EAO and IAAC provided funding to support Semiahmoo's engagement in the EA process. EAO provided documents to Semiahmoo such as Tilbury Phase 2 updates, the draft Initial Project Description and DPD, and Process Planning documents for review. Semiahmoo was also invited to a number of meetings. During the Process Planning phase, it was agreed that the EAO would assess Tilbury Phase 2 effects on Semiahmoo Indigenous interests with input and review from Semiahmoo, as identified in Section 4 of the Assessment Plan.

The EAO used the following sources in drafting the assessment of Tilbury Phase 2 effects on their Indigenous interests:

- FortisBC's (Proponent) Revised Application;
- Information submitted during the EA by the Proponent and Semiahmoo;
- Conclusions from the EAO's assessment of VCs;
- The Proponent's [Indigenous Consultation Report](#); and
- A summary of the Proponent's engagement with Semiahmoo is provided in [Section 11.13 of the Revised Application](#).

### 16.13.3 Assessment Boundaries

All Tilbury Phase 2 components are within Semiahmoo's traditional territory.

The spatial assessment boundaries for each Indigenous interest were defined based on the overlap of the cultural use and occupancy area with the combined LAAs and combined RAAs identified for linked VCs (see Revised Application [Figure 11.13-1]). The LAA of each Indigenous interest consists of the combined LAAs of VCs that are linked to the Indigenous interest, whereas the RAA of each Indigenous interest consists of the combined RAAs of VCs that are linked to the Indigenous interest. The LAA is used more for assessing direct or indirect Tilbury Phase 2 effects, while the RAA is for assessing cumulative effects.

#### 16.13.4 Regional Context

The Project Footprint, as well as the LAA and RAA, are situated within a region deeply tied to the cultural, historical, and economic activities of Semiahmoo. According to the Revised Application, The Semiahmoo people consider themselves as part of the landscape, and this landscape serves as their sacred place, history book, storehouse of raw materials, and training ground.

Semiahmoo's traditional territory stretches north to Coquitlam, B.C., and the southern part of Stave Lake; west to include the southern Gulf Islands and parts of eastern Vancouver Island, including part of the Cowichan Valley and Saanich; east to the Abbotsford, B.C., area of the Lower Mainland of B.C.; and south in northwestern Washington state to include the San Juan Islands.

The Semiahmoo states that it has exclusive Aboriginal Rights and Title to Semiahmoo Bay, Point Roberts, and village sites at SCOUTEN and C'ELLENEM, and they were the traditional caretakers of the reef-net sites in those areas.

Semiahmoo has a profound relationship with the Fraser River, describing this relationship as one that sustains and nourishes its members physically, culturally, and spiritually. They traditionally used the southern arm of the lower Fraser River adjacent to the Project Footprint, in the vicinity of Deas Island and Tilbury Island, to fish and to harvest other traditional foods and material resources.

Semiahmoo is committed to protecting their waters, fish, and sacred sites. The impacts of European contact and industrialization, including contamination, have extensively affected their traditional harvesting areas. Their cultural and historical ties to this region remain strong, shaping their ongoing relationship with the land and waters.

The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with very little to no habitat value for wildlife. The vegetation within the Project Footprint is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species. Public access to the Project Site is limited, although there is currently public use of the dike to the north of the Project Site along the Fraser River.

#### 16.13.5 Indigenous Interests

The EAO engaged Semiahmoo during the Early Engagement phase in the development of the [Joint Summary of Issue and Engagement for the Tilbury Phase 2 LNG Expansion Project](#), where EAO summarized an initial understanding of Semiahmoo's interests; however, Semiahmoo did not provide comments. Therefore, the EAO drafted the [Tilbury Phase 2- Schedule C – Application Information Requirements](#) Table 6, which outlines the Proposed Preliminary List of Indigenous Interests based on conversations with other First Nations involved in the Project and a preliminary understanding of Tilbury Phase 2 effects and how they may impact First Nation interests.

The Proponent identified Semiahmoo's Indigenous interests to be assessed in the Revised Application through:

- Reviewing requirements and guidance from the EAO and AIR; and
- Conducting engagement efforts with Semiahmoo to gather information on their Indigenous interests, as outlined in [Section 11.13.3 of the Revised Application](#) - Summary of Engagement of the Semiahmoo section.

The EAO attempted to engage with Semiahmoo during the development of this Report; however, no comments were received on their section, and the EAO relied on the preliminary list of Indigenous interests identified in the AIR, which include:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions; and
- Indigenous health and well-being.

The assessment of Semiahmoo's Indigenous interests in this section uses these categories.

The EAO's assessment of Semiahmoo's Indigenous interests includes describing the Indigenous Interest, current context, potential effects, mitigation, and effects analysis. If there is an adverse residual effect, a characterization of effects and cumulative effects assessment is also completed.

### 16.13.6 Harvesting and subsistence activities

#### Background

Semiahmoo has a profound, holistic relationship with the Fraser River, which supports their physical, mental, spiritual, and emotional well-being. They hold an inherent responsibility to steward fish, wildlife, and plant habitats.

For thousands of years, harvesting for food, social, and ceremonial (FSC) purposes has been central to Semiahmoo life. Once among the wealthiest coastal nations due to a thriving fishery, they used marine resources for subsistence, trade, and economic purposes. Their traditional territory includes the Fraser River, Roberts Bank, Semiahmoo Bay, and the broader Salish Sea.

According to the Revised Application, Semiahmoo may have historically fished near the project site, at a village on the south arm of the Fraser River. However, access to this area would have required permission through marriage ties with the Quw'utsun Nation.

Plant gathering has also been an important traditional activity, along with hunting east of Boundary Bay on both sides of Canada and historically over the U.S. border, targeting species such as deer, elk, bear, beaver, and seal.

#### Current Context

According to the Revised Application, development, pollution, and fishery decline have reduced Semiahmoo's access to traditional marine food sources and economic resources. Contamination in the lower Fraser River has limited their ability to fish and harvest in historically used areas. Despite these challenges, the nation continues to uphold its stewardship responsibilities for fish, wildlife, and plant habitats.

Communal fishing access, when permitted, has occurred upstream of the Port Mann Bridge—outside the LAA for fish, fish habitat, and surface water—since at least 2004. More recently, members have reported harvesting beaver, waterfowl, and migratory birds near the George Massey Tunnel.

Current plant harvesting areas include Deas Island, Tilbury Island, and Burns Bog, though these have been affected by ongoing development. The Tilbury Phase 2 site is heavily disturbed, privately owned, and dominated by invasive species, limiting its value as a traditional harvesting site. While the Project Footprint is not accessible and will remain restricted, Semiahmoo members may continue gathering in nearby areas along the South Arm of the Fraser River.

#### Potential Project Effects

The EAO has identified the following pathway of effects, prior to the application of mitigation measures along with the associated VCs outlined in [Appendix 6](#), that may affect Semiahmoo's harvesting rights and subsistence activities during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources** from increased noise, light, and air pollution (acoustics, air quality, soil, groundwater, land and resource VCs) may deter Semiahmoo members from accessing preferred harvesting areas near Tilbury Phase 2 site. Changes in fish distribution and abundance (fish and fish Habitat VC) and the introduction of invasive plant species (vegetation VC) may further reduce the experience and preference of the practicing of harvesting rights. While Semiahmoo does not currently fish or harvest close to the Project site, they have historically and could in the future if the site was decommissioned to a more natural state;

- **Effects to Semiahmoo First Nation rights to fish for food, social and ceremonial (FSC) purposes** from habitat loss, (wildlife, fish, vegetation VCs), increased mortality risks to fish, birds, and wildlife (wildlife and wildlife habitat VCs), and changes in their behavior due to sensory disturbances (acoustics, air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water VC) and Fraser River downstream, as well as contaminated soil (soil VC), could impact important plant species, and may further impact traditional harvesting and cultural practices; and
- **Effects on the accessibility and availability of traditional lands and resources** may occur as a result of altered land or water based travel routes, access restrictions, or safety considerations, including changes to navigability and the usability of established travel corridors (land and resource use and surface water VCs), as well as indirect effects from sensory disturbances such as noise, dust, lighting, or visual changes that may discourage travel through otherwise accessible areas (air quality, acoustics, and land and resource use VCs).

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures that the Proponent has proposed in response to potential Tilbury Phase 2-related effects on harvesting and subsistence activities, as mentioned in the section above. A full table of Proponent mitigations can be found in [Appendix A of the Revised Application](#). Below is a summary of KMMs, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Semiahmoo's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during construction and operation—such as idle reduction policies, equipment enclosures, and engineered noise controls—help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Semiahmoo's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment-control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm-sewer system. These protections support water quality and fish habitat relied on to support Semiahmoo's harvesting and cultural practices;
- **Soil (Section 7.6)** Soil management measures—such as erosion control, spill prevention, and careful handling of contaminated soils—help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Semiahmoo for harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Semiahmoo for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Semiahmoo's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower

Fraser. These actions support the health and availability of salmon and other fish species central to Semiahmoo's FSC harvesting and cultural practices;

- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices; and
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to Semiahmoo's harvesting and cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on Semiahmoo's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting rights (see [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for Semiahmoo to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Semiahmoo's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Semiahmoo's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Semiahmoo's harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support Semiahmoo's harvesting and cultural practices; and
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project related roads, which may lower potential impacts on salmon and other fish important to Semiahmoo's harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial Conditions the EAO identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Semiahmoo's harvesting practices and broader ecosystem conditions important to their way of life.

#### The EAO's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Semiahmoo's harvesting rights and interests:

- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources;

- Effects to Semiahmoo Aboriginal rights to fish for FSC purposes; and
- Effects on the accessibility and availability of traditional lands and resources.

The EAO's characterization of the residual effects of Tilbury Phase 2 on harvesting and subsistence activities are summarized in the table below.

Table 35: Summary of residual effects and rationale on Semiahmoo harvesting and subsistence activities.

| Residual Effect                                                                                                                                                                                                                                                                                                                                                                                                                | Assessment Rating*                                                                                                                                                                                                                                                                            | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Harvesting and subsistence activities</p> <ul style="list-style-type: none"> <li>- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources</li> <li>- Effects to Semiahmoo Aboriginal rights to fish for FSC purposes</li> <li>- Effects on the accessibility and availability of traditional lands and resources</li> </ul> | <p>Context (resilience): Medium resilience</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Fully reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> The interest is rated as having a medium resiliency. Semiahmoo harvesters historically frequented the Tilbury Phase 2 site and surrounding areas for traditional harvesting before extensive industrial development. While current activity is reduced due to existing development pressures, the community remains moderately resilient to additional environmental stresses. If barriers were reduced, harvesting activity would likely increase.</p> <p><b>Magnitude</b> Assessed as negligible, based on the negligible magnitude impact on fish and fish habitat, and surface water. Sensory disturbances associated with the Project (i.e. noise, light and air quality) are negligible to low in magnitude and are not expected to extend to area where Semiahmoo harvests or fishes. Historically, fishing and harvesting activities near the Project site have been limited, with no current fishing activity reported. The only known on-going harvesting may be minimal plant gathering along the site's edge.</p> <p><b>Extent:</b> Rated as local, since the spatial scale of residual effects to applicable VC's is limited, the impact on harvesting is expected to remain local, primarily within the immediate Project area.</p> <p><b>Duration:</b> The effects on harvesting will persist for as long as the Tilbury Phase 2 facility remains operational, making them medium-term.</p> <p><b>Reversibility:</b> Most effects, particularly those related to sensory disturbances such as noise and light, would cease if Tilbury Phase 2 were halted or upon decommissioning, making them reversible.</p> <p><b>Frequency:</b> Rated as continuous because while effects may be most pronounced during Construction, the Project introduces ongoing changes to baseline conditions (e.g., access, disturbance, and altered resource conditions) that persist over the life of the Project and continue to influence harvesting and subsistence activities.</p> <p><b>Affected Populations:</b> Tilbury Phase 2's impacts are expected to be disproportionately experienced by Semiahmoo members who actively harvest, while indirect effects may also be felt by those who refrain from harvesting due to perceived environmental degradation in the highly developed area.</p> <p><b>Risk:</b> The likelihood of these effects occurring is low due to the effectiveness of mitigation measures and conditions. Given their negligible magnitude and limited spatial extent, the resulting consequences are expected to be minor; therefore, overall risk is rated as low.</p> <p><b>Uncertainty:</b> The pathways of effects, such as noise, light, vibration, and impacts on harvesters, are well understood. While mitigation is expected to be moderately to highly effective, some uncertainty remains regarding its ability to fully address harvesters' experiences and perceptions. Therefore, the level of uncertainty is rated as moderate.</p> |
| <p>* Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a></p>                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



### Cumulative Effects

As described in the Background and Current Context sections, Semiahmoo's harvesting and subsistence activities have already been affected by historical environmental degradation. The Revised Application identifies two reasonably foreseeable projects, T1B and TMJ, that are expected to introduce additional vessel traffic in the Fraser River and further development of the Tilbury Island foreshore prior to construction of the proposed Project. These developments may introduce additional sensory disturbances (noise, light, vibration), degrade habitat and water quality, and impact culturally important plant and wildlife resources.

The EAO recognizes the project-specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

### Conclusion

Considering the above analyses, FortisBC's proposed mitigation measures, the EAO's Table of Conditions, and KMMs, the EAO concludes that Tilbury Phase 2 would have negligible effects on Semiahmoo's harvesting and subsistence activities.

## 16.13.7 Cultural Use Sites and Areas

### Background

The Semiahmoo states that the use of their traditional lands and resources, including these cultural use sites, has a spiritual and sacred element that is integral to their cultural identity. Their history notes a deep connection where their ancestors are intertwined with the landscape. They have a profound relationship with the Fraser River, stating that this relationship nourishes their members holistically (physically, mentally, spiritually, and emotionally).

These cultural use sites and the ability to access and practice traditions within them are intrinsically linked to the Semiahmoo's Aboriginal rights, which are recognized and affirmed under Section 35 of the *Constitution Act*, 1982. These rights include the right to harvest resources for FSC purposes, which are deeply connected to traditional territories and cultural practices.

### Current Context

Semiahmoo has identified several key cultural and harvesting use sites within the broader area of the Project, see Harvesting and Subsistence Activities section above. This includes a historic Indigenous village site<sup>32</sup> across from Tilbury Phase 2 on the south arm of the Fraser River, used for seasonal fishing and accessed through a series of marriage ties with Quw'utsun Nation. The nation has also emphasized the importance of Deas and Tilbury islands, Crescent Beach, and Point Roberts for traditional harvesting and temporary camps, as well as the spiritual and cultural importance of these places.

While some of these areas fall within the harvesting and subsistence RAA (e.g., Crescent Beach), they are outside the immediate LAA for harvesting activities. Semiahmoo has stressed that their use of traditional lands is both spiritual and practical, with ceremonies, gatherings, and ancestral connections deeply tied to the landscape. Maintaining access to these sites, including travel routes to the Gulf Islands and Victoria, is important for the continuation of cultural practices.

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See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site.



### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect Semiahmoo's cultural use sites and areas during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Effects to cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural importance;** Tilbury Phase 2 could affect cultural use sites and areas through construction activities that disturb culturally important places, such as archaeological sites, due to ground disturbance, accidental spills of deleterious substances, or other construction-related interactions (culture, soil, archaeological and heritage resources VC);
- **Loss of access to and disenfranchisement from cultural sites;** Semiahmoo harvesters could experience direct adverse effects to cultural and spiritual practices if access to cultural sites is altered or lost due to closure or modification of trails, parking areas, or access points between Tilbury Phase 2 and the Fraser River for safety or construction purposes (land and resource VC). Changes in sensory effects (acoustic, air quality, culture, land and resource VC) could change the experience of Semiahmoo members using cultural sites, such as a historic fishing village, harvesting areas along the south arm of the Fraser River and Burns Bog; and
- **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas;** Access to cultural sites could be affected (land and resource use VC) by Tilbury Phase 2. Adverse effects to culture (culture VC) which are connected to potential effects on wildlife, habitat, and vegetation (See Harvesting and Subsistence section above) could influence the ability or desire to access these sites.

### Mitigation Measures

The Revised Application summarizes relevant mitigation measures proposed by the Proponent to address potential Tilbury Phase 2 related effects on cultural use sites and areas, including:

- **Land and Resource Use (Section 7.11)** Traffic management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support Semiahmoo's ability to safely access and continue cultural practices within their traditional territory;
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Semiahmoo's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water;
- **Soil (Section 7.6)** Soil management measures, including erosion control, spill-prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Semiahmoo;
- **Acoustics (Section 7.3)** Noise reduction measures during Construction and Operation, including idle reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by Semiahmoo;
- **Air Quality (Section 7.2)** The air quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Semiahmoo's harvesting rights and cultural practices; and

- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support Semiahmoo's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to Indigenous cultural use sites and areas:

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance.
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for Semiahmoo to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting Semiahmoo's continued access to and use of cultural sites during project construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Semiahmoo;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by Semiahmoo; and
- **Condition 15 (Chance Find Protocol)** requires the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Semiahmoo historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### The EAO's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO concludes that Tilbury Phase 2 could result in the following residual adverse effects to Semiahmoo's harvesting rights and interests:

- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance;
- Loss of access to and disenfranchisement from cultural sites; and
- Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas.

Semiahmoo and the EAO's characterization of the residual effects of Tilbury Phase 2 on cultural use sites and areas are summarized in the table below.

Table 36: Summary of residual effects and rationale on Semiahmoo First Nation and its cultural use sites and areas.

| Residual Effect                                                                                                                                                                                                                                                                                                                                                                                                                        | Assessment Rating*                                                                                                                                                                                                                                                                  | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <p>Cultural use sites and areas</p> <ul style="list-style-type: none"> <li>- Loss of access to and disenfranchisement from cultural sites</li> <li>- Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas</li> <li>- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance;</li> </ul> | <p>Context (resilience): Low</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Partially reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> Rated as having low resilience, acknowledging that while the nation has shown cultural resilience in the face of historical impacts, it is difficult to quantify the community's capacity to absorb additional adverse effects. Cultural strength may have been greater in the absence of cumulative disturbances, and potential links between cultural impacts and community health further complicate the assessment. Given these historical and ongoing challenges, this rating reflects a conservative estimate.</p> <p><b>Magnitude</b> is assessed as negligible, based on the negligible magnitude residual effects on fish, fish habitat, and surface water. Other connected VC potential residual effects (wildlife and wildlife habitat, vegetation, land and resource use) are rated as negligible to low majority and are of local extent. The Tilbury Phase 2 site is located on fee simple land, with no public access.</p> <p><b>Extent:</b> Rated as local, as the anticipated residual effects are geographically confined to Tilbury Phase 2 vicinity and immediate surrounding areas. While Semiahmoo members reside throughout the Lower Mainland, it is unlikely that cultural effects would extend beyond the immediate Project area.</p> <p><b>Duration:</b> Rated as medium-term, as residual effects will likely cease after the Decommissioning phase.</p> <p><b>Frequency:</b> Rated as continuous, particularly for loss of site use for cultural purposes, which is an ongoing effect. Sensory disturbances (e.g., noise, light) may be either continuous or irregular, depending on Tilbury Phase 2 activities.</p> <p><b>Reversibility:</b> Most sensory-related disturbances (e.g., noise, light) would be fully reversible following project decommissioning. However, cultural impacts linked to the loss of access or disruption to traditional practices may be irreversible.</p> <p><b>Affected Populations:</b> Direct impacts would disproportionately affect those actively practicing or seeking to practice their culture; However, indirect effects could extend to all members due to the interconnected nature of Semiahmoo cultural identity.</p> <p><b>Risk:</b> The likelihood of negative cultural impacts occurring is low, and the overall consequence is expected to be minor, given the negligible magnitude of direct Tilbury Phase 2-related effects and the application of mitigation measures. Risk is therefore rated as low.</p> <p><b>Uncertainty:</b> Rated as moderate, as cultural effects are inherently challenging to quantify and may be subject to individual and community-specific experiences that are difficult to predict with certainty.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a>                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

### Cumulative Effects

As outlined in the Background and Current Context sections, Semiahmoo's cultural use sites have already been extensively impacted by historical environmental degradation and land-use changes. This includes contamination of key harvesting areas such as Semiahmoo Bay, restricted access and altered ecological conditions along the Fraser River, and industrial degradation of sites like Tilbury Island. These impacts have limited the nation's ability to use culturally important areas and have disrupted the transmission of Indigenous knowledge.

The Revised Application also identifies two reasonably foreseeable projects, the T1B and the TMJ Project, that are expected to further alter the Tilbury Island foreshore. TMJ would also introduce additional vessel traffic in the Fraser River. These developments may introduce additional sensory disturbances (e.g., noise, light, vibration), remove culturally important vegetation, and affect aquatic environments, potentially impacting fish populations and cultural connections to the river. The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River. The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses including FortisBC's proposed mitigation measures, the EAO's Table of Conditions, and based on the Project specific effects of Tilbury Phase 2, the EAO concludes that the Project will have a negligible effect on Semiahmoo's cultural use sites and areas.

## 16.13.8 Social and Economic Conditions

### Background

Semiahmoo's social and economic well-being is closely linked to their Section 35 Aboriginal rights, including harvesting and access to cultural sites. These rights have historically supported community identity, self-determination, and economic resilience. The Revised Application uses indicators such as population, health, housing, education, employment, and economic development to reflect the nation's current social and economic conditions and connection to their traditional territory.

### Current Context

Ongoing development, industrialization, and environmental degradation have extensively affected Semiahmoo's access to culturally and economically important areas, including those around Tilbury Island. This has disrupted traditional fishing and harvesting activities and contributed to declines in community health, limited housing options, and barriers to education and employment. Many members now live off-reserve and rely on off-reserve economic partnerships. Despite these systemic challenges, members continue to seek opportunities for education, employment, and cultural revitalization.

See sections on Cultural Use Sites and Areas and Harvesting and Subsistence Activities for additional context.

### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect Semiahmoo's social and economic conditions during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Effects on infrastructure and services;** Tilbury Phase 2 may add pressure on services if out-of-region workers are used, but according to the Revised Application effects are expected to be limited and not distinguishable from existing conditions (land and resources, employment and economy, infrastructure services VC);
- **Effects to Semiahmoo First Nation's employment opportunities, Indigenous businesses, procurement opportunities, and Semiahmoo First Nation revenue;** Tilbury Phase 2 could positively affect Semiahmoo's employment and business opportunities, depending on member participation and access to contracts (employment and economy VC). Indigenous workers are also more likely to be in construction-related jobs. However, smaller Indigenous businesses, including those linked to SFN, may face challenges competing for workers or meeting Tilbury Phase 2 demands (culture VC);

- **Effects to Semiahmoo First Nation's future aspirations for sites or areas surrounding Tilbury Phase 2;** Potential residual effects from Tilbury Phase 2 could affect Semiahmoo's aspirations for land and water restoration, and their continued use of the Fraser River amid growing regional development (fish and fish habitat, wildlife and wildlife habitat, vegetation VC, and see Cultural Use Sites and Areas and Harvesting and Subsistence Activities sections);
- **Effects to Semiahmoo First Nation's ability to improve social and economic conditions;** Tilbury Phase 2 may support Semiahmoo's efforts to improve social and economic conditions by creating employment, training, and business opportunities. Increased demand for skilled workers could also boost interest in trades training. (infrastructure and services, and employment and economy VC); and
- **Effects to Semiahmoo First Nation's commercial and non-commercial fishing, gathering, and cultural or ceremonial activities and practices;** Potential residual effects from Tilbury Phase 2 could affect Semiahmoo's ability benefit from commercial and non-commercial fishing and gathering due to fish and wildlife mortality and loss of traditional plants used for harvesting. Furthermore, there could be a loss to their ability to practice their cultural or ceremonial activities in the Project area (fish and fish habitat, wildlife and wildlife habitat, vegetation VC, and see cultural use sites and areas and harvesting and subsistence activities sections).

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that FortisBC has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions. These include the following:

- **Land and Resource Use VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Semiahmoo's long-term aspirations for land and water restoration and reducing stressors that can impact economic development and community well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Semiahmoo members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socio-economic impacts on Semiahmoo and supporting health and community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Semiahmoo's food security, cultural identity, and local economy by safeguarding salmon and other species essential to FSC harvesting;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Semiahmoo's cultural continuity, social cohesion, and ongoing participation in land-based economic and stewardship activities;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods, help sustain traditional harvesting practices, protect culturally significant resources, and support the social and economic activities tied to Indigenous knowledge, land use, and stewardship; and

- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Semiahmoo's social and economic interest.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on social and economic conditions:

- **Condition 10 (Community Feedback Process)** provides Semiahmoo with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting on-going social and economic interests;
- **Condition 12 (CEMP)** requires mitigation measures to manage dust, noise, traffic, spills, surface water, erosion, and wildlife interactions during Construction. These measures help minimize construction related disturbances that could affect community and social well-being of Semiahmoo members;
- **Condition 13 (OEMP)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation. By limiting long-term environmental disturbances, this condition supports stable environmental conditions that protect Semiahmoo's social and economic interests;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality mitigates sensory disturbances, such as dust and odors, and prevents particulate deposition that may impact traditional resources. This supports the social and economic conditions of Semiahmoo by preserving the cultural acceptability and integrity of harvested species, ensuring harvesting does not become more difficult or costly to access;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Semiahmoo historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated social harm; and
- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support Semiahmoo First Nation's socio-economic well-being through increased access to jobs, skills development, and business opportunities associated with Tilbury Phase 2.

#### The EAO's Analysis and Conclusions

After considering the EAO's conclusions on the linked VCs, and proposed mitigation measures, the EAO concludes that Tilbury Phase 2 is not expected to result in residual adverse effects on Semiahmoo's social and economic conditions.

While the nation continues to experience extensive systemic challenges - including limited access to housing, employment, and culturally important lands - these are primarily the result of historic and ongoing regional industrial development, and not directly attributable to Tilbury Phase 2.

Tilbury Phase 2 is situated in an already industrialized area with limited current access or use by Semiahmoo members, and any additional demands on local services are expected to be negligible compared to existing pressures.

Although Tilbury Phase 2 may interact with cultural practices in the area, the potential for employment, training, and contracting benefits may also support the nation's efforts to strengthen their economic conditions.



On balance, the potential for positive effects, alongside the lack of material new barriers introduced by Tilbury Phase 2, supports the EAO's conclusion of no residual effect on social and economic conditions and therefore no characterization of effects or cumulative effects assessment was undertaken.

### 16.13.9 Indigenous Health and Well-Being

#### Background

The Semiahmoo's concept of health and well-being is holistic, deeply tied to their land, resources, and cultural traditions. It extends beyond physical health to include mental, spiritual, and emotional well-being.

#### Current Context

The Semiahmoo emphasizes that maintaining traditional practices, such as shellfish harvesting, is vital for the health and well-being of its members. However, due to pollution and contamination in their traditional waters, the Department of Fisheries and Oceans (DFO) has banned shellfish harvesting along the White Rock and Semiahmoo Reserve foreshore. This has led to a loss of cultural traditions, disrupted the transfer of Indigenous Knowledge, and contributed to chronic health issues in the community.

The nation also links mental health challenges to environmental degradation, including declining water quality, erosion, and reduced fish populations. Although swimming is now permitted again at White Rock Beach due to improved water quality, the community has faced long-term issues with access to clean drinking water since 1996. An improvement occurred in 2021, when the nation began receiving safe drinking water from Metro Vancouver, positively impacting community health.

#### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect Semiahmoo's Indigenous health and well-being during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Effects on the quality, quantity, and availability of harvested country foods:** Land, water or air-based contamination from Tilbury Phase 2 could adversely affect country foods such as fish and traditional plants (see Harvesting and Subsistence section above);
- **Effects on the value and perceived quality of country foods:** Quality, quantity or availability of plants or wildlife could be impacted from Tilbury Phase 2. Country foods could become contaminated. (See list of potential project effects above). Community perceptions with respect to the quality of country foods have the potential to interact with Semiahmoo members' participation in harvesting and subsistence activities and cultural and spiritual practices even in the absence of adverse effects (land and resource use and culture VCs);
- **Effects on air quality, noise, and water quality:** Tilbury Phase 2 activities have the potential to contribute contaminants of concern to air and water, and increased noise levels in proximity to the facility property line (air quality, acoustics, surface water, land and resource, health VCs); and
- **Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites:** The proposed Project may interact with Semiahmoo's health and well-being through changes to traditional practices, access to cultural sites, and socio-economic factors. Semiahmoo has identified the loss of traditional food sources and harvesting access as contributing to chronic health issues and limiting intergenerational knowledge transfer. Effects on traditional ways of life due may still influence health outcomes indirectly. Positive effects may include increased income and employment opportunities for members, while potential adverse effects relate to shift work and family stress.

## Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on Indigenous health and well-being. These include the following:

- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Semiahmoo's health and well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socioeconomic impacts on Semiahmoo and supporting health and community stability;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Semiahmoo's cultural continuity and nutritional well-being;
- **Land and Resources VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Semiahmoo's long-term aspirations for land and water restoration and reducing stressors that can affect well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Semiahmoo members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures and early notification to Indigenous nations, help protect culturally important sites and landscapes that support the spiritual and emotional well-being of Semiahmoo;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Semiahmoo's well-being;
- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting Semiahmoo's physical well-being and confidence in harvesting;
- **Acoustics (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting Semiahmoo's comfort, well-being, and connection to land and water;
- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting Semiahmoo's cultural and nutritional reliance on healthy salmon and aquatic ecosystems;
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for Semiahmoo's subsistence and health;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Semiahmoo's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;



- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Semiahmoo's physical health and cultural practices; and
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Semiahmoo members' physical, cultural, and mental health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides Semiahmoo with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)**, requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with Semiahmoo to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting Semiahmoo's physical health and overall, well-being; and,
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Semiahmoo historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being;
- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being;

#### The EAO's Analysis and Conclusions

After consideration of the mitigation measures and potential effects, described above, the EAO and Semiahmoo identified the following residual effects:

- Effects on the quality, quantity, and availability of harvested country foods;
- Effects on the value and perceived quality of country foods;
- Effects on air quality, noise, and water quality; and
- Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites.

Semiahmoo and the EAO's characterization of the residual effects of Tilbury Phase 2 on Indigenous health and well-being are summarized in the table below.

Table 37: Summary of residual effects and rationale on Semiahmoo and its Indigenous health and well-being.

| Residual Effect                                                                                                                                                                                                                                                                                                                                                                                                                       | Assessment Rating*                                                                                                                                                                                                                                                                    | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <p>Indigenous health and well-being</p> <ul style="list-style-type: none"> <li>- Effects on the quality, quantity, and availability of harvested country foods</li> <li>- Effects on the value and perceived quality of country foods</li> <li>- Effects on air quality, noise, and water quality</li> <li>- Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites</li> </ul> | <p>Context (resilience): Medium</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Partially</p> <p>Frequency: Continuous/Irregular</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> Semiahmoo has experienced extensive environmental and social challenges, reducing their resilience to further adverse effects. However, their efforts to maintain cultural connections and recent improvements, such as gaining access to clean drinking water, indicate a medium capacity for resiliency. There is expected to be a negligible to no interaction between Tilbury Phase 2 activities and Semiahmoo cultural use sites and areas, and harvesting and subsistence activities, see section above.</p> <p><b>Magnitude:</b> Rated as negligible because Tilbury Phase 2 is not expected to affect country food availability. Residual effects on VCs related to health, such as air quality and noise, are predicted to have a negligible to low magnitude after mitigation. Consistent with this, the Human Health VC is also rated as negligible to low. In addition, Tilbury Phase 2 is anticipated to have positive effects on socio-economic determinants of health through increased employment and economic opportunities.</p> <p><b>Extent:</b> The potential residual effects are rated as local since effects would be limited directly surrounding Tilbury Island and its immediate zone of influence on the Fraser River. They are not expected to spread across the wider territory or affect regional cultural or health systems.</p> <p><b>Duration:</b> Potential effects, including environmental changes and perceptual impacts, are expected to persist throughout Tilbury Phase 2's 40 plus years of Operation, making them medium-term. While sensory disturbances may end after Decommissioning, impacts on cultural well-being could have lasting effects.</p> <p><b>Frequency:</b> The frequency of effects is characterized as both continuous and irregular, depending on the stressor and Project phase. During the Operation phase, some stressors (e.g., noise and visual changes) may be present on a continuous basis. In contrast, construction-related stressors are expected to occur irregularly, reflecting the intermittent nature of construction activities. Additionally, the perception of environmental degradation could result in continuous effects on well-being.</p> <p><b>Reversibility:</b> The effects are considered partially reversible. Sensory disturbances, such as noise and light, are expected to be fully reversible after Decommissioning. However, impacts on human health and cultural well-being, including loss of connection to traditional practices and perceived environmental degradation, may be irreversible or require a long time to recover.</p> <p><b>Affected Populations:</b> While positive economic effects may benefit a broad range of Semiahmoo members, those engaged in traditional harvesting and cultural practices or with pre-existing health vulnerabilities could be disproportionately impacted by negative environmental changes or perceived risks.</p> <p><b>Risk:</b> The likelihood of effects on health and well-being is considered medium, due to potential changes in environmental conditions (air and noise) and perceptions related to country foods and traditional practices. With mitigation, residual effects are expected to be of negligible to low magnitude and limited extent, and no substantive effects on country food availability are anticipated. As a result, consequences to health and well-being are expected to be minor, with the overall risk assessed as low.</p> <p><b>Uncertainty:</b> The assessment of potential effects on the Semiahmoo's Indigenous health and well-being carries a moderate degree of uncertainty primarily due to the inherent challenges in quantifying cultural effects and</p> |

| Residual Effect                                                                                                                   | Assessment Rating* | Rationale                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | their subsequent impacts on well-being. These impacts can vary based on individual and community-specific experiences, making precise predictions difficult. |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                              |

### Cumulative Effects

Semiahmoo has already experienced extensive adverse effects from historical and ongoing industrial development and European contact to their Indigenous health and well-being. This has led to:

- Contamination and pollution of their traditional harvesting areas impacting the quality and availability of country foods like shellfish and fish. This has direct implications for their diet, traditional practices, and overall well-being;
- Loss and restriction of access to traditional lands and resources due to settlement, urban development, and industrial activities. This can disrupt cultural practices and the transmission of Indigenous Knowledge, which are integral to health and well-being; and
- A decline in economic resources linked to the loss of their once-abundant fishery, further impacting social and economic conditions, which are determinants of health.

The Revised Application identifies two reasonably foreseeable projects in the vicinity that could contribute to cumulative effects:

- The T1B Project, aiming to increase LNG production, will involve vegetation removal at the existing facility site, potentially impacting plant resources or wildlife habitat;
- The TMJ Project may introduce additional vessel traffic in the Fraser River and develop the foreshore area, potentially contributing additional sensory disturbances (noise, light, vibration), and further altering habitat and water quality; and
- Both TMJ and T1B have the potential to add to cumulative effects associated with decreased air quality and associated health impacts.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River. The EAO recognizes the project-specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, FortisBC's proposed mitigation measures, and EAO's Table of Conditions, the EAO concludes that Tilbury Phase 2 would have negligible effects on Semiahmoo's health and well-being interests.

#### 16.13.10 Positive Effects of Tilbury Phase 2

According to the Revised Application, Tilbury Phase 2 is expected to create job opportunities, particularly in construction, benefit Indigenous businesses through contracting and procurement, and potentially increase revenue for the Semiahmoo, while improving social and economic conditions and providing long-term skills training opportunities for Semiahmoo members.

The positive effects of Tilbury Phase 2 depend on the level of participation and access Semiahmoo members and businesses have to the opportunities generated, with direct positive effects on Semiahmoo interests being limited compared to existing conditions.

#### 16.13.11 Conclusions

Considering the above analyses, EAO's engagement with Semiahmoo, their comments, the proponent's proposed mitigation measures, provincial conditions, and Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is anticipated to have the following impacts on Semiahmoo Indigenous interests:

- Negligible residual effects to Harvesting and Subsistence Activities;
- Negligible residual effects to Cultural Use Sites and Areas; and
- Negligible residual effects to Indigenous Health and Well-being

Considering the above analyses the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on Semiahmoo interests has been adequately avoided, minimized, or otherwise accommodated. Based on the engagement undertaken with Semiahmoo on Tilbury Phase 2, as outlined above in Section 16.13.2 above, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Semiahmoo.

## 16.14 Snuneymuxw First Nation

This section of the Report was co-drafted by Snuneymuxw First Nation (Snuneymuxw) and the EAO.

### 16.14.1 Community Profile



Snuneymuxw are Coast Salish Indigenous peoples who have continuously lived on their traditional territory since time immemorial. Snuneymuxw's traditional territory and marine areas extend from eastern Vancouver Island across the Salish Sea to the Fraser River, including the Gulf Islands with reserve lands near Nanaimo, and several village and field sites throughout the region and up into the Fraser River area of the Lower Mainland of B.C. Snuneymuxw society, way of life, culture, and economy extended throughout the territory that was governed by Snuneymuxw according to Snuw'uyulh ("teachings") and worldview, which emphasize Snuneymuxw core values of mutual respect and recognition,

the interconnection of all things in creation and Snuneymuxw stewardship and jurisdiction<sup>33</sup>. Snuneymuxw means "the great people" in the Hul'q'umin'um' language.

Snuneymuxw has stated that they hold a sacred duty to protect and care for their environment, honoring their ancestors and ensuring the health of their territory for future generations and that they have clear concepts of ownership, governance, and stewardship of water, land, air, and resources, which are considered birthrights. Snuneymuxw society is organized around families and households, with a strong emphasis on cooperation. Property management, including tangible and intangible assets, was overseen by family heads.

Villages were central to life, with most people living where they were born or married into, and movement typically limited to areas with kinship ties. Intervillage marriages were common, even across linguistic groups, creating extensive networks that ensured access to resources and labor during times of need. Membership in a village required kinship, residency, labor contributions, and a name given at a publicly witnessed ceremony. Coast Salish ideology emphasized a strong connection to place while allowing for the movement of people, goods, and information across their territory. Shared values, kinship, and cooperative stewardship continue to guide the management and protection of Coast Salish territories.

Snuneymuxw maintains that it has held Aboriginal title and rights to its territory since time immemorial and are descendants of the Sarlequun Tribe, who signed and entered into the Sarlequun Snuneymuxw Treaty on December 23, 1854, at Xwsol'lexwel (Nanaimo harbour) with representatives of the Crown. The Snuneymuxw Sarlequun Treaty of 1854 is a pre-confederate trade and commerce treaty, protected under Section 35 of the *Constitution Act, 1982*. The Treaty included commitments to identify and protect from settlement or encroachment all Snuneymuxw First Nation's sacred villages, cultivated fields, marine areas, harvesting and gathering, and to ensure the right to hunt and fish "as formerly".<sup>34</sup> Snuneymuxw maintains that immediately following the signing of the Snuneymuxw Sarlequun Treaty of 1854, the Crown unlawfully took away or dispossessed of Snuneymuxw lands, waters and resources without the consent of the Nation and did not take the necessary steps required to honour their treaty obligations. Despite intense and persistent efforts by Snuneymuxw to protect their villages, fields, and harvesting areas, much of their traditional land and marine territories was taken by the Crown and given to settlers.

Today, Snuneymuxw members live primarily in the Nanaimo, Vancouver, and in Washington State, and use the land where their ancestors fished, dug for clams, hunted for deer, elk, and ducks, and harvested coastal plants and trees (Voices of the Snuneymuxw First Nation n.d.) There are six reserves of various area size located on Vancouver Island and the Gulf Islands. As of December 2022, Snuneymuxw had 1,920 registered members, with 38 percent living on reserve and 62 percent living off reserve.

<sup>33</sup> Source: Snuneymuxw First Nation [website](#) Governance page, accessed May 8, 2025

Source: [Letter](#) from Snuneymuxw First Nation RE: Intent to Participate for Tilbury LNG, date November 30, 2021

### 16.14.2 Snuneymuxw First Nation Involvement in the Environmental Assessment

During the Early Engagement phase, Snuneymuxw identified as a participating Indigenous nation, which afforded Snuneymuxw certain procedural rights under the Act, as outlined in [Section 5](#): Participating Indigenous Nations.

As a member of the TAC, Snuneymuxw actively participated in technical meetings throughout the EA for Tilbury Phase 2. Snuneymuxw and the EAO collaborated closely, engaging in joint work planning, consensus-seeking, and co-authoring this section of the EAO's Assessment Report. The EAO and IAAC provided funding to support Snuneymuxw's involvement in the environmental assessment process.

On September 12, 2022, Snuneymuxw and FortisBC entered into the Snuneymuxw Assessment Agreement to fund an Indigenous Led Assessment (ILA) for the Tilbury Phase 2 Project. The plans for the Snuneymuxw-led assessment were agreed to during the Process Planning phase and included in the EAO's Assessment Plan. However, by September 2024, due to resource and capacity constraints, after much thought and consideration, Snuneymuxw decided to exit the ILA process and shift its resources and funding to support Snuneymuxw's participation as a participating Indigenous nation including working collaboratively with FortisBC to co-author the Snuneymuxw section in the Revised Application and co-authoring this section of the EAO's Assessment Report.

[Section 11.14](#) of the Revised Application includes a summary of FortisBC's engagement with Snuneymuxw who have been involved in the process since July 2019. The section was co-developed with Snuneymuxw through regular meetings and joint drafting. The Revised Application also includes tables summarizing engagement activities with Snuneymuxw members, which are further detailed in the Indigenous Engagement Report.

### 16.14.3 Assessment Boundaries

All Project components are within Snuneymuxw's traditional territory.

The spatial assessment boundaries for each Indigenous interest are based on the overlap between Snuneymuxw's traditional territory with the combined Local and RAAs identified for linked VCs. Refer to Figure 11.14-1 in the Revised Application (Indigenous Interests and Proposed Project Location Figure). The LAA for each Indigenous interest reflects the combined LAAs of the VCs linked to that interest. The RAA is defined the same way, using the combined RAAs of the linked VCs. In general, the LAA is used to assess direct and indirect project effects, while the RAA supports the assessment of cumulative effects.

The assessment of potential effects of Tilbury Phase 2 on Indigenous interests applies to all members of Snuneymuxw living, working, or exercising Indigenous interests within the LAA of the Indigenous interests.

The assessment of potential effects related to Tilbury Phase 2 considered three distinct phases:

- Construction phase, with an estimated duration of three to six years;
- Operation phase, expected to last more than forty years; and
- Decommissioning phase, anticipated to take approximately two years.

### 16.14.4 Regional Context

Tilbury Phase 2 overlaps Snuneymuxw's traditional territory, including historic fishing villages and salmon sites along the Lower Fraser River. Snuneymuxw historically camped on Lulu Island for fishing, berry harvesting, and trade, and advised the EAO that Snuneymuxw currently holds Area E Salmon Gill Net License via Fisheries and Oceans Canada (DFO)'s Allocation Transfer Program and conducts fisheries for FSC purposes under the Snuneymuxw Sarlequunn Treaty of 1854 rights (treaty fisheries) and does not hold or require licenses.

Snuneymuxw has deep territorial, cultural, and spiritual ties to the region that were interrupted by colonial policies and legislation resulting in alienation. A high volume of referral and consultative requests from multiple proponents and government agencies associated with ongoing capacity constraints due to inadequate funding has at times placed constraints on the nation's capacity to engage as fully as possible. However, Snuneymuxw has dedicated time and resources to engaging on Tilbury Phase 2 and continues to do so. Their efforts aim to ensure that insights into



how Snuneymuxw laws, governance, and customs have historically applied, and currently apply, in relation to the Project are considered and incorporated. Snuneymuxw pointed out that it was not consulted regarding previous development activities on Tilbury Island, as these occurred during historical decision-making processes that did not recognize or incorporate Aboriginal rights, pre-Confederation treaty rights, or the nation's traditional territories and land connections.

The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with very little to no habitat value for wildlife. The vegetation within Tilbury Phase 2 is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species. Public access to Tilbury Phase 2 is limited, although there is currently public use of the dike to the north of Tilbury Phase 2 along the Fraser River.

#### 16.14.5 Indigenous Interests

Snuneymuxw's letter with the Notice of Intent to Participate for Tilbury LNG<sup>35</sup> identified preliminary Indigenous interests in the Project area and Lower Fraser River that may interact with or be impacted by the Project, as summarized below:

- Potential effects to fisheries and historic fishing villages, lands, waters, and culturally important marine species; and
- Potential effects on cultural activities, traditional uses, and access to water-based activities on the lower Fraser River.

During the Readiness Decision phase in the development of the [Readiness Decision Report](#), the EAO engaged with Snuneymuxw who identified a key concern about marine shipping impacts and requested a marine shipping assessment be included in the scope of Tilbury Phase 2 to properly assess potential effects on their Section 35 rights and Indigenous interests. The EAO responded that it considers marine shipping of LNG products from Tilbury Phase 2 to be addressed in the separate Tilbury Marine Jetty (TMJ) EA, where Snuneymuxw was also engaged in the assessment. Information provided by Snuneymuxw through their Notice of Intent and engagement with the EAO and the Proponent informed the drafting of the [Tilbury Phase 2 – Schedule C – Application Information Requirements](#) Table 6, see Proposed Preliminary List of Indigenous Interests.

The Proponent identified Snuneymuxw Indigenous interests to be assessed in the Revised Application through:

- Reviewing guidance and requirements from the EAO and AIR; and
- Conducting engagement activities with Snuneymuxw to gather information on their interests, as outlined in [Section 11.14.3 of the Revised Application](#) - Summary of Engagement.

Based on the Revised Application and through discussion with Snuneymuxw the following Indigenous interests have been identified, by EAO and Snuneymuxw as having the potential to be affected by Tilbury Phase 2:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Cultural continuation;
- Social and economic conditions;
- Indigenous health and well-being; and
- Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights.

The assessment of Snuneymuxw's Indigenous interests in this section uses these categories. The EAO's assessment methods of Snuneymuxw's Indigenous interests include describing the background and current context, identifying potential effects, mitigation measures, effects analysis. If there is an adverse residual effect, a characterization of

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<sup>35</sup>Letter from Snuneymuxw First Nation, November 30, 2021

effects and cumulative effects assessment is also completed. In addition to the EAO's assessment of effects to Snuneymuxw's Indigenous interests, Snuneymuxw provided their position on how Tilbury Phase 2 will affect their Indigenous interests.

#### 16.14.6 Harvesting and Subsistence Activities, Cultural Use Sites and Areas, and Cultural Continuation

##### Background

Snuneymuxw's traditional territory encompasses one of the most resource-rich areas in the heart of the Salish Sea and members rely on these lands and waters for physical, cultural, and spiritual sustenance and well-being (Snuneymuxw First Nation 2018)<sup>36</sup>. Connection and kinship with the land and waters guide and inform resource use: fishing sockeye on the Fraser River in summer, harvesting chum on the Nanaimo River in autumn, wintering near Departure Bay, and gathering shellfish, camas, and marine mammals in spring on Gabriola Island and False Narrows. They also harvested wapato near the Pitt River and traditionally camped on Lulu Island - located across the Fraser River from the Project site - to engage in fishing, gathering, harvesting and trade as part of their seasonal lifestyle that continued until disrupted by colonial policies in the 19<sup>th</sup> century. The Lower Fraser River remains vital, providing food and cultural resources for thousands of years and continuing today (Snuneymuxw First Nation 2022a).

Fishing is a central harvesting and subsistence activity for Snuneymuxw. The importance of fishing, fisheries, and healthy marine environments is reflected in this quote by former Snuneymuxw Chief, Doug White:

"An interest in fisheries is not just the right to fish in a space, nor the act of fishing, but the protection of a whole fishery. This includes the body of water, the quality of that water, and the land that supports it—we are talking about everything that is necessary to support that fishery."<sup>37</sup>

Historical records from the early 1800s document Snuneymuxw's presence along the Fraser River, including the permanent village site, a salmon fishing location upriver, and the wapato gathering site at the mouth of the Pitt River. Although the village was conferred to other First Nations by the mainland Colony of B.C. in the 1860s, Snuneymuxw members continued to travel to the Fraser River during the colonial and post-Confederation periods for work at salmon canneries and cultural and recreational, spiritual and subsistence activities, as well as commerce and trade.

Snuneymuxw emphasizes the importance of the Snuneymuxw Sarlequun Treaty of 1854, which included promises to protect historic villages, cultivated lands, waterways and harvesting areas from settlement. However, Snuneymuxw has stated that immediately following the signing of the Treaty of 1854, the Crown unlawfully took away or disposed of Snuneymuxw lands, waters, and resources without the consent of Snuneymuxw, and did not take the necessary steps required to honour their treaty obligation resulting in extensive loss of traditional territory to settlers. The Project area lies within their traditional land and could impact culturally important sites, traditional practices, and access to water-based activities along the Lower Fraser River.

##### Current Context

Snuneymuxw holds Treaty rights to fish and hunt under the Snuneymuxw Sarlequun Treaty of 1854 and emphasizes the importance of marine ecosystems for their sustenance, economic livelihood, and cultural practices. As stated in the Regional Context section, they actively fish under the Area E Salmon Gill Net License and maintain treaty fisheries within the Project area, and have identified important resource camps (including fishing camps) and village sites located on Barnston Island (B.C. EAO 2024), Annacis Island, Lulu Island and near Fort Langley as areas of cultural importance that may be affected by the Project.

<sup>36</sup> Tilbury Phase 2 LNG Expansion Application, Section 11.14 [TIL2 Volume1 Section11.14 Snuneymuxw 20241129.pdf](#)

Source: Hutchings 2016: 6 quoted in Spicer 2015:8



The harvesting and subsistence activities LAA is near Pattullo Bridge, about 12 km upstream of Tilbury Phase 2. Snuneymuxw's traditional fishing village near Barnston Island (see above Background section) is located approximately 30 kilometers upstream of Tilbury Phase 2 outside the LAA, but within the RAA (see figure 11.14-2). Fisheries and Oceans Canada (DFO) reports indicate no recent Snuneymuxw fishing in the area of their historic fishing camps, however Snuneymuxw attribute colonial-era alienation and ongoing impacts due to cumulative effects from project development and settler occupation in the area as contributing factors to DFO's data set.

The Project Footprint is a heavily disturbed brownfield site within Tilbury Industrial Park and consists mainly of gravel and paved surfaces with minimal vegetation dominated by non-native species. Vegetation reviews identified culturally important plants in riparian areas along Tilbury Slough, and Indigenous Knowledge highlighted species used in traditional practices. Snuneymuxw continues to gather seaweed, plants, and medicines from coastal and intertidal areas near the Project area. Industrial development has extensively altered wildlife habitat, leaving only fragmented riparian zones that support species adapted to urban environments, such as coyotes, raccoons, skunks, rabbits, waterfowl, and songbirds.

Snuneymuxw has not specified hunting impacts from the Project as a key concern, and firearm restrictions on Tilbury Island prohibit hunting near the Project site. However, they have emphasized historical environmental dispossession from colonization, which reduced resource access and affected well-being. While Snuneymuxw has historical hunting sites in the area, no specific locations within the Project Footprint have been identified.

Snuneymuxw has identified potential effects on their cultural activities in the Project area. FortisBC acknowledges that cultural use in the area and the presence of important places connected to Snuneymuxw, though no specific sites have been identified within the Project Footprint to date. Archaeological assessments in 2013 and 2020 found no heritage resources, and Snuneymuxw has not reported known cultural heritage sites within the Project Footprint to date. However, Snuneymuxw has informed the EAO of their historic resource camps and village sites that are within both the LAA and broader Project area located on Barnston Island, Annacis Island, Lulu Island (located across the Fraser River from the Project Footprint) and near Fort Langley, and notes that a Cultural Knowledge and Use Study is underway in relation to the Fraser River Tunnel Project that contains cultural use information relevant to the Lower Fraser River and the Tilbury Phase 2 Project area. The nation also continues to maintain treaty fisheries for food, social, ceremonial, and commercial purposes and use canoeing areas along the Fraser River<sup>38</sup>.

Cultural continuation refers to the transmission and practice of Snuneymuxw cultural identity, language, values, and traditions across generations. Snuneymuxw emphasizes that sharing Snuneymuxw stories, cultural knowledge, language, and ceremony allow present and future generations to benefit from the wisdom and teachings of elders and ancestors while creating new paths and opportunities for the community. It is further acknowledged that language and the ability to revitalize language plays a vital role in building and restoring a sense of place, connecting members to knowledge, stories, and place names rooted in their traditional territory. Industrial development and colonial alienation have disrupted cultural continuity and knowledge transmission in important areas of Snuneymuxw territory, and Project impacts could further interfere with this interest.

#### Potential Project Effects

The EAO and Snuneymuxw identified the following pathways of effects, prior to the application of mitigation measures along with associated VCs outlined in [Appendix 6](#), that may affect Snuneymuxw's harvesting and subsistence activities, cultural use sites and areas and cultural continuation due to Tilbury Phase 2 during Construction, Operation and Decommissioning phases of Tilbury Phase 2:

- **Harvesting and Subsistence Activities:**

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<sup>38</sup> The EAO acknowledges that this report describes conditions as understood at the time of assessment. Cultural knowledge and site-specific information are dynamic and may change as new insights and findings come to light.

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity and availability of resources** from increased emissions, noise and visual changes (air quality, acoustics, land and resource use VCs) may hinder Snuneymuxw from practicing harvesting rights in preferred areas and fishing sites around the Tilbury Phase 2 site. Changes in fish distribution and abundance (fish and fish habitat VC), the introduction and spread of invasive plant species (vegetation VC) and the potential for accidents or malfunctions may further impact the perception, experience and preferences of practicing harvesting rights;
- **Effects on the accessibility and availability of traditional lands and resources** may occur as a result of altered land and water based travel routes, access restrictions, or safety considerations, including changes to navigability and usability of established travel corridors (land and resource use and surface water VCs), as well as indirect effects from sensory disturbances such as noise, dust, lighting, or visual changes that may discourage travel through otherwise accessible areas (air quality, acoustics, and land and resource use VCs). Snuneymuxw First Nation maintains that harvesting rights continue from a pre-contact baseline and treaty rights were established pre-confederacy, so while the effects are low magnitude due to lack of access, they still exist; and
- **Effects to the Snuneymuxw Sarlequun Treaty of 1854 rights to fish** from potential fish habitat loss, increased mortality risks, changes in distribution or abundance (fish and fish habitat VC) and changes in behaviour due to sensory disturbances (acoustics, air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water VC) may further impact traditional harvesting, cultural practices and current fisheries (culture VC). Furthermore, the potential for accidents and malfunctions creates a low likelihood risk of effects to fish habitat from hazardous materials release, leaks or spills from terrestrial vehicle collisions near waterbodies.
- **Cultural Use Sites and Areas:**
  - **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas;** The predicted levels of sensory disturbance (acoustics, land and resource use and air quality VCs) could impact and deter Snuneymuxw members from engaging in their cultural and spiritual practices, such as fishing and canoeing at their preferred locations close to the project site (culture, land and resource use VCs); and
  - **Effects to fisheries, historic fishing villages, and fishing rights related to Project related changes to fishing;** while residual effects to relevant VCs (surface water, fish and fish habitat VCs) are considered to be low, predicted levels of sensory disturbances and contamination risks to fish habitat in the Tilbury Slough could result in changes to fish behaviour and distribution thus impacting Snuneymuxw fisheries, treaty right to “fisheries as formally” and historic fishing villages (culture, archaeological and heritage resources, land and resource use VCs).
- **Cultural Continuation:**
  - **Effects on the ability to revitalize, develop and participate in intergenerational cultural transmission due to experience of being on the land:** the predicted changes in sensory disturbances (air quality, acoustics, land and resource use VCs) could result in effects to Snuneymuxw members’ experience on the land and therefore impact the ability to engage in activities associated with revitalizing, developing and participating in intergenerational language and cultural transmission (culture, land and resource use VCs); and
  - **Disconnection from cultural heritage due to interruption of the use of travelways, navigable waterways and water bodies:** Interactions with Project sensory disturbances (air quality and acoustic VCs) and perception of increased environmental degradation may impact or deter Snuneymuxw members’

practice of canoeing and other use of navigable waterways in the area (culture, and land and resource use VCs).

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures that FortisBC has proposed to Potential Tilbury Phase 2-related effects on harvesting and subsistence rights, as mentioned in the section above. A full table of Proponent mitigations can be found in [Appendix A of the Revised Application](#). Below is a summary of Key Mitigation Measures, how they address effects on relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Snuneymuxw's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Snuneymuxw's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and fish habitat relied on to support Snuneymuxw's harvesting and cultural practices;
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to Snuneymuxw's harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Snuneymuxw for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Snuneymuxw's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the Lower Fraser River. These actions support the health and availability of salmon and other fish species central to Snuneymuxw's FSC harvesting and cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used by Snuneymuxw for harvesting or cultural practices;
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Snuneymuxw's land- and water-based cultural practices; and

- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures and early notification to Indigenous nations, help protect culturally important sites and landscapes that support Snuneymuxw's broader connection to territory and the continuity of cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on Snuneymuxw's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting (see [Section 8](#) of this Report):

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance;
- **Condition 10 (Community Feedback Process)** to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely response, follow-up actions, and reporting helps ensure that issues such as dust, noise, light, or disturbances near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of harvesting and cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of harvesting areas and culturally important landscapes and areas, supporting Snuneymuxw continued access to and use of harvesting and cultural areas;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of harvesting and cultural areas relied on by Snuneymuxw;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan maintains conditions suitable for access to, and use of culturally important areas and sites used by Snuneymuxw to exercise harvesting rights and cultural practices;
- **Condition 15 (Chance Find Protocol)** requiring the development and implementation of a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Snuneymuxw historically used the area, it would also help mitigate effects on any of their cultural materials that may be present; and fossils throughout the life of Tilbury Phase 2; and,
- **Condition 17 (Dry Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project-related roads, which may lower potential impacts on salmon and other fish important to Snuneymuxw's harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial conditions the EAO identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections;** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from

project activity, supporting Snuneymuxw's harvesting practices and broader ecosystem conditions important to their way of life.

#### Snuneymuxw and the EAO's Analysis and Conclusions

After consideration of the mitigation measures and potential effects, described above, the EAO and Snuneymuxw identified the following residual effects:

- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources (fish, wildlife, vegetation);
- Effects on the accessibility and availability of traditional lands and resources;
- Effects on the Snuneymuxw Sarlequun Treaty of 1854 rights to fish;
- Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas;
- Effects to fisheries, historic fishing villages, and fishing rights related to Project related changes to fishing;
- Effects on the ability to revitalize, develop and participate in intergenerational cultural transmission due to experience of being on the land; and
- Disconnection from cultural heritage due to interruption of the use of travelways, navigable waterways and water bodies.

Snuneymuxw and the EAO's characterization of the residual effects of Tilbury Phase 2 on harvesting and subsistence activities, cultural use sites and areas, and cultural continuation are summarized in the separate tables below.

Table 38: Summary of residual effects and rationale on Snuneymuxw and its harvesting and subsistence activities.

| Residual Effects                                                                                                                                                                                                                                                                                                                   | Assessment Rating*                                                                                                                                                                                                                          | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Harvesting and subsistence activities<br>-Changes to the experience around practice of harvesting rights and effects to quality, quantity and availability of resources<br>-Effects on the accessibility and availability of traditional lands and resources<br>-Effects on the Snuneymuxw Sarlequun Treaty of 1854 rights to fish | Context (resilience): Medium<br>Magnitude: Negligible<br>Extent: Local<br>Duration: Medium-term<br>Reversibility: Fully reversible<br>Frequency: Continuous<br>Affected Populations: Disproportionate<br>Risk: Low<br>Uncertainty: Moderate | <p><i>Snuneymuxw maintains that although acknowledged in the cumulative effects sections below, the Overall Seriousness of Effect is based on a current or contemporary baseline, whereas Snuneymuxw's assessment and baseline is considered as pre-contact. Further they state, the narrow assessment metrics provided through the environmental assessment process do not always integrate Snuneymuxw's approach. Snuneymuxw states to gain a fulsome and holistic understanding of the area and the severity of the effects, the assessment should aim to also consider, to an extent, the historical and cumulative effects of activities and development in the Project area.</i></p> <p><b>Context:</b> Snuneymuxw have traditionally harvested fish, plants, and other resources in the LAA, and maintains FSC sockeye fisheries in the Project area. Harvesting has declined due to development pressures and colonial impacts, though the potential effects on hunting and subsistence show medium resiliency and could increase activity if barriers were reduced.</p> <p><b>Magnitude:</b> Impact is considered negligible. Project activities are not expected to cause detectable direct or indirect effects on salmon or other fish migrating past the Project site. Other key potential residual effects such as vegetation and wildlife are rated as negligible to low in magnitude. Historically hunting and harvesting activities occurred near the Project site but given access and firearms restrictions there is no current activity reported. There is some ongoing harvesting of seaweed and other plants in the intertidal and coastal areas within the broader Project area.</p> <p><b>Extent:</b> Rated as local given the spatial scale of residual effects to applicable VCs is limited; impacts to harvesting activities are expected to remain localized within the project area.</p> <p><b>Duration:</b> Expected through the operational life of the facility, therefore rated medium-term.</p> |

| Residual Effects                                                                                                                  | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                                                                                                                                   |                    | <p><b>Reversibility:</b> impacts are considered fully reversible, especially noise and light disturbances that end with decommissioning.</p> <p><b>Frequency:</b> Considered continuous - while construction poses the greatest disruption, ongoing effects remain during Operation.</p> <p><b>Affected Populations:</b> Direct effects fall disproportionately on active harvesters in the Project area, with indirect effects on those deterred by actual and perceived degradation or alienation.</p> <p><b>Risk:</b> Despite the high likelihood of effects, consequences are considered minor given the low magnitude, localized scale, and reversibility, leading to a low overall risk rating.</p> <p><b>Uncertainty:</b> The pathways of effects, such as noise, light, vibration and impacts on harvesters, are well understood. Although mitigation measures are anticipated to be moderately to highly effective, some uncertainty remains regarding their ability to fully address harvester's experiences and perceptions. Thus, the overall level of uncertainty is assessed as moderate.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

Table 39: Summary of residual effects and rationale on Snuneymuxw and its cultural use sites and areas.

| Residual Effects                                                                                                                                                                                                                                                                     | Assessment Rating*                                                                                                                                                                                                                                                                  | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| <p>Cultural use sites and areas</p> <p>-Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas</p> <p>-Effects to fisheries, historic fishing villages, and fishing rights related to Project related changes to fishing</p> | <p>Context (resilience): Low</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Partially reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><i>Snuneymuxw maintains that although acknowledged in the cumulative effects sections below, the Overall Seriousness of Effect is based on a current or contemporary baseline, whereas Snuneymuxw's assessment and baseline is considered as pre-contact. Further they state, the narrow assessment metrics provided through the environmental assessment process do not always integrate Snuneymuxw's approach. Snuneymuxw states to gain a fulsome and holistic understanding of the area and the severity of the effects, the assessment should aim to also consider, to an extent, the historical and cumulative effects of activities and development in the Project area.</i></p> <p><b>Context:</b> The interest is assessed as having low resiliency, recognizing that Snuneymuxw maintains strong cultural ties to the area and actively exercises FSC fisheries, despite colonial impacts. However, the community's capacity to absorb additional adverse effects is difficult to quantify. Cultural strength may have been greater without cumulative disturbances, and potential links between cultural impacts and community health add complexity. Considering historical and ongoing challenges, this rating reflects a conservative estimate.</p> <p><b>Magnitude:</b> Considered negligible as the Project Footprint is on fee simple land within an already heavily modified landscape where past and present cumulative impacts have reduced cultural use. Effects on fish, fish habitat, and surface water are also negligible. Residual effects, such as sensory disturbances and access limitations, are expected to alter but not significantly disrupt existing conditions. Related effects on air quality and acoustics are low and localized, though members living, fishing, or accessing the Fraser River for cultural purposes near the site may experience some minor discernable impacts.</p> <p><b>Extent:</b> Rated as local, as the anticipated residual effects are primarily confined to the Project footprint and immediate surrounding areas, reflecting the negligible magnitude of effects and absence of measurable changes to broader biophysical or cultural use patterns beyond the vicinity of Tilbury Phase 2. While Snuneymuxw</p> |



| Residual Effects                                                                                                                  | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                                                                                                                                   |                    | <p>members reside throughout the region, most cultural impacts are unlikely to extend beyond the immediate project area.</p> <p><b>Duration:</b> Rated medium-term, as residual effects will discontinue after decommissioning phases.</p> <p><b>Reversibility:</b> Most sensory effects are reversible, though cultural impacts from reduced access and disrupted site use may be harder or impossible to reverse, therefore rated as partially reversible.</p> <p><b>Frequency:</b> Considered continuous particularly for restricted access to site for cultural purposes, which is an ongoing effect. Sensory disturbances, such as light or noise, may be either continuous or irregular depending on project activities.</p> <p><b>Affected Populations:</b> Those most affected include members actively fishing or engaging in cultural activities in proximity of the Project on the Fraser River, with indirect effects on those deterred by perceived degradation resulting in an overall disproportionate effect to this interest.</p> <p><b>Risk:</b> While some residual effects are moderately likely, their consequences are considered minor due to negligible magnitude, partial reversibility, and the already diminished cultural access and use caused by pre-existing industrialization. The Project will only add a negligible contribution; therefore, the overall risk is rated low.</p> <p><b>Uncertainty:</b> Assessed at moderate due to challenges in predicting cultural impacts and presuming a moderate to high effectiveness for mitigation measures. Given the negligible magnitude of effects, the altered state of the Project area, and anticipated effectiveness of mitigation, the seriousness of effect on Snuneymuxw's cultural use sites is assessed as negligible to minor.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

Table 40: Summary of residual effects and rationale on Snuneymuxw and cultural continuation.

| Residual Effects                                                                                                                                                                                                                                                                                                      | Assessment Rating*                                                                                                                                                                                                                                                              | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <p>Cultural continuation</p> <p>-Effects on the ability to revitalize, develop and participate in intergenerational cultural transmission due to experience of being on the land</p> <p>-Disconnection from cultural heritage due to interruption of the use of travelways, navigable waterways and water bodies:</p> | <p>Context (resilience): Low</p> <p>Magnitude: Low</p> <p>Extent: Regional</p> <p>Duration: Medium-term</p> <p>Reversibility: Partially reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><i>Snuneymuxw maintains that although acknowledged in the cumulative effects sections below, the Overall Seriousness of Effect is based on a current or contemporary baseline, whereas Snuneymuxw's assessment and baseline is considered as pre-contact. Further they state, the narrow assessment metrics provided through the environmental assessment process do not always integrate Snuneymuxw's approach. Snuneymuxw states to gain a fulsome and holistic understanding of the area and the severity of the effects, the assessment should aim to also consider, to an extent, the historical and cumulative effects of activities and development in the Project area.</i></p> <p><b>Context:</b> Despite strong cultural endurance in the face of historic and ongoing colonial impacts, the overall resiliency of cultural continuity to additional adverse effects is rated low. This precautionary rating reflects the likelihood that cumulative disturbances have reduced cultural vitality in the Project area and recognizes that the ability to transfer and practice culture are often closely tied to community health and well-being.</p> <p><b>Magnitude:</b> Although the direct project-related effects to cultural use sites are considered negligible in magnitude, the loss of cultural connection due to continued reduced access, altered experience, and long-term site disruption presents an ongoing challenge to the transmission of culture, and that is assessed as having low severity. Snuneymuxw's ability to revitalize and participate in cultural transmission in the Project area would likely increase with improved access and</p> |

| Residual Effects                                                                                                                  | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                                                                                                                                   |                    | <p>environmental rehabilitation, however the Project keeps or slightly worsens the ongoing barriers by perpetuating environmental concerns through air pollution and sensory disturbances.</p> <p><b>Extent:</b> Regional to reflect potential impacts on various VCs within their respective RAAs, and that impacts to cultural continuity may be felt by Snuneymuxw members who reside throughout the region.</p> <p><b>Duration:</b> Rated as medium-term as impacts from the Project are expected to cease following decommissioning, however assessing duration for cultural continuity is inherently challenging as it involves a continuous temporal aspect and is difficult to predict how long impacts will be felt if the current cultural continuum is disrupted.</p> <p><b>Reversibility:</b> Most sensory effects that impact experience of being on the land or water (air quality, noise, vibration) are reversible; however, impacts to continuing cultural practices may be irreversible therefore this is rated as partially reversible.</p> <p><b>Frequency:</b> Rated as continuous, particularly for loss of site use for cultural purposes, which is an ongoing effect. Sensory disturbances (e.g., noise, light) may be either continuous or irregular, depending on Tilbury Phase 2 activities.</p> <p><b>Affected Populations:</b> Direct impacts would disproportionately those who actively continue cultural practices and by those who have ceased participation due to alienation or environmental concerns. However, indirect effects may be felt evenly due to the interconnectedness of Snuneymuxw cultural identity.</p> <p><b>Risk:</b> The likelihood of negative cultural impacts occurring is low, and the overall consequence is expected to be minor, given the negligible magnitude of direct Tilbury Phase 2-related effects, the application of mitigation measures, and the significant cumulative impacts already existing in the Project area (see Cumulative Effects section below). Risk is therefore rated as low.</p> <p><b>Uncertainty:</b> Rated as moderate, as cultural effects are inherently challenging to quantify and may be subject to individual and community-specific experiences that are difficult to predict with certainty.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

### Cumulative Effects

As described in the Background and Current Context section, the lower Fraser River and Tilbury Island area have been extensively impacted by historical land use, industrialization and related environmental degradation, as well as impacts due to climate change, resulting in existing pressures on environmental conditions and on Snuneymuxw's harvesting and subsistence activities, cultural use sites and areas, and cultural continuation.

The Revised Application identifies several reasonably foreseeable projects that may affect Snuneymuxw's harvesting and subsistence activities, cultural use sites and areas, and cultural continuation interests. These include T1B which would increase LNG production, and TMJ, which would introduce additional vessel traffic in the Fraser River and further development of the foreshore area. Both T1B and TMJ could contribute additional sensory disturbances (noise, light, vibration) and impact air quality in areas used by Snuneymuxw for harvesting, and cultural purposes. TMJ could further alter fish habitat and water quality in areas where Snuneymuxw assert harvesting and subsistence rights, important cultural sites and areas, and the ability for the transmission of Indigenous Knowledge to future generations.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.



The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analysis, FortisBC's proposed mitigation measures, the EAO's Table of Conditions, and the identified Key Mitigation Measures, the EAO and Snuneymuxw concludes that Tilbury Phase 2 would have a negligible effect on Snuneymuxw's harvesting and subsistence activities, and minor effects on Snuneymuxw's cultural use sites and areas, and cultural continuation.

While Snuneymuxw acknowledges that Tilbury Phase 2 in isolation would result in negligible effects on harvesting and subsistence activities, and negligible to minor effects on cultural use sites and cultural continuity, they emphasize that the Project contributes to an already degraded landscape shaped by ongoing industrial pressures. Within this context, Snuneymuxw anticipates that the combined effects of past, present, and reasonably foreseeable future developments, including Tilbury Phase 2, will result in moderate cumulative effects on their ability to exercise Aboriginal and treaty rights related to harvesting, access to cultural use sites, and the continuation of cultural practices.

## 16.14.7 Social and Economic Conditions and Indigenous Health and Well-being

### Background

Snuneymuxw historically occupied a vast territory across the east coast of Vancouver Island, the Gulf Islands, and the Lower Fraser River region. Their socio-economic system was traditionally based on connection and kinship with the land and waters, and the health and abundance of fish, wildlife, and land-based resources, including salmon fishing, root gathering, and trade, with established resource camps, including fishing camps and village sites along the Fraser River, located on Barnston Island, Annacis Island, Lulu Island and near Fort Langley. These practices supported a self-sufficient economy deeply connected to the land and water, shaping the fundamental aspects of their community life.

Snuneymuxw's health and well-being have always been rooted in access to its lands, clean water, and traditional (country) foods. The physical, emotional, and spiritual benefits of harvesting, cultural practices, and being on the land are central to wellness. Snuneymuxw maintains that although the Snuneymuxw Sarlequun Treaty of 1854 was meant to protect Snuneymuxw sovereignty and life-sustaining resources, it was never implemented, leading to land loss and rights not being recognized. Industrial development, environmental degradation, and restricted access to territories have reduced traditional food sources and disrupted cultural continuity, harming health, and resilience. Historic and ongoing impacts, including epidemics, land dispossession, and resource exploitation, have caused cultural stress, socio-economic challenges, and declines in health and well-being, affecting both treaty and Section 35 rights.

### Current Context

Snuneymuxw relies on the Salish Sea and its marine ecosystems for economic well-being, particularly through shellfish aquaculture and fisheries. As mentioned in above sections, Snuneymuxw holds Area E Salmon Gill Net License through DFO's Allocation Transfer Project and conducts its treaty rights to fisheries as formerly within the Project area. Members harvest shellfish and hold licenses for herring, crab, and various clam species, extending from Neck Point on Vancouver Island to Gower Point near Gibsons, B.C. Snuneymuxw also participates in Dungeness crab and prawn fisheries, which are an important source of work and income for members. Shellfish tenures supported by a 2002 Memorandum of Agreement are located near Gabriola Island, approximately 40 km from the Project area and outside the Project's assessment boundaries.

Snuneymuxw is actively involved in a variety of economic development initiatives aimed at supporting citizen well-being, creating opportunities, and building a sustainable economy. Economic activities are managed by Petroglyph

Development Group (PDG), a wholly owned corporate entity aimed at aligning development with Snuneymuxw Snuw'uyulh, the teachings of ancestors and elders. Activities include managing over 1,000 hectares of forested land through Petroglyph Forestry, co-managing the culturally important Saysutshun (Newcastle Island) and offering tourism experiences, operating the Saysutshun Ferry Service and Concession, and managing Petroglyph Properties. As of December 2025, PDG has completed five major casino acquisition agreements in B.C., significantly expanding their gaming portfolio, with deals involving Casino Nanaimo, Elements Casino Victoria, River Rock Casino Resort, and Chances Maple Ridge<sup>39</sup>. PDG also runs the Snuneymuxw Market Gas Bar and has partnered in the cannabis industry through Coast Salish Canna. Additionally, PDG collaborates with the Nanaimo Youth Services Association to deliver a 22-week employment and training program focused on skill development and job creation.

Additionally, Snuneymuxw collaborates with all levels of government to provide a broad range of health services through its Health Department. On-reserve programs support all age groups and focus on community health and wellness including areas such as health promotion, psychological well-being, addictions, chronic illness prevention, communicable disease control, and environmental health. Services include community workshops, preventive care, advocacy, and educational materials.

In January 2023, Snuneymuxw and FortisBC signed the Tilbury Projects Agreement<sup>40</sup> to ensure shared benefits from the Project and the TMJ project. Under this agreement, Snuneymuxw supports the projects and regulatory processes, while FortisBC commits to providing education, training, and community investments. The Project is expected to result in positive residual effects for the nation, such as increased employment, improved social conditions, and enhanced economic opportunities.

#### Potential Project Effects

The EAO and Snuneymuxw identified the following pathway of effects, prior to the application of mitigation measures, along with associated VCs outline in [Appendix 6](#) that may affect Snuneymuxw's social and economic conditions and Indigenous health and well-being during Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Social and Economic Conditions:**
  - **Effects to Snuneymuxw's future aspirations for sites or areas surrounding the Project:** Relates to employment (employment and economy, land and resource use, fish and fish habitat VC) which is expected to positively support economic development plans, including those of the Snuneymuxw. Snuneymuxw aims to maximize benefits for its members, including those living in the Lower Mainland, by using the Project to enhance employment and procurement opportunities, aligning with its broader economic development goals;
  - **Effects to Snuneymuxw's employment opportunities, Indigenous businesses, procurement opportunities, and Snuneymuxw revenue:** The Project is expected to positively impact employment (employment and economy VC), especially during the 3-to-6-year Construction Phase, which will require many skilled and semiskilled workers. Snuneymuxw members with trades certificates, about 25.2 percent of the nation as of 2016, are likely to benefit from these job opportunities. The Project may also support Snuneymuxw businesses through procurement and contracting opportunities, although success depends on direct involvement and access to contracts; and
  - **Effects to Snuneymuxw's commercial and non-commercial fishing, gathering, and cultural or ceremonial activities and practices:** Impacts to vegetation, wildlife, and fish habitat (vegetation, wildlife and wildlife habitat, and fish and fish habitat VCs) have the potential to interact with Snuneymuxw

<sup>39</sup> Petroglyph Development Group News Article: [Snuneymuxw First Nation Expands Gaming Portfolio with Agreement to Acquire Great Canadian Casino Vancouver | PDG News](#)

Tilbury Projects Agreement: [Snuneymuxw Inks Deal With Fortis BC Concerning LNG | Business Examiner](#)

hunting, gathering or cultural sites and treaty fisheries conducted in the Project area. Although extensive industrial development impacts and ongoing restricted access have reduced Snuneymuxw's current use of the Project area for commercial and non-commercial FSC practices, and noting a lack of information related to specific use sites, the absence of information does not mean these sites do not exist, or that use of the Project area for these purposes would not increase if barriers were reduced.

- **Indigenous Health and Well-being:**
  - **Effects on Air Quality, Noise and Water Quality:** Project activities have the potential to contribute contaminants of concern to water and air (air quality, groundwater and surface water VCs) and increased noise levels in proximity to the Project site (acoustics VC), which may affect Snuneymuxw members' health and well-being particularly those living or working near the Project site;
  - **Effects on the quality, quantity, and availability of harvested traditional (country) foods:** Potential effect relates to harvesting and subsistence activities (vegetation, wildlife and wildlife habitat, and fish and fish habitat VCs), human health (air quality, groundwater and surface water VCs) and cultural practices (culture VC). There is potential for Project activities to interact with Snuneymuxw's FSC sockeye fisheries within Project area or potentially affect other harvesting areas through exposure to air or water contaminants; and
  - **Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites:** This broad effect encompasses Snuneymuxw members health and well-being (human health, air quality, acoustics VC) related to effects to traditional ways of life and cultural sites (culture VC, see also Harvesting and Subsistence Activities and Cultural Use Sites and Areas sections). The Project's ongoing restricted access to potentially important cultural or harvesting sites, interactions with sensory disturbances on both land and water and perceived alienation from the area may affect the health and well-being of Snuneymuxw members.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that FortisBC has proposed in response to potential Tilbury Phase 2 -related effects on social and economic conditions and Indigenous health and well-being. These include the following:

- **Land and Resources VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions. These measures support Snuneymuxw's economic and social conditions by sustaining land-based activities and long-term restoration goals. They also help by reducing stressors and supporting cultural continuity, knowledge transfer, and overall Indigenous health and well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Snuneymuxw members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems and mitigate risks associated with large-scale development, such as housing insecurity and social disruption. These measures support Snuneymuxw's economic and social conditions while reducing health and community well-being risks, and helping maintain social cohesion and alignment of community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Snuneymuxw's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality, along with avoiding sensitive periods, managing lighting disturbance, and preventing invasive species, helps sustain

species important for cultural practices and country food harvesting. These measures support Snuneymuxw's cultural continuity, access to country foods, and land-based livelihoods, contributing to economic and social conditions while also supporting nutritional, physical, and cultural aspects of Indigenous health and well-being;

- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Snuneymuxw's land-based activities, contributes to economic and social conditions while also supporting physical health, cultural practices, and well-being;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity, support cultural practices, harvesting, and intergenerational knowledge transfer linked to Snuneymuxw's cultural continuity, Indigenous health and well-being;
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for Snuneymuxw's subsistence and health;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and fish habitat relied on to support Snuneymuxw's connection to cultural practices, and health and well-being;
- **Acoustics (Section 7.3)** Noise reduction measures during Construction, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Snuneymuxw's connection to cultural practices that impact health and well-being;
- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbances emission controls help protect respiratory health and prevent contamination of country foods, supporting Snuneymuxw's physical well-being and confidence in harvesting; and
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Snuneymuxw members' physical, cultural, and mental health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on social and economic conditions and Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides Snuneymuxw with a clear mechanism to raise concerns related to community well-being, safety, access, culturally important areas, and environmental or sensory disturbances. Timely response, follow-up actions, and reporting helps ensure issues such as noise, dust, light, traffic, or other perceived project effects, particularly those occurring near cultural sites, harvesting areas, or travel routes, are identified and addressed early;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)**, requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with Snuneymuxw to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By

outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being;

- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. These measures help maintain air quality and visibility to support access to culturally important areas and harvesting activities, contributing to social and economic conditions and protecting Indigenous health and well-being;
- **Condition 15 (Chance Find Protocol)** requiring the development and implementation of a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Snuneymuxw historically used the area, it would also help mitigate effects on any of their cultural materials that may be present;
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project-related roads, which may lower potential impacts on salmon and other fish important to Snuneymuxw's for harvesting and cultural practices. Snuneymuxw and the EAO's Analysis and Conclusions; and,

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- **Accidents and Malfunctions Reporting** would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### Social and Economic Conditions

Although Snuneymuxw continues to experience systemic social and economic challenges, such as limited access to culturally important lands and resources, community stresses from environmental degradation, discriminatory colonial policies, and barriers to practicing traditional economies, these issues are largely the result of historic and ongoing regional industrial development and are not directly caused by Tilbury Phase 2.

Despite these obstacles, Snuneymuxw has demonstrated strong economic resilience through the establishment of PDG and its management of self-directed economic initiatives. Further benefits to the nation may be realized through the *Tilbury Projects Agreement* signed in relation to both the Project and TMJ, and the FortisBC's Implementation Committee, which is intended to support discussion and implementation of economic opportunities related to the Project. Considering this, it is EAO's view that Snuneymuxw will have the opportunity to be directly involved in planning and implementation and offered meaningful access to contracts and long-term participation mechanisms, these opportunities could help offset any potential adverse effects, including future aspirations for sites within the Project area.

Considering these potential benefits, the EAO's conclusions on the linked VCs, and proposed mitigation measures, KMMs and conditions and the lack of any substantial new barriers introduced by the Project, the EAO has determined that there is no residual effect on social and economic conditions. Consequently, no additional characterization of effects or cumulative effects assessment was conducted for this Indigenous Interest.

#### Indigenous Health and Well-being

After considering the proposed mitigation measures, the EAO and Snuneymuxw concludes that Tilbury Phase 2 could result in the following residual effects to Snuneymuxw's Indigenous health and well-being:

- Effects on air quality, noise and water quality;
- Effects on the quality, quantity, and availability of harvested country foods; and,
- Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites.

The EAO and Snuneymuxw's characterization of the residual effects of Tilbury Phase 2 on Indigenous health and well-being are summarized in the table below.

Table 41: Summary of residual effects and rationale on Snuneymuxw and its Indigenous health and well-being.

| Residual Effects                                                                                                                                                                                                                                                                                                                                              | Assessment Rating*                                                                                                                                                                                                                                                                         | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <p>Indigenous health and well-being</p> <ul style="list-style-type: none"> <li>- Effects on Air Quality, Noise and Water Quality</li> <li>- Effects on the quality, quantity, and availability of harvested country foods</li> <li>- Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites</li> </ul> | <p>Context (resilience): Medium</p> <p>Magnitude: Low</p> <p>Extent: Local</p> <p>Duration: Long-term</p> <p>Reversibility: Partially reversible</p> <p>Frequency: Continuous/intermittent</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><i>Snuneymuxw maintains that although acknowledged in the cumulative effects sections below, the Overall Seriousness of Effect is based on a current or contemporary baseline, whereas Snuneymuxw's assessment and baseline is considered as pre-contact. Further they state, the narrow assessment metrics provided through the environmental assessment process do not always integrate Snuneymuxw's approach. Snuneymuxw states to gain a fulsome and holistic understanding of the area and the severity of the effects, the assessment should aim to also consider, to an extent, the historical and cumulative effects of activities and development in the Project area.</i></p> <p><b>Context:</b> Snuneymuxw has experienced extensive impacts to community health and well-being related to environmental degradation, colonization and land dispossession, reducing resilience to further effects. However, due to ongoing efforts to support and improve community health with a broad range of programs, a medium capacity for resiliency has been demonstrated.</p> <p><b>Magnitude:</b> Rated as low because Tilbury Phase 2 is expected to have minor impact on key health and well-being factors, such as water quality and traditional (country food) availability. Residual effects to the human health VC are assessed low, and associated VCs such as acoustics and air quality are predicted to be low in magnitude with mitigation measures and air emissions controls in place and thus expected to present a negligible incremental change to the experience of Snuneymuxw members engaged in land and water based cultural activities. Additionally, Tilbury Phase 2 is anticipated to positively impact socio-economic determinants of health by increasing employment and economic opportunities.</p> <p><b>Extent:</b> The residual effects are expected to occur at a local scale. Direct impacts, such as noise and air quality disturbances, will be primarily localized near Tilbury Phase 2. While Snuneymuxw members live throughout the region and access resources throughout their traditional territory, indirect effects on well-being are unlikely to extend beyond the local Project area.</p> <p><b>Duration:</b> Potential effects, including environmental changes and perceptual impacts, are expected to persist throughout the Tilbury Phase 2's 40+ years of operation, making them medium-term. However, while sensory disturbances may end after decommissioning, impacts on cultural well-being or human health such as respiratory illness or disease could have lasting effects, and therefore long-term.</p> <p><b>Frequency:</b> The frequency of effects is both continuous and intermittent. Some stressors, such as noise and visual changes, may be continuous throughout the operational phase, while others, particularly those during construction, may be intermittent. Additionally, the perception of environmental degradation could result in continuous effects on well-being.</p> <p><b>Reversibility:</b> The effects are considered partially reversible. Sensory disturbances, such as noise and light, are expected to be fully reversible after decommissioning. However, impacts on human health and cultural well-being, including loss of connection to traditional practices and perceived environmental degradation, may be irreversible or require a long time to recover.</p> <p><b>Affected Populations:</b> While positive economic effects may benefit a broad range of Snuneymuxw members, those engaged in traditional harvesting and cultural practices or with pre-existing health vulnerabilities could be disproportionately impacted by negative environmental changes or perceived risks.</p> |



| Residual Effects                                                                                                                  | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | <p><b>Risk:</b> The likelihood of a negative effect occurring is moderate and the consequences are likely to be minor due to some positive effects and mitigations measures, therefore the risk is low.</p> <p><b>Uncertainty:</b> The assessment of potential effects on Snuneymuxw Indigenous health and well-being carries a moderate degree of uncertainty. While effects pathways to health indicators from water and air quality are more understood, the rating is primarily due to the inherent challenges in quantifying cultural effects and understanding how these effects influence overall well-being. Such impacts can vary widely among individuals and within the community, making precise predictions difficult.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### Cumulative Effects

Tilbury Phase 2 is located within an area that has been subject to extensive historical and ongoing industrial development, and Snuneymuxw's health and well-being have already been affected by cumulative impacts associated with pollution, habitat degradation, and reduced access to traditional lands and resources.

Furthermore, the Revised Application identifies other reasonably foreseeable projects in the vicinity that could contribute to cumulative effects: T1B and the TMJ Project, expected to introduce sensory disturbances and result in impacts to plant and wildlife habitat as well as aquatic life and habitat from shipping activities. Both T1B and TMJ have the potential to add cumulative effects associated with decreased air quality and associated health impacts.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project-specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

Snuneymuxw has expressed concerns that the current characterization of cumulative effects does not accurately reflect their lived experience or the full scope of impacts to their health, well-being, and cultural continuity. In their view, cumulative industrial pressures in the lower Fraser River region have already resulted in significant and measurable degradation of environmental quality, including contamination of traditional harvesting areas and reduced availability of culturally important foods such as fish and shellfish. These conditions have direct implications for nutrition, food security, and overall community well-being.

Snuneymuxw further emphasize that restricted access to traditional lands and waters, resulting from urbanization, industrial development, and increased marine traffic, has disrupted land-based practices and hindered the intergenerational transmission of Snuneymuxw knowledge and language, which are central to cultural resilience and health. They highlight that declines in fish populations and access to natural resources have also constrained fisheries-related livelihoods and broader socio-economic conditions.

Snuneymuxw's perspective, even incremental project-related effects may be meaningful in this context. They have also expressed concern that the assessment's conclusion of negligible cumulative effects is not sufficiently supported and does not align with their understanding of existing pressures or their significance.

### Conclusion

Considering the above analysis, FortisBC's proposed mitigation measures, the EAO's Table of Conditions, the EAO concludes that Tilbury Phase 2 would have a negligible effect on Snuneymuxw's health and well-being interests.

In Snuneymuxw's view, Indigenous health and well-being will continue to be affected by existing and reasonably foreseeable industrial and environmental pressures, to which Tilbury Phase 2 will contribute. However, ongoing efforts to support members' health and quality of life, together with potential community well-being benefits from the *Tilbury Project Agreement*, including education, training, and continued community investments, may help offset these pressures. Considering this broader context, Snuneymuxw concludes that the cumulative effect on health and well-being is minor-to-moderate.

#### 16.14.8 Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights

##### Background

Snuneymuxw are descendants of the Sarlequun Tribe, the signatories to the Snuneymuxw Sarlequun Treaty of 1854, signed at Xwsol'lexwel (Nanaimo Harbour) between the Sarlequun People and representatives of the Vancouver Island colonial government led at the time by James Douglas. The treaty is one of only a few pre-Confederation treaties in B.C. and described as a trade and commerce agreement that guaranteed protection for Snuneymuxw cultivated fields, sacred villages, marine areas, and traditional rights to hunt, fish, harvest, and gather "as formerly".

In the years that followed the signing of the treaty, colonial authorities neglected to fulfill commitments to implement it. The lands and resources meant to be protected were never surveyed, and much of Snuneymuxw's traditional territory was alienated and expropriated by settlers under colonial and provincial regimes. As a result, Snuneymuxw communities experienced displacement and erosion of their cultural and economic systems. Despite these challenges, the treaty remains an integral part of Snuneymuxw identity and central to its ongoing legal and political advocacy.

Snuneymuxw also asserts Aboriginal rights and title over its traditional lands and resources, which are recognized and protected under Section 35 of the *Constitution Act, 1982*. These rights include land use, cultural practices, and resource management, and are considered to exist alongside, and be reinforced by, the Snuneymuxw Sarlequun Treaty of 1854.

##### Existing Conditions

Snuneymuxw asserts Aboriginal and treaty rights in the context of Tilbury Phase 2, emphasizing that it was not consulted during earlier industrial developments on Tilbury Island, some of which occurred at a time when Aboriginal and pre-Confederation treaty rights were often disregarded. The Project falls within Snuneymuxw territory and the area includes important historic resource camps, including fishing camps, village sites and marine areas central to both treaty and constitutionally protected activities such as fishing, harvesting, and cultural practices. The potential for the Project to impact these sites has raised concerns about cumulative effects on Snuneymuxw's ability to exercise their rights.

[Section 11.14.2.18 of the Revised Application](#) notes that ongoing capacity constraints have limited Snuneymuxw's ability to provide FortisBC with its perspectives on how Snuneymuxw laws, governance traditions, philosophies, or customs have historically or currently applied to the Project. While this contributes to uncertainty in fully understanding how the Project may align or conflict with Snuneymuxw's exercise of their asserted Aboriginal and treaty rights in the area, it does not indicate the absence of relevant Snuneymuxw laws or legal traditions, nor does it suggest greater levels of adverse effect. Rather, it underscores the importance of ongoing engagement and support to enable more meaningful participation in future assessments and decision-making processes.

FortisBC has made changes to the Project design, including the removal of waterborne deliveries to reduce effects on fish habitat and marine use, however Snuneymuxw continues to emphasize that meaningful recognition of their treaty rights requires more than mitigation. The nation is not participating in the B.C. Treaty Commission modern-day treaty process but is instead focused on the direct implementation of the Snuneymuxw Sarlequun Treaty of



1854<sup>41</sup>. Through formal agreements and engagement processes, including participation on FortisBC's Implementation Committee, Snuneymuxw is working to ensure that its rights, title, and governance are respected in decisions affecting their lands and waters. The treaty remains a guiding legal and cultural framework for how Snuneymuxw evaluates and responds to current and future developments in their territory.

#### Potential Project Effects

The EAO and Snuneymuxw identified the following pathways of effect, prior to the application of mitigation measures, along with associated VCs in [Appendix 6](#) that may affect Snuneymuxw's Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights during Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Changes to Snuneymuxw's cultural traditions, laws, customs, protocols and governance systems that inform how they exercise their Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights:** This potential pathway of effect encompasses Snuneymuxw's ability to apply laws, customs or protocols related to exercising Aboriginal and treaty rights in the Project area (culture, land and resource use, vegetation, wildlife, and fish and fish habitat VCs). Although the Project Footprint is located on private property with restricted access, it remains situated within an area of cultural importance to Snuneymuxw, where Aboriginal and treaty rights were historically and meaningfully exercised and could be in the future. As such, there remains potential for the Project to impact or alter cultural traditions that underpin the exercise of these rights;
- **Effects on ability to use, develop, and control traditional lands and resources:** The expansion of land-based infrastructure and associated Operation of Tilbury Phase 2 further encroaches on areas historically used for harvesting (fish and fish habitat, vegetation, wildlife and wildlife habitat, land and resource use and culture VCs). Although the Project site is privately held and industrially zoned land, the impacts are still relevant as there is potential for the Project's sensory and air quality impacts to disturb Snuneymuxw's use and efforts to steward and restore areas within the LAA. Snuneymuxw's Aboriginal rights originate from a pre-contact baseline and are further affirmed through their treaty; therefore, additional reduction in available harvesting areas represents a continued impact on these longstanding rights; and,
- **Changes to ongoing conservation efforts to restore important fish species and habitat:** The Project's predicted sensory disturbances (air quality, acoustic VCs) and potential contamination risks in the Tilbury Slough (surface water, soil VCs) may alter fish behaviour, health and distribution (fish and fish habitat VC). These changes could interact with Snuneymuxw conservation and stewardship efforts, and potentially affect Snuneymuxw fisheries, including their treaty right to fish.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that FortisBC has proposed in response to potential Tilbury Phase 2-related effects on Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights. These include the following:

- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures supports Snuneymuxw's treaty rights and stewardship responsibilities for fish and aquatic ecosystems within its traditional territory. By protecting fish habitat and maintaining water quality for salmon migrating through the Lower Fraser River, these measures help sustain ecological conditions necessary for Snuneymuxw to exercise its inherent authority over land and water management;
- **Surface Water VC (Section 7.4)** Erosion and sediment-control measures, along with containment and treatment of contact water, support Snuneymuxw's treaty rights and stewardship responsibilities for water within its traditional territory. By preventing sediment or contaminants from entering Tilbury Slough and the Delta storm-sewer system, these measures help maintain water quality and aquatic conditions necessary for

Snuneymuxw to exercise its governance systems; Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting Snuneymuxw's cultural and nutritional reliance on healthy salmon and aquatic ecosystems;

- **Air Quality (Section 7.2)** The air-quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, support Snuneymuxw's treaty rights and stewardship responsibilities within its traditional territory. By limiting emissions that may affect land, waters, and ecological conditions on and adjacent to Tilbury Island, these measures help maintain environmental conditions necessary for Snuneymuxw to exercise its inherent authority over land and resource management;
- **Vegetation VC (Section 7.7)** Avoidance of the MOF footprint supports Snuneymuxw First Nation's treaty rights and stewardship responsibilities by preventing disturbances to riparian areas and culturally important plant species relied on by Snuneymuxw members. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support Snuneymuxw's ability to exercise its inherent authority over land management, environmental oversight, and planning decisions affecting lands and ecosystems;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, supports Snuneymuxw's treaty rights and stewardship responsibilities for wildlife and ecosystems within its traditional territory. By maintaining habitat conditions and ecological integrity, these measures assist Snuneymuxw in exercising its inherent authority over land and resource management;
- **Land and Resources VC (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities support Snuneymuxw's treaty rights and stewardship responsibilities by reducing disruptions to land-use patterns and activities within its traditional territory. These measures help maintain conditions necessary for Snuneymuxw to exercise its inherent authority over land and resource management;
- **Culture VC (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity supports Snuneymuxw's treaty rights and stewardship responsibilities for cultural heritage within its traditional territory. By maintaining the integrity of culturally important places and landscapes, these measures help enable Snuneymuxw to exercise its inherent authority over the identification, protection, and management of cultural sites and areas, consistent with Snuneymuxw's governance systems;
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors support Snuneymuxw's treaty rights and stewardship responsibilities by helping maintain environmental and social conditions within its traditional territory. By limiting project-related stressors and supporting Snuneymuxw's ability to manage and oversee activities affecting community well-being, these measures assist Snuneymuxw in exercising its inherent authority over land management, environmental oversight, and planning processes that influence the health and sustainability of its community;
- **Acoustic (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress, and supporting Snuneymuxw's comfort, well-being, and connection to land and water; and
- **Soil (Section 7.6)** Soil management measures, including erosion control, spill prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Snuneymuxw.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights:

- **Condition 10 (Community Feedback Process)** provides Snuneymuxw with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting engagement on Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights;
- **Condition 12 (CEMP)** requires mitigation measures to manage dust, noise, traffic, spills, surface water, erosion, and wildlife interactions during Construction. These measures help minimize construction-related disturbances that could affect community comfort, safety, health, and well-being of Snuneymuxw members;
- **Condition 13 (OEMP)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation. By limiting long-term environmental disturbances, this condition supports stable conditions that protect Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights;
- **Condition 15 (Chance Find Protocol)** requiring the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. The condition helps to maintain Snuneymuxw Sarlequun Treaty of 1854 Rights, authority and cultural heritage management process;
- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requiring the development and implementation of a plan supporting economic participation of First Nations, and local communities, that would describe employment and contracting strategies and training practices. This plan supports Snuneymuxw Sarlequun Treaty of 1854 Rights through the strengthening of economic self-determination, institutional capacity, and community-directed decision-making; and,
- **Condition 17 (Dry Street Sweeping Report)** requires FortisBC to submit a report on the effectiveness Dry Street Sweeping to mitigate the effects of 6-PPDQ on fish within eighteen months of a Certificate being issued. By informing measures to protect downstream aquatic environments, this condition supports Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights helping maintain confidence in environmental quality and minimizing potential concerns related to contamination of culturally important fish and waterways.

In addition to the Proponent's mitigations and the provincial conditions the EAO identified the following Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to Snuneymuxw Sarlequun Treaty of 1854 Rights:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Snuneymuxw's harvesting practices and broader ecosystem conditions important to their way of life.

#### Snuneymuxw and the EAO's Analysis and Conclusions

- Changes to Snuneymuxw's cultural traditions, laws, and governance systems that inform how they exercise their Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights;

- Effects on ability to use, develop, and control traditional lands and resources; and
- Changes to ongoing conservation efforts to restore important fish species and habitat.

Table 42: Summary of residual effects and rationale on Snuneymuxw and its Aboriginal Rights and Snuneymuxw Sarlequun Treaty of 1854 Rights.

| Residual Effects                                                                                                                                                                                                                                                                                                                                                                                                                          | Assessment Rating*                                                                                                                                                                                                                                                                    | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <p>Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights</p> <p>- Changes to Snuneymuxw's cultural traditions, laws, and governance systems that inform how they exercise their Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights</p> <p>- Effects on ability to use, develop, and control traditional lands and resources</p> <p>- Changes to ongoing conservation efforts to restore important fish species and habitat</p> | <p>Context (resilience): Medium</p> <p>Magnitude: Low/medium</p> <p>Extent: Regional</p> <p>Duration: Medium-term</p> <p>Reversibility: Partially reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: high</p> | <p><i>Snuneymuxw maintains that although acknowledged in the cumulative effects sections below, the Overall Seriousness of Effect is based on a current or contemporary baseline, whereas Snuneymuxw's assessment and baseline is considered as pre-contact. Further they state, the narrow assessment metrics provided through the environmental assessment process do not always integrate Snuneymuxw's approach. Snuneymuxw states to gain a fulsome and holistic understanding of the area and the severity of the effects, the assessment should aim to also consider, to an extent, the historical and cumulative effects of activities and development in the Project area.</i></p> <p><b>Context:</b> Snuneymuxw asserts Aboriginal and treaty rights throughout their traditional territory, including the Project area. Although Snuneymuxw has endured many challenges to exercising their rights due to colonial policies, alienation and other factors, the interest is considered moderately resilient, with the ability to respond and adapt to some stresses, and because rights-based activities would likely increase if barriers were reduced.</p> <p><b>Magnitude:</b> for this interest is assessed as low by the EAO, because the Project Footprint lies on privately owned land with limited access in an industrialized area, which already restricts Snuneymuxw's ability to participate in decision-making or exercise their laws and protocols in the Project area. Furthermore, the anticipated residual effects to relevant VCs, (i.e. negligible residual effects to fish and fish habitat or surface water, negligible to low magnitude of effect for vegetation and wildlife and wildlife habitat, low magnitude for culture and land and resource use) resulting from Tilbury Phase 2 are not expected to alter Snuneymuxw cultural traditions, ability to make decisions over traditional lands and resources or impact ongoing conservation efforts appreciably more than existing conditions.</p> <p><i>Snuneymuxw assessed the magnitude for this interest at medium; from their perspective the severity of the potential residual effects resulting from the Project will change the role relative to existing conditions but is within the interest's capacity to adapt.</i></p> <p><b>Extent:</b> Effects are regional in extent given Snuneymuxw members live and exercise their rights throughout their territory, although sensory impacts will be more localized to the project area.</p> <p><b>Duration:</b> Residual effects related to Tilbury Phase 2 are rated as medium-term and expected to discontinue after decommissioning.</p> <p><b>Reversibility:</b> Rated partially reversible. Sensory impacts like noise and light will end after decommissioning, while cultural impacts tied to alienation from lands or ability to exercise governance systems may be harder to reverse.</p> <p><b>Affected Populations:</b> Those most engaged in traditional practices or conservation work in the area would experience direct disproportionate impacts, although indirect impacts affecting Aboriginal and Treaty rights, which are shared by all Snuneymuxw members would be felt evenly.</p> <p><b>Frequency:</b> Both continuous and intermittent, as certain stressors may be elevated during Construction and others will persist throughout the Operation Phase. Additionally, the perception of environmental degradation that is contrary to Snuneymuxw's laws, legal traditions, and stewardship of caring and protecting the environment may be felt continuously.</p> |

| Residual Effects                                                                                                                  | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | <p><b>Risk:</b> Overall risk is rated as low due to the moderate likelihood that effects will occur, expected effectiveness of mitigation, and low consequence severity. Noting that an accident or malfunction could increase the severity to moderate.</p> <p><b>Uncertainty:</b> Rated high, reflecting difficulties in assessing cultural effects and limited information on Snuneymuxw Indigenous laws and governance systems in relation to the Project.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

### Cumulative Effects

As described in the Background and Existing Conditions section above, restricted access, altered ecological conditions, and the long-standing effects of colonial land alienation have diminished Snuneymuxw's capacity to access and use culturally important sites, such as traditional harvesting grounds and historic villages, for cultural, subsistence, and governance purposes. These impacts have also hindered the intergenerational transmission of knowledge and cultural practices, limiting opportunities for youth to learn on the land in accordance with Snuneymuxw protocols and teachings. According to Snuneymuxw, such disruptions are in direct conflict with the exercise of rights affirmed through the Snuneymuxw Sarlequun Treaty of 1854, which guaranteed continued access to and use of these lands and resources.

In addition to the Project-specific effects of Tilbury Phase 2, FortisBC has identified two other foreseeable projects that are expected to alter the foreshore of Tilbury Island: the T1B and the TMJ projects. These developments are likely to contribute to increased sensory disturbances, further diminishing the quality of experience and cultural connection to land and waters near the Project site. Increased shipping activity in the Fraser River associated with the TMJ Project may disrupt fish populations, adversely affecting Snuneymuxw fisheries, an activity central to both Aboriginal and treaty rights, as well as cultural identity and community well-being.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, including FortisBC's proposed mitigation measures, EAO's Table of Conditions and the federal Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 would have a minor effect on Snuneymuxw's ability to exercise their Aboriginal Treaty Rights.

Snuneymuxw considers the Project in relation to cumulative effects on its Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights as moderate. This position reflects Snuneymuxw's assessment that, when evaluated against a treaty-consistent and pre-contact baseline, the Project contributes to erosion of the quality and integrity of rights exercised within its territory.

#### 16.14.9 Potential Positive Effects of Tilbury Phase 2

According to the Revised Application, the Tilbury Phase 2 Project is expected to create positive effects for Snuneymuxw. One major benefit is the opportunity for direct employment and skills development, particularly during the Project's three-to-six-year construction phase, which will require a large workforce of skilled and semiskilled labor. Given that a portion of Snuneymuxw members hold trades certificates, the Project may offer

important pathways for members to secure construction-related jobs, helping to strengthen individual and community economic well-being.

In addition to employment, the Project offers potential contracting and procurement opportunities for Snuneymuxw-owned businesses. Local and regional Indigenous businesses could benefit by providing goods and services to the Project, supporting broader goals for economic self-sufficiency and business development. Furthermore, under the *Tilbury Projects Agreement* between Snuneymuxw and FortisBC, there are commitments to community investment, education, and training initiatives that aim to build long-term capacity within the nation. These opportunities are aligned with the nation's pursuit of the implementation of the Snuneymuxw Sarlequun Treaty of 1854, which includes commitments to protect and support Snuneymuxw livelihoods, economic participation, and access to land and resources. In this way, the Project has the potential not only to generate tangible benefits, but also to support the realization of treaty rights through increased economic inclusion and recognition of Snuneymuxw governance and development goals.

#### 16.14.10 Conclusions

Considering the above analyses and the EAO's engagement with Snuneymuxw, Snuneymuxw's engagement with FortisBC, mitigation measures, cumulative effects, the EAO's recommended Table of Conditions and the identified Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is anticipated to have the following impacts on Snuneymuxw Indigenous interests:

- Negligible residual effects to harvesting and subsistence activities, which Snuneymuxw characterizes as moderate;
- Minor residual effects to cultural use sites and areas, which Snuneymuxw characterizes as moderate;
- Minor residual effects to cultural continuity, which Snuneymuxw characterizes as moderate;
- Negligible residual effects to Indigenous health and well-being, which Snuneymuxw characterizes as minor-to-moderate; and
- Minor residual effects to Snuneymuxw's Aboriginal and Snuneymuxw Sarlequun Treaty of 1854 Rights, which Snuneymuxw characterizes as moderate.

Considering the above analysis, the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on the Indigenous interests of Snuneymuxw has been adequately avoided, minimized, or otherwise accommodated. Based on the engagement undertaken with Snuneymuxw on Tilbury Phase 2, as outlined above in Section 16.14.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Snuneymuxw.



## 16.15 S'ólh Téméxw Stewardship Alliance First Nations

### 16.15.1 Community Profile

The S'ólh Téméxw Stewardship Alliance (STSA) is a collective of seventeen Stó:lō First Nations formed to support title-holding communities in making unified stewardship decisions across S'ólh Téméxw (Halq'eméylem word for 'our world'/'our land'), the Stó:lō traditional territory. Its purpose is to uphold and protect the integrity of Stó:lō Peoples' relationship with their land, waters, and cultural practices, and to ensure member Nations' rights and interests are recognized in decision-making processes. The STSA Signatory First Nations membership (referenced hereafter as the STSA) includes Aitchelitz, Seabird Island, Shxwhá:y Village, Skowkale, Soowahlie, Squiala, Tzeachten, Yakweakwioose, Kwaw-kwaw-Apilt, Scowlitz, Skawahlook (Sq'ewá:lxw), Skwah, Sumas, Shxw'ow'hamel and Yale First Nations. Chawathil and Cheam First Nation are also included within the STSA membership, but they participate separately in the assessment process and are addressed in [Appendix 6, Sections 16.01](#) and [16.02](#).

### 16.15.2 S'ólh Téméxw Stewardship Alliance First Nation Involvement in the Environmental Assessment

During Early Engagement, the STSA submitted a notice to engage as a participating Indigenous nation for the Tilbury Phase 2 EA on behalf of its signatory nations. The EAO provided formal notifications and key documents to individual the STSA nations listed in the Assessment Plan rather than to the STSA as a collective. The [Assessment Plan](#) outlines consultation expectations with potentially affected Indigenous nations, including those represented by the STSA. The STSA identified several key issues requiring focused analysis, including potential effects on salmon relied on for FSC purposes, air-quality-related health concerns, impacts on cultural and spiritual practices, and the need to consider the S'ólh Téméxw ecosystem as an interconnected system.

The STSA actively participated in the Process Planning phase by reviewing the [Process Order](#), [Assessment Plan](#), and [Tilbury Phase 2 - Schedule C – Application Information Requirements](#) materials; providing updated secondary-source information; and emphasizing that cumulative industrial and climate impacts on the Fraser River must be assessed holistically through a Stó:lō worldview. The STSA and the EAO worked collaboratively during this phase through regular check-ins, and the STSA expressed interest in co-drafting their section of the Report to ensure Stó:lō-specific considerations are meaningfully incorporated. While FortisBC shared draft documents with the STSA member nations, the EAO issued formal notifications and assessment materials directly to individual the STSA signatory nations listed in the Assessment Plan. During the Application Review Phase, the STSA and its signatory nations were invited to participate in TAC meetings and were provided full opportunity to review and comment on the Revised Application.

The Process Order requires FortisBC to consult with Indigenous nations, and the Assessment Plan directs the Proponent to develop an Indigenous Engagement and Collaboration Plan

The EAO used the following sources in drafting the assessment of Tilbury Phase 2 effects on the STSA's Indigenous interests:

- The Proponent's Revised Application;
- Information submitted during the EA by the Proponent and the STSA;
- Conclusions from the EAO's assessment of VCs; and
- [Section 11.08 of the Revised Application](#), along with the Proponent's [Indigenous Engagement Report](#), provides a summary of the Proponent's engagement with the STSA.

Section 11.08 of the Revised Application includes a summary of FortisBC's engagement with the STSA, who have been involved in the process since July 2019. The section was co-developed with the STSA through regular meetings and joint drafting. The Revised Application also includes tables summarizing engagement activities with the STSA members, which are further detailed in the Indigenous Engagement Report.

### 16.15.3 Assessment Boundaries

All Tilbury Phase 2 components are within S'ólh Téméxw.

The spatial assessment boundaries for each Indigenous interest were based on the overlap between S'ólh Téméxw and the combined Local and RAAs identified for linked VCs. Refer to Figure 11.8-1 in [Section 11.08 of the Revised Application](#) (S'ólh Téméxw and Reserve Sites Figure). The LAA for each Indigenous interest reflects the combined LAAs of the VCs linked to that interest. The RAA is defined the same way, using the combined RAAs of the linked VCs. In general, the LAA is used to assess direct and indirect Tilbury Phase 2 effects, while the RAA supports the assessment of cumulative effects.

The assessment of potential effects related to Tilbury Phase 2 considered three distinct phases:

- Construction phase, with an estimated duration of three to six years;
- Operation phase, expected to last more than forty years; and
- Decommissioning phase, anticipated to take approximately two years.

### 16.15.4 Regional Context

Tilbury Phase 2 is situated within S'ólh Téméxw, the traditional territory of the Stó:lō Peoples represented by the STSA. This territory generally encompasses the lower Fraser River watershed, with boundaries that vary by source but are commonly described as extending from Yale through the Fraser Valley to the estuary, and outward to areas such as Harrison Lake, the Coquihalla River, the Strait of Georgia, and south into Washington State. The Fraser River is central to Stó:lō cultural identity, subsistence, and stewardship. It provides ecological and cultural lifelines through fishing, travel, and ceremony.

The STSA has consistently emphasized that this river and its connected ecosystems are already under strain from historic and ongoing industrialization, including degraded fish habitat, reduced water quality, and restricted access to traditional sites. Historical impacts—from the 1858 Gold Rush to subsequent waves of land loss, industrial development, and urbanization—have further eroded ecological integrity and Indigenous well-being. In this context, the STSA has expressed concern that additional development may exceed ecological and cultural thresholds within S'ólh Téméxw.

The STSA signatory First Nations, as part of the broader Stó:lō Peoples, have a long history of using the south arm of the lower Fraser River adjacent to Tilbury Phase 2. The Tilbury Island region lies within S'ólh Téméxw, where Stó:lō communities fished for salmon and eulachon for at least 6,400 years, gathered wetland plants such as cranberries and wapato, and travelled the Fraser River, an essential cultural corridor linking villages, harvesting camps, and ceremonial sites. These historical uses, reflected in nearby archaeological sites and longstanding cultural practices, remain integral to the health, identity, and continuity of Stó:lō Indigenous interests today.

According to the Revised Application, the STSA does not currently use the south arm of the lower Fraser River adjacent to Tilbury Phase 2 to fish, hunt, gather plants, or access cultural sites or areas, given the highly industrialized and inaccessible condition of the Tilbury Island site, the absence of waterborne Tilbury Phase 2 activities, and the lack of identified site-specific traditional use in the immediate vicinity.

The existing Tilbury LNG facility consists of gravel and paved areas, existing infrastructure, and equipment laydown areas supporting little plant life with very little to no habitat value for wildlife. The vegetation within Tilbury Phase 2 is mostly limited to ditch lines and spoil piles and is dominated by non-native and invasive plant species. Public access to Tilbury Phase 2 is limited, although there is currently public use of the dike to the north of Tilbury Phase 2 along the Fraser River.



### 16.15.5 Indigenous Interests

The EAO engaged the STSA during the Early Engagement phase in the development of the [Joint Summary of Issue and Engagement for the Tilbury Phase 2 LNG Expansion Project](#). The EAO summarized an initial understanding of the STSA's interests including:

- Impacts to rights to fish salmon relied on by nations for FSC well-being;
- Impacts on community members' health and wind-dried salmon from cumulative air quality effects;
- Impacts on cultural and spiritual practices and related impacts on health and well-being;
- Protection of S'ólh Téméxw ecosystem as an integrated system; and
- Potential impacts on the maintenance and transmission of cultural practices from past developments and future projects.

The Proponent has identified the STSA's Indigenous interests to be assessed in the Revised Application through:

- Reviewing requirements and guidance from the EAO, including the AIR; and
- Conducting engagement efforts with the STSA to gather information on their Indigenous interests, as outlined in Section 11.8.3 Summary of Engagement of the STSA section in the Revised Application.

The EAO engaged the STSA during Process Planning regarding their Indigenous interests where the STSA expressed a preference for co-drafting their section of the Report with the EAO to ensure that effects are understood and framed through a Stó:lō worldview, developing a broader Stó:lō EA policy they would apply to Tilbury Phase 2.

During Application Review, the STSA engaged as a participating Indigenous nation, receiving invitations to provide comments on the Revised Application, engage in TAC discussions, and review draft materials issued by the EAO. In the Revised Application, the STSA provided information to the Proponent directly regarding their Indigenous interests in relation to Tilbury Phase 2. The EAO and the STSA worked collaboratively on the selection of Indigenous interests, along with the preliminary list of Indigenous interests identified in the AIR, which include:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions;
- Indigenous health and well-being;
- Cultural continuation; and
- Indigenous governance systems.

The assessment of the STSA's Indigenous interests in this section uses these categories.

The EAO's assessment includes describing the Indigenous interest, the current context, potential effects, applicable mitigation, and the resulting effects analysis. If there is an adverse residual effect, a characterization of effects and a cumulative effects assessment are also completed. Cultural continuation and Indigenous governance systems were not assessed as stand-alone interests, but as components of other Indigenous interests, with core analysis placed in the cultural use sites and areas sections. Analysis of governance and cultural continuation interests are also integrated into the harvesting and subsistence activities, social and economic conditions, and Indigenous health and well-being sections.

### 16.15.6 Harvesting and Subsistence Activities

#### Background

The STSA represents several Stó:lō First Nations for whom harvesting and subsistence activities are central to cultural identity and constitutionally protected Aboriginal Rights. Guided by the principle *Mekw stám illeq'tol* ("everything is connected"), the STSA emphasizes the interdependence of people, animals, and the environment through *shxweli* (life force).

The STSA members have relied for generations on salmon, sturgeon, eulachon, and other resources, which are not only vital food sources but are also understood as ancestral beings embedded in Stó:lō governance and identity. Traditional practices such as wind-drying salmon continue to hold cultural importance, though they have been constrained by historic regulations and the effects of industrial development. Plant gathering, hunting, and ceremonial use of surrounding lands remain integral, with historical harvesting sites located near Tilbury Phase 2. Historical harvesting sites used by the STSA signatory Nations occur very close to Tilbury Phase 2, including archaeological site, with evidence of precontact fishing, located within 1 km of Tilbury Phase 2 on the opposite bank of the Fraser River. Additional major Stó:lō fishing and gathering sites, such as the Glenrose and St. Mungo archaeological sites 6–7 km upriver and historic cranberry-picking and cannery locations across the lower Fraser, demonstrate that Tilbury Phase 2 lies within a longstanding, resource-rich harvesting landscape used for at least 6,400 years.

#### Current Context

The STSA face cumulative impacts from industrial, agricultural, and residential activity throughout S'ólh Téméxw, which have degraded the Fraser River and constrained the exercise of Indigenous Rights and Title. Pollution, declining fish populations, and disrupted habitat directly affect food security, cultural practices, and stewardship responsibilities. Although Tilbury Phase 2 is an industrial brownfield with limited ecological value and no current fishing use, the STSA has stressed that effects must be understood within the broader Fraser River system. Traditional harvesting areas within the LAA and RAA include sites such as Qiqá:yt and Tsitslhes, and while fishing persists in some areas, continued regional development has reduced opportunities for hunting, gathering, and traditional resource use. Specifically, Qiqá:yt, a major Stó:lō cranberry-gathering and wintering site, is located across the Fraser River from present-day New Westminster and just outside Tilbury Phase 2's LAA, while Tsitslhes, a historic Stó:lō settlement and fishing camp, lies within approximately 13 km of the Tilbury Island Project Site along the lower Fraser River.

Baseline conditions already reflect cumulative degradation, leaving limited resilience to absorb further impacts. The STSA has raised concerns that additional pressures from Tilbury Phase 2—particularly changes in air quality, noise, and visual landscapes—could further disrupt fishing practices, reduce access to culturally important resources, and compound existing stresses on their ability to meaningfully exercise Aboriginal rights.

The STSA exercises traditional governance through the S'ólh Téméxw Use Plan Policy—an environmental management and land use framework that protects culturally sensitive wildlife and vegetation zones, including key Fraser River habitats. The policy guides stewardship decisions rooted in Stó:lō law and requires activities to be assessed for consistency with cultural and ecological priorities.

#### Potential Project Effects

The EAO has identified the following pathway of effects prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#) that may affect the STSA Signatory First Nation's harvesting and subsistence activities during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Effects on the Fraser River ecosystem and water quality, migrating and spawning salmon and fish and fish habitat, marine and aquatic species and habitat;** Potential effects include changes to the Fraser River ecosystem and water quality from Tilbury Phase 2-related activities, including alterations to surface water and groundwater conditions (surface water and groundwater VCs). These pathways may affect the health, distribution, and abundance of culturally important marine and aquatic species (fish and fish habitat, wildlife and wildlife habitat, vegetation VCs). Tilbury Phase 2 activities may also interact with migrating and spawning salmon through potential changes in habitat quality, flow conditions, and exposure to contaminants of concern such as 6PPD-Quinone (6-PPDQ), which could alter seasonal harvesting opportunities and patterns. Broader effects on fish, marine species, and aquatic habitat may influence the availability, quality, and reliability of key species harvested within the Fraser River and associated marine environments (fish and fish habitat VC). Changes to accessible travelways and navigation routes along the Fraser River and nearby marine waters (land and resource use VC), along with any temporary access restrictions, may affect the ability of the STSA members to travel to or use preferred harvesting locations (culture VC). These pathways could influence the timing or seasonal round of harvesting activities and the overall practice of harvesting within S'ólh Téméxw;
- **Effects on Aboriginal Rights to fish, harvest, and hunt for food, social and ceremonial (FSC) purposes:** Potential effects include changes to harvesting methods and practices, including timing, seasonality, and preferred harvesting locations, due to alterations in air quality (air Quality VC), noise and vibration (acoustic VC), and surface water or groundwater conditions (surface water, groundwater VCs). Tilbury Phase 2-related changes to habitat quality and species availability, distribution, abundance, and health may influence harvesting success and the quality and quantity of harvested species, including fish, wildlife, plants, and migratory birds (vegetation, wildlife and wildlife habitat, and fish and fish habitat VCs). Effects on hunting, trapping, and migratory bird harvesting may also occur through changes to sensory conditions or habitat suitability. Increased harvesting effort—such as greater time, travel difficulty, or expense—along with potential access restrictions or disruptions to travelways (land and resource use VC) may affect the ability to exercise Aboriginal Rights for FSC purposes and may alter harvesting-based livelihoods and current use of lands and resources for traditional purposes;
- **Changes to the current use of lands and resources for traditional purposes:** Potential effects include changes to harvesting methods and practices, such as timing, seasonality, or preferred locations, as well as increased effort required to access or use traditional areas. These pathways may be influenced by changes in habitat quality and species availability, distribution, and abundance, along with sensory disturbances such as noise, air emissions, and vibration during Construction and Operation. Additional effects may include temporary restrictions on travelways or access to culturally important areas due to construction activities and surface water alterations (vegetation, wildlife and wildlife habitat, fish and fish habitat, acoustic, air quality, surface water, and land and resource use VCs);

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources:** There are potential Tilbury Phase 2-related changes to surface water and groundwater quality, including turbidity and hydraulic conditions in the Fraser River and Tilbury Slough (surface water, and groundwater VCs), along with potential exposure to contaminants such as 6-PPDQ, may affect the health, distribution, and quality of culturally important fish, wildlife, bird, and plant species (fish and fish habitat VC; wildlife and wildlife habitat VC; vegetation VC). Sensory disturbances—such as noise and vibration (acoustic VC), odour and dust (air quality and soil VC), and visual changes to the landscape—may alter the experience of harvesting and influence preferences for historically and contemporarily used harvesting locations. These pathways may contribute to changes in the abundance, distribution, or behavior of harvested species, affect the current and future availability and quality of traditional foods, and reduce accessibility to culturally important harvesting sites due to changes in travelways or localized access restrictions (land and resource use VC). Even where measurable population effects are limited, shifts in species presence, condition, or predictability can influence harvesting success, seasonal rounds, and cultural trust in harvested resources; and
- **Effects to the accessibility and availability of traditional lands and resources:** Tilbury Phase 2 activities may affect the ability to travel to or through areas traditionally used for harvesting through changes to surface water levels and flow conditions, localized construction restrictions, and modifications to land- or water-based travelways (surface water, groundwater, and land and resource use VCs). Temporary access limitations, including reduced navigability on the Fraser River or marine routes, may influence the STSA members' ability to reach key harvesting locations (fish and fish habitat VC). Sensory disturbances such as noise and vibration (acoustic VC), air emissions and dust (air quality and soil VCs), and vegetation removal or alteration (vegetation VC) may further affect access by diminishing comfort, safety, or cultural accessibility of travel routes. These pathways may reduce the availability of culturally important land and water-based harvesting sites and affect patterns of use within S'ólh Téméxw.

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on harvesting and subsistence activities. As mentioned in the section above. A full table of Proponent mitigations can be found in [Appendix A of the Revised Application](#). Below is a summary of mitigation measures, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support the STSA's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support the STSA's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm-sewer system. These protections support water quality and fish habitat relied on to support the STSA's harvesting and cultural practices;

- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by the STSA for harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by the STSA for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing Construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to the STSA's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to the STSA's harvesting and cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices; and
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to the STSA's harvesting and cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on the STSA's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting (see [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for the STSA to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of the STSA's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to the STSA's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to the STSA's harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emission control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support the STSA's harvesting and cultural practices; and
- **Condition 17 (Dry Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project-related roads, which may lower potential impacts on salmon and other fish important to the STSA's harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial conditions the EAO identified the following Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

**Federal Consideration for Migratory Bird Protections;** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting the STSA's harvesting practices and broader ecosystem conditions important to their way of life.

#### The EAO's Analysis and Conclusions

After consideration of the mitigation measures and potential effects, described above, the EAO identified the following residual effects:

- Effects on Aboriginal rights to fish, harvest, and hunt for FSC purposes; and
- Changes to the current use of lands and resources for traditional purposes.

The EAO's characterization of the residual effects of Tilbury Phase 2 on harvesting and subsistence activities are summarized in the table below.

Table 43: Summary of residual effect and rationale on the S'ólh Téméxw Stewardship Alliance and its harvesting and subsistence activities.

| Residual Effect                                                                                                                                                                                     | Assessment Rating*                                                                                                                                                                                                                | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Harvesting and Subsistence Activities<br>- Effects on Aboriginal Rights to fish, harvest, and hunt for FSC purposes<br>- Changes to the current use of lands and resources for traditional purposes | Context (resilience): Low<br>Magnitude: Low<br>Extent: Local<br>Duration: Medium-term<br>Reversibility: Fully reversible<br>Frequency: Continuous<br>Affected Populations: Disproportionate<br>Risk: Low<br>Uncertainty: Moderate | <p><b>Context:</b> The interest is rated as having low resilience due to existing cumulative industrial, urban, and port development pressures within the STSA's traditional territory, particularly along the Fraser River and marine environment. While harvesting activity continues in other parts of the territory, areas near the Tilbury site are already under environmental stress, making them less able to absorb additional changes without affecting harvesting quality and success.</p> <p><b>Magnitude:</b> The magnitude is assessed as low, as potential residual effects may either undetectably or slightly alter the availability, distribution, and quality of harvested species and harvesting experiences without eliminating the ability to exercise rights. There are negligible magnitude residual effects on fish, fish habitat, and surface water after mitigation. Negligible to low magnitude residual effects may remain for air quality, acoustic, vegetation, wildlife and wildlife habitat, land and resource use. These may influence both the feasibility and quality of harvesting and traditional land use.</p> <p><b>Extent:</b> Rated as local, since the spatial scale of residual effects to applicable VC's is limited, the impact on harvesting is expected to remain local, primarily within the immediate Tilbury Phase 2 area.</p> <p><b>Duration:</b> Rated as medium-term, as residual effects may persist through Construction and Operation (&gt;2 years) but are expected to diminish or cease following decommissioning and successful restoration.</p> <p><b>Reversibility:</b> Most effects, particularly those related to sensory disturbances such as noise and light, would cease if Tilbury Phase 2 were halted or upon decommissioning, making them fully reversible.</p> <p><b>Frequency:</b> Rated as continuous, as certain effects, such as noise, light disturbance, and dust, would occur continuously. Some effects would occur seasonally or periodically in alignment with harvesting and traditional land use activities, and during certain operational activities at Tilbury Phase 2.</p> <p><b>Affected Populations:</b> Rated as disproportionate, as impacts would most acutely affect Elders, fishers, hunters, and knowledge holders engaged in FSC harvesting, as well as those reliant on land-based practices for cultural continuity.</p> <p><b>Risk:</b> The likelihood of these effects occurring is low given the effectiveness of</p> |



| Residual Effect                                                                                                                   | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | <p>proposed mitigation measures, including removal of in-river works, environmental management plans, and air and acoustic controls. With negligible low magnitude and VC residual effects confined to a local extent, the overall consequences are expected to be minor. While cumulative pressures in the Fraser River corridor heighten sensitivity, the incremental contribution of Tilbury Phase 2 is small. Therefore, the risk is rated as low.</p> <p><b>Uncertainty:</b> The pathways of effects, such as increased noise, light, vibration, and impacts on harvesters, are well understood. While mitigation measures are expected to be moderately to highly effective, some uncertainty remains regarding their effectiveness in fully addressing harvesters' experiences and perceptions. As a result, the level of uncertainty is rated as low.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### Cumulative Effects

As described in the Background and Current Context section, the Lower Fraser River and Tilbury Island area have experienced decades of industrial activity. These existing pressures have already affected environmental conditions, and in turn the STSA's harvesting and subsistence interests by reducing availability of culturally important resources and altering how members would access and use that area.

The Revised Application identifies several reasonably foreseeable projects that may adversely affect the STSA's harvesting and subsistence interests. These include T1B, which would increase LNG production, and TMJ, which would introduce additional vessel traffic on the Fraser River and further modify the foreshore next to the Project site. After mitigation and conditions have been implemented, the residual effects would be minimally disrupted from current conditions. Both T1B and TMJ could contribute additional sensory disturbances (noise, light, vibration), and impact air quality in areas potentially used by the STSA for harvesting. TMJ could further alter fish and fish habitat, vegetation, and vegetation habitat as well as water quality in areas used by the STSA for harvesting. Climate change is also expected to continue to influence vegetation, wildlife, and fish resources relied upon by the STSA nations. The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project-specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, FortisBC's proposed mitigation measures, and EAO's Table of Conditions, the EAO concludes that Tilbury Phase 2 would have negligible effects on the STSA's harvesting and subsistence activities.

## 16.15.7 Cultural Use Sites and Areas

### Background

For the STSA, cultural use sites and areas are deeply tied to history, identity, and ongoing cultural practices, rooted in their relationship with S'ólh Téméxw, the land, air, water, and resources, which sustain the well-being of present and future Stó:lō generations. The cultural principle of tómiyeqw (connecting Stó:lō seven generations past and future) reflects this enduring responsibility across time.

There are known archaeological and historical sites near Tilbury Phase 2 and within the LAA and RAA of linked VCs. The Fraser River delta has been continuously used by Indigenous communities for at least 6,400 years, and sites in the vicinity typically represent seasonal camps and resource extraction locations for fishing, hunting, berry picking, and plant gathering. A precontact archaeological site containing heritage features—including a fishing weir—is located within approximately 1 km of Tilbury Phase 2. The Deas Island cannery site (ca. 1871), the closest cannery site to Tilbury Phase 2, reflects longstanding Stó:lō participation in regional fisheries. Other culturally important areas, such as Qiqá:yt (a major historic cranberry-picking camp) and the transformer site Stl'aleqem on Barnston Island, are located just outside or within linked assessment areas and form part of the broader network of cultural sites connected to the lower Fraser River.

These places are fundamental to cultural continuation and Indigenous governance systems, where intergenerational knowledge, language, and cultural identity are shared, and where traditional governance practices such as stewardship, territory management, and community decision-making occur. Named places, ceremonial sites, longhouses, potlatch gatherings, and travel corridors provide settings for storytelling, teaching laws and protocols, and practicing spiritual and communal responsibilities that reinforce Stó:lō identity, self-determination, and connection to S'ólh Téméxw. The S'ólh Téméxw Use Plan Policy<sup>42</sup> and the Stó:lō Heritage Policy<sup>43</sup> underscore the role of these sites in guiding development and protecting cultural heritage.

The lower Fraser River region has long been central to cultural activities, including harvesting, spiritual practices, social gatherings, and travel. Tilbury Phase 2 and surrounding lands hold historic importance for fishing, hunting, plant gathering, and ceremony. However, infringement and development have resulted in the loss of cultural sites and traditional knowledge.

#### Current Context

For the STSA, cultural use sites and areas have been shaped by historical disenfranchisement and ongoing industrial, agricultural, and residential development. Colonial policies constrained governance systems and cultural responsibilities, while contemporary processes often limit participation in decision-making and the application of Indigenous laws, customs, and protocols. Many important places have been disrupted or remain inaccessible, with Tilbury Phase 2 situated on private industrial land that restricts traditional use. These access constraints, combined with broader pressures on land and water, continue to erode opportunities to uphold cultural practices, maintain intergenerational knowledge, and protect heritage values across S'ólh Téméxw.

The STSA members who continue to actively use cultural sites and areas throughout the lower Fraser River region, where the river remains a central cultural and spiritual site for ceremony, travel, canoe journeys, and the transmission of intergenerational knowledge. Despite urbanization around Tilbury Island, Stó:lō members continue harvesting and gathering activities, including plant gathering, cranberry picking at places such as Qiqá:yt, and FSC fishing for salmon and other culturally important species, supported through family ties and longstanding use of resource sites along the estuary. Spiritual and historical places, such as the transformer site Stl'aleqem on Barnston Island and nearby archaeological camps and fishing sites, continue to guide cultural teachings, stewardship responsibilities, and the maintenance of place-based knowledge.

#### Potential Project Effects

The EAO has identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect the STSA's cultural use sites and areas during the Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or

<sup>42</sup> [The S'ólh Téméxw Use Plan Policy](#)

[The Stó:lō Heritage Policy](#)



**architectural significance;** Tilbury Phase 2 activities may disturb or alter sites of cultural, archaeological, and historical importance, including storied places, habitation sites, and archaeological areas along the South Arm of the Fraser River, Tilbury Island, and Lulu Island (archaeological and heritage resources, and soil VCs). Sensory disturbances, such as noise and vibration (acoustic VC), odour, dust, and air emissions (air quality VC), and changes to visual resources, may affect the cultural setting and result in qualitative changes to the experience of using cultural sites and exercising associated cultural practices, customs, beliefs, and values (culture VC). Changes to accessible travelways, areas with access restrictions, and navigation along the Fraser River and nearby marine environments may further limit access to culturally important sites and influence participation in communal activities (land and resource use VC);

- **Effects of various Tilbury Phase 2 activities on cultural values and spiritual activities;** Tilbury Phase 2 activities may affect the integrity and accessibility of cultural sites and areas used for spiritual practices, including impacts to the Fraser River and the sockeye salmon run, which hold deep cultural significance beyond their subsistence value (culture, land and resource Use, and fish and fish habitat VCs). Potential effects include changes to or loss of access to cultural sites and areas through accessible travelway alterations or areas with access restrictions, as well as sensory disturbances such as noise and vibration (acoustic VC), odour and air quality changes (air quality VC), visual changes, and dust (land and resource use VC) that could degrade the cultural setting and experience. Participation in communal activities, harvesting, and ceremonial practices may be further influenced by disturbances or alterations to sites of historical and archaeological importance (archaeological and heritage resources VC) and changes to the availability of culturally important species like salmon;
- **Effects of the Tilbury Phase 2 activities on the cultural and ceremonial use areas in and around the project Area;** Tilbury Phase 2 activities may result in loss of access to, or disenfranchisement from, cultural and ceremonial sites through disturbance or alteration of areas of historical, cultural, and archaeological importance (archaeological and heritage resources, culture, and land and resource use VCs). Sensory disturbances, including noise and vibration (acoustic VC), odour, dust, and air quality changes (air quality and soil VCs), and shifts in visual resources, may lead to qualitative changes in the experience of using cultural sites and exercising associated cultural practices, customs, beliefs, and values. Changes to accessible travelways, the creation of areas with access restrictions, and potential effects on navigation along the Fraser River and adjacent marine environments may further limit the use of these areas for communal activities, gatherings, and ceremonial purposes (land and resource use VC).
- **Loss of access to or disenfranchisement from cultural sites;** Tilbury Phase 2 activities may result in changes to physical, cultural, or spiritual sites, including the disturbance or alteration of areas of historical, archaeological, and cultural importance (archaeological and heritage resources; culture, and land and resource use VCs). Disruption or alteration of trails, accessible travelways, and navigable waterways, including navigation along the Fraser River, along with the creation of areas with access restrictions, may limit the ability to reach and use important cultural sites. Sensory disturbances such as noise, odour, dust, and changes to visual resources may further diminish the experience of participating in communal activities and exercising cultural practices, customs, beliefs, and values associated with these sites.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed to potential Tilbury Phase 2 related effects on cultural use sites and areas. These include the following:

- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support the STSA's cultural practices;

- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to the STSA's connection to cultural practices;
- **Acoustics (Section 7.3)** Noise reduction measures during Construction and operation, including idle reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by the STSA;
- **Soil (Section 7.6)** Soil management measures, including erosion control, spill-prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by the STSA;
- **Land and Resource Use (Section 7.11)** Traffic-management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support the STSA's ability to safely access and continue cultural practices within their traditional territory;
- **Infrastructure and Services (Section 7.12)** Measures to manage traffic, workforce accommodation, emergency response, and waste help limit indirect pressures on local lands, waters, and access routes. By managing congestion and pressures on community services, these measures help maintain safe access to culturally important areas and manage disturbance to cultural landscapes relied on by the STSA;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support the STSA's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory; and
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support the STSA's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to Indigenous cultural use sites and areas (see [Section 8](#) of this Report):

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance.
- **Condition 10 (Community Feedback Process)** to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;

- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting the STSA's continued access to and use of cultural sites during project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by the STSA;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions-control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by the STSA; and,
- **Condition 15 (Chance Find Protocol)** requiring the development and implementation of a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If the STSA historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### The EAO's Analysis and Conclusions

After consideration of the mitigation measures, provincial conditions, and potential effects, described above, the EAO identified the following residual effects:

- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance;
- Effects of various Tilbury Phase 2 activities on cultural values and spiritual activities; and
- Loss of access to or disenfranchisement from cultural sites.

The STSA and the EAO's characterization of the residual effects of Tilbury Phase 2 on cultural use sites and areas are summarized in the table below.

Table 44: Summary of residual effects and rationale on the S'ólh Téméxw Stewardship Alliance and its cultural use sites and areas.

| Residual Effect                                                                                                                                                                                                                                                                                                                                           | Assessment Rating*                                                                                                                                                                                                                                                       | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| Cultural use sites and areas<br><br>- Effects of various Tilbury Phase 2 activities on cultural values and spiritual activities<br><br>- Loss of access to or disenfranchisement from cultural sites<br><br>- Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance | Context (resilience): Medium<br><br>Magnitude: Low<br><br>Extent: Local<br><br>Duration: Medium-term<br><br>Frequency: Continuous<br><br>Reversibility: Partially reversible<br><br>Affected Populations: Disproportionate<br><br>Risk: Low<br><br>Uncertainty: Moderate | <p><b>Context:</b> The interest is rated as having moderate resiliency, recognizing that the STSA has demonstrated adaptability in maintaining cultural practices despite historical and ongoing industrial development within their territory. However, the persistence of cumulative disturbances in the Fraser River corridor, including habitat alteration, sensory impacts, and reduced access to key cultural areas, has likely diminished overall capacity to absorb additional adverse effects. This rating reflects a balanced assessment acknowledging both cultural resilience and the challenges posed by the highly modified setting.</p> <p><b>Magnitude:</b> The magnitude of impact is rated as low, based on the Project's negligible magnitude residual effects on fish, fish habitat, and surface water, which underpin many cultural activities. Other connected VC residual effects, including those to wildlife, vegetation, air quality, acoustics, and land and resource use, are expected to be negligible to low in magnitude and of local extent. The Tilbury Phase 2 site is located on fee simple industrial land, where access for cultural use is already restricted.</p> <p><b>Extent:</b> Rated as local, as the anticipated residual effects are geographically confined to Tilbury Phase 2 vicinity and immediate surrounding areas. While the STSA members continue to maintain connections across the lower Fraser, the predicted effects are unlikely to extend beyond the local assessment area</p> |

| Residual Effect                                                                                                                   | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                                                                                                                                   |                    | <p>for cultural use.</p> <p><b>Duration:</b> The effects on cultural use sites and areas are rated as medium-term. The residual effects, particularly sensory disturbances and restricted access, would persist throughout Construction and Operation but are expected to cease following Decommissioning.</p> <p><b>Frequency:</b> Rated as continuous for restrictions on access to Tilbury Phase 2, which is an ongoing condition. Sensory disturbances (e.g., noise, odour, visual changes) may be continuous during Operations but variable during Construction depending on activity type.</p> <p><b>Reversibility:</b> Most effects, particularly those related to sensory disturbances such as noise, and light, would cease if Tilbury Phase 2 were halted or upon Decommissioning. However, any cultural impacts arising from sustained loss of access or long-term changes in practice patterns could be partially reversible if intergenerational use or knowledge transfer is disrupted.</p> <p><b>Affected Populations:</b> Tilbury Phase 2's impacts would disproportionately affect the STSA members who actively engage in cultural and ceremonial practices in proximity to the Project area. While indirect effects, through changes to the cultural landscape or perceptions of site quality, could be felt more broadly by the STSA.</p> <p><b>Risk:</b> The likelihood of direct Tilbury Phase 2-related impacts on cultural use sites is low due to the application and effectiveness of proposed mitigation measures, and the overall consequence is minor, given the negligible to low magnitude of predicted residual effects. Therefore, the risk is rated as low.</p> <p><b>Uncertainty:</b> Rated as moderate, acknowledging that cultural effects are complex to quantify and may be experienced differently among individuals and families. While mitigation is expected to be effective in addressing physical and sensory disturbances, uncertainties remain regarding long-term perceptions of site suitability for cultural use.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### Cumulative Effects

The STSA emphasizes that, in the Stó:lō worldview, the Fraser River is understood as a single, interconnected cultural site, such that impacts to any one part of the river system create effects on the whole river system.

The historical context of environmental degradation and land-use changes has already affected the STSA's cultural use sites and areas, as detailed in the Background and Current Context sections above. The STSA experiences limited access and altered ecological conditions along the Fraser River, and the degraded state of sites like Tilbury Island due to industrial development. These past and present impacts have reduced the ability of the STSA nations to fully utilize culturally important locations and have hindered the transmission of Indigenous Knowledge.

According to the Revised Application two foreseeable projects, T1B and TMJ, are expected to modify the Tilbury Island foreshore prior to Construction of Tilbury Phase 2. These developments are expected to introduce additional sensory disturbances (noise, light, vibration) affecting nearby cultural site access and use. T1B could remove vegetation, impacting culturally important plants and wildlife habitat, while TMJ shipping activities may increase disturbances, with potential effects on fish populations and cultural connections to the Fraser River. The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

#### Conclusion

Considering the above analysis, FortisBC's proposed mitigation measures, and EAO's Table of Conditions, the EAO concludes that Tilbury Phase 2 would have negligible effects on STSA's cultural use sites and areas.

### 16.15.8 Social and Economic Conditions

#### Background

The social and economic conditions of the STSA are deeply interconnected with their cultural identity and enduring relationship to S'ólh Téméxw, their traditional territory encompassing land, air, water, and resources. Stó:lō socio-cultural and economic relations, values, and governance are rooted in connections to ancestors, land, and sacred places, reflecting a holistic worldview where social, economic, political, environmental, and spiritual dimensions are inseparable. Traditionally, the Fraser River and surrounding ecosystems sustained Stó:lō economies and cultural practices and continue to inform decision-making guided by Stó:lō laws and principles of sustainability. Current conditions reflect both historical impacts and ongoing pressures from industrial, agricultural, and residential activities across the region.

#### Current Context

Historical and ongoing industrial, agricultural, and urban development across S'ólh Téméxw have contributed to cumulative effects degrading ecological integrity and extensively impacting Aboriginal rights, traditional practices, and community well-being. Demographic and housing data reflect the legacy of colonialism, including limited housing, infrastructure gaps, and past barriers to clean water. Health and wellness concerns link to environmental degradation and disruptions to traditional food systems, affecting physical, mental, and spiritual health. The transition from traditional subsistence to wage-based employment has shifted economic patterns, though many of the STSA members maintain involvement in both contemporary and traditional livelihoods. Traditional activities, fishing, shellfish harvesting, hunting, and plant gathering, face constraints from urbanization, habitat loss, and restricted access to cultural sites, undermining food security, cultural continuity, and knowledge transfer. While Tilbury Phase 2 itself is already heavily industrialized and not used currently by the STSA for social or economic activities, its proximity to the Fraser River means further industrial expansion on this site could adversely affect the surrounding ecosystem that underpins the STSA's commercial, non-commercial, and future economic aspirations.

#### Potential Project Effects

The EAO has identified the following pathways of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect the STSA's social and economic conditions during the Construction, Operation, and Decommissioning Phases of the Tilbury Phase 2:

- **Changes to employment opportunities, Indigenous businesses, procurement opportunities, and Indigenous Government revenue:** Tilbury Phase 2 activities may generate direct, indirect, and induced employment, along with procurement and contracting opportunities for Indigenous businesses, which may contribute to increased Indigenous government revenue (employment and economy VC). These opportunities relate to access to Tilbury Phase 2-related economic benefits, including employment income, labour force participation, and local job market conditions. Training, certification, and education initiatives associated with Tilbury Phase 2 may strengthen workforce readiness and support long-term skill development (infrastructure and services VC). Culturally aligned employment and procurement approaches may also reinforce Indigenous governance capacity and community-driven cultural programs (culture VC). Interactions with land and resource use patterns may influence how Tilbury Phase 2-related economic activities integrate with local development aspirations (land and resource use VC);

- **Effects on the STSA's ability to improve social and economic conditions:** Tilbury Phase 2 may support the ability of the STSA to advance community-led plans related to economic development, land use, language and cultural revitalization, and reclamation (culture VC). Access to Tilbury Phase 2-related employment, procurement, and contracting opportunities may enhance economic equity, employment income, labour force participation, and skill development, contributing to increased Indigenous government revenue and community capacity (employment and economy VC). Training and education associated with Tilbury Phase 2 activities may further strengthen workforce readiness and support long-term improvements in education and job market outcomes (infrastructure and services VC). These opportunities may also reinforce interfamily and intercommunity ties by supporting shared economic initiatives and cultural programming across S'ólh Téméxw;
- **Effects on commercial and non-commercial fishing, hunting, trapping, and gathering and cultural or ceremonial activities and practices:** Tilbury Phase 2-related changes to the availability, distribution, and quality of fish, wildlife, and plant species may influence both commercial and non-commercial harvesting opportunities, including marine fisheries and licensed hunting, trapping, and gathering activities (employment and economy, and culture VCs). Changes that make harvesting take more time, cost more, or become harder to access can reduce the individual, household, or community benefits of non-commercial harvesting and negatively affect important FSC practices. These changes could also influence participation in intercommunity activities and the amount, type, or frequency of harvested goods traded within the STSA. Tilbury Phase 2 interactions with land use, access, and resource availability may affect the alignment of Tilbury Phase 2 with the STSA signatory nations' plans for economic development, land use, language and cultural revitalization, and reclamation (infrastructure and services, and land and resource use VC);
- **Effects on the STSA future aspirations for sites or areas surrounding Tilbury Phase 2:** Tilbury Phase 2 activities may interact with long-term community aspirations related to economic development, land use, language and cultural revitalization, and reclamation initiatives (culture VC). Changes to the surrounding landscape and resource conditions may influence the STSA's ability to advance land-based programming, cultural infrastructure, or stewardship initiatives envisioned for the region (land and resource use VC). Access to Tilbury Phase 2-related employment, procurement, or training opportunities may support some nation-led economic development goals, while broader industrial growth may limit opportunities for culturally aligned land use or reclamation in specific areas (employment and economy, and infrastructure and services VCs). These interactions could shape how future land use, cultural, and community development plans are implemented across S'ólh Téméxw;
- **Effects on intercommunity relations and trade:** Tilbury Phase 2 activities are not expected to measurably affect intercommunity relations or traditional trade networks within the STSA. Indicators such as harvesting effort, harvesting success, and the amount or frequency of harvested materials exchanged between communities are not anticipated to experience meaningful change, given Tilbury Phase 2's location within an already industrialized area and the limited interaction with culturally important harvesting sites (land and resource use VC). As a result, no effects are predicted on individual, household, or communal income derived from non-commercial harvests, nor on participation in intercommunity cultural or reciprocal sharing practices (culture, employment and economy, and infrastructure and services VCs); and
- **Effects on infrastructure and services:** Tilbury Phase 2 activities are not expected to influence the availability, quality, or accessibility of community infrastructure or public services for the STSA. No measurable changes are anticipated to health care or social service facilities, emergency response capacity, recreational or educational services, or transportation infrastructure, given Tilbury Phase 2's industrial setting and limited interaction with community-based service systems (infrastructure and services VC). As a result, no effects are predicted on culturally aligned programs or community well-being initiatives linked to Indigenous governance, employment, or land use (culture, employment and economy, and land and resource use VCs).



## Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions. These include the following:

- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to the STSA's physical health and cultural practices;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting the STSA's cultural continuity and nutritional well-being;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports the STSA's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Employment and Economy (Section 7.10)** Employment, training, and procurement measures create pathways for the STSA members and businesses to participate economically in the project, supporting improved social and economic conditions and community well-being;
- **Land and Resources VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting the STSA's long-term aspirations for land and water restoration and reducing stressors that can impact economic development and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socio-economic impacts on the STSA and supporting community stability; and
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to the STSA's social and economic interest.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on social and economic conditions:

- **Condition 10 (Community Feedback Process)** provides the STSA with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting ongoing social and economic interests;
- **Condition 12 (CEMP)** requires mitigation measures to manage dust, noise, traffic, spills, surface water, erosion, and wildlife interactions during Construction. These measures help minimize Construction-related disturbances that could affect community, social, and economic well-being of members;
- **Condition 13 (OEMP)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation. By limiting long-term environmental disturbances, this condition supports stable environmental conditions that protect the STSA's social and economic interests;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality mitigates sensory disturbances, such as dust and odors, and prevents particulate deposition that may impact traditional resources. This supports the Social and Economic Conditions of the STSA by preserving the cultural acceptability and integrity of harvested species, ensuring harvesting does not become more difficult or costly to access; and,

**Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support the STSA's socio-economic well-being through increased access to jobs, skills development, and business opportunities associated with Tilbury Phase 2.

#### The EAO's and the STSA's Analysis and Conclusions

After consideration of the mitigation measures and potential effects, described above, the EAO identified the following residual effects:

- Reduced economic access to harvesting and fishing livelihoods, with potential impacts on Indigenous businesses and non-wage economies;
- Disruption of land-based economic activities, including traditional and cultural economic practices; and
- Potential loss of future economic self-determination due to cumulative industrial development affecting land use plans, resource stewardship, and sustainable economic aspirations.

The EAO and the STSA's characterization of the residual effects of Tilbury Phase 2 on social and economic conditions are summarized in the table below.

Table 45: Summary of residual effects and rationale on the S'ólh Téméxw Stewardship Alliance and its social and economic conditions.

| Residual Effect                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Assessment Rating*                                                                                                                                                                                                                                                                | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <p>Social and economic conditions</p> <ul style="list-style-type: none"> <li>- Reduced economic access to harvesting and fishing livelihoods, with potential impacts on Indigenous businesses and non-wage economies.</li> <li>- Disruption of land-based economic activities, including traditional and cultural economic practices.</li> <li>- Potential loss of future economic self-determination due to cumulative industrial development affecting land use plans, resource stewardship, and sustainable economic aspirations.</li> </ul> | <p>Context (resilience): Medium</p> <p>Magnitude: Low</p> <p>Extent: Local</p> <p>Duration: Medium --term</p> <p>Reversibility: Partially reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Disproportionate</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> | <p><b>Context:</b> The STSA signatory nations demonstrate cultural and economic resilience through community-led initiatives, language revitalization, and adaptive approaches to socio-economic challenges. However, cumulative industrialization and historic displacement continue to limit full economic development potential. Given this balance of adaptive capacity and ongoing pressures, resilience is rated as medium.</p> <p><b>Magnitude:</b> The magnitude is assessed as low. Tilbury Phase 2 does not directly overlap with active harvesting or community-based economic activities, and residual effects to linked VCs are characterized as negligible to low magnitude. Any indirect influences, such as minor sensory or cumulative pressures, are limited in scale and not expected to measurably affect existing social or economic conditions. While Tilbury Phase 2 may contribute incremental strain on traditional economies, it also introduces positive employment and procurement opportunities that partially offset adverse effects.</p> <p><b>Extent:</b> Potential effects are local. While some economic linkages (e.g., fish species or harvesting practices) connect to broader networks, measurable socio-economic effects would be concentrated near Tilbury Phase 2.</p> <p><b>Duration:</b> Rated as medium-term, as residual socio-economic effects are expected to persist through Construction and into the early and mid-operational period but are unlikely to last for the full life of Tilbury Phase 2, given their low magnitude, localized extent, and partial reversibility.</p> <p><b>Reversibility:</b> The impacts are partially reversible as employment-related changes may be reversible post-project, but long-term disruptions to traditional livelihoods may be harder to reverse without specific recovery efforts.</p> <p><b>Frequency:</b> Rated continuous due to socio-economic interactions with Tilbury Phase 2 that would occur regularly throughout Tilbury Phase 2. Restrictions or sensory disturbances may affect harvesting activities during specific periods, while employment or procurement opportunities occur at specific Tilbury Phase 2 milestones.</p> <p><b>Affected Populations:</b> The effect is expected to be disproportionate; as Indigenous harvesters, Elders, and community members engaged in traditional</p> |



| Residual Effect                                                                                                                   | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                    | <p>land-based or non-wage economies are more likely to experience effects than the broader population.</p> <p><b>Risk:</b> The risk rated as low, as some residual socio-economic effects may occur, however there is a low likelihood they would cause widespread or severe disruption. Potential consequences for traditional economic activities, harvesting, and Indigenous businesses are expected to be minor due to negligible to low magnitude impacts to related VC's. Although cumulative regional pressures remain,</p> <p><b>Uncertainty:</b> Limited site-specific socio-economic data regarding long-term participation in Tilbury Phase 2 benefits contribute to a moderate uncertainty rating.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

#### Cumulative Effects

As described in the Background and Current Context section, the lower Fraser River and Tilbury Island area have undergone longstanding industrial development, as well as impacts due to climate change, resulting in existing pressures on STSA's social and economic conditions which reflect long-standing industrial, urban, and infrastructure pressures across S'ólh Téméxw, which have constrained traditional economies, harvesting practices, and Indigenous business development. The Revised Application identifies several reasonably foreseeable projects that may affect the STSA's social and economic interests. These include T1B, which would increase LNG production, and TMJ, which would introduce additional vessel traffic in the Fraser River and further development of the foreshore area. Both T1B and TMJ could contribute additional sensory disturbances (noise, light, vibration) and impact traditional harvesting practices.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

#### Conclusion

Considering the above analyses, including FortisBC's proposed mitigation measures, EAO's Table of Conditions and the Federal Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 would have a negligible effect on the STSA's social and economic interests.

### 16.15.9 Indigenous Health and Well-being

#### Background

For the STSA, health and well-being are holistic concepts rooted in their deep spiritual, cultural, and physical connections to S'ólh Téméxw, their traditional territory encompassing land, water, air, and all living beings. This worldview centres on shxwelí (the spirit or life force) that links people, places, and nature, making environmental health inseparable from community health. The Fraser River, salmon, and surrounding ecosystems are central to well-being, providing nourishment and sustaining cultural and spiritual practices.

Participating in traditional activities like harvesting, ceremonies, and intergenerational teaching strengthens identity, resilience, and mental and spiritual health. However, historical and ongoing industrial development, habitat degradation, and restricted access to culturally important areas have contributed to cumulative impacts and cultural stress, affecting physical health and psychosocial well-being. The STSA emphasize that health assessments must look beyond physical health to include the cultural, spiritual, and emotional dimensions of well-being, reflecting their inherent responsibility to steward S'ólh Téméxw for future generations.

#### *Existing Conditions*

The health and well-being of the STSA are deeply connected to their lands, waters, and cultural practices. Stó:lō understand health as holistic, encompassing spiritual, emotional, mental, and physical dimensions linked through shxwelí, the life force uniting people, places, and beings. The Fraser River is central to this connection, sustaining physical health, cultural identity, and spiritual well-being. Historical dispossession, environmental degradation, and restricted access to resources have contributed to health disparities, including higher rates of chronic illness, mental health challenges, and cultural stress within the STSA communities. Loss of access to traditional foods, such as salmon, shellfish, wild plants, and medicinal resources, has diminished nutrition, disrupted cultural practices, and heightened risks of diseases, including respiratory conditions tied to pollution and habitat loss.

#### *Potential Project Effects*

The EAO has identified the following effects pathways, prior to application of mitigation measures, along with the associated VCs in [Appendix 6](#), that may affect the STSA Signatory First Nation's Indigenous health and well-being during Construction, Operation, and Decommissioning Phases of Tilbury Phase 2:

- **Changes to the experience when exercising an Indigenous interest, including presence of visual disturbances, changes in air quality, effects of vibrations from construction activities, and acoustic disruptions;** Tilbury Phase 2 activities may create sensory and environmental disturbances, such as reduced air quality, increased noise and vibration during construction, and visual changes that alter the experience of exercising Indigenous interests at culturally important sites (air quality, acoustic, surface water, and groundwater VCs). These disturbances may diminish the comfort, safety, and cultural suitability of locations used for harvesting, cultural practices, or community activities (harvesting and subsistence activities, and cultural use sites and areas). Such changes could negatively affect overall health and well-being by discouraging participation in land-based practices, cultural continuity, and community connection (human health VC);
- **Effects on Indigenous health due to changes in harvesting and subsistence activities, construction-related disturbances, and air quality impacts;** Potential effects include changes in harvesting and subsistence activities, which may occur if Tilbury Phase 2 activities alter species availability, site accessibility, or the cultural acceptability of traditional harvesting areas. Effects of vibrations from construction activities and acoustic disturbance (acoustic VC) may reduce comfort, safety, and the cultural suitability of areas used for harvesting, gatherings, or cultural practices. Dust caused by construction and increased traffic (soil and air quality VCs) and reduced air quality resulting from increased road traffic (air quality VC) may further affect the experience of exercising Indigenous interests. These disturbances may diminish participation in harvesting, cultural or spiritual practices, and communal activities, with potential implications for physical, mental, and cultural well-being (cultural use sites and areas, and human health and land and resource use VCs);

- **Effects on Indigenous health due to effects to traditional ways of life and to cultural sites;** Potential effects include reduced participation in harvesting and subsistence activities and diminished ability to engage in cultural and spiritual practices associated with culturally important places (cultural use sites and areas). Sensory disturbances such as noise and vibration (acoustic VC), odour and reduced air quality (air quality VC), dust (soil VC), and visual changes may alter the experience of exercising Indigenous interests, affecting comfort, cultural acceptability, and a sense of safety at important sites. Changes to accessible travelways, areas with access restrictions, and navigation along the Fraser River and marine environment (land and resource use VC) may further limit participation in communal and ceremonial activities. These combined effects may influence physical, mental, emotional, and cultural well-being (human health VC) by disrupting cultural practices, intergenerational knowledge transfer, and community cohesion;
- **Effects on the quality, quantity, and availability of harvested country foods;** Tilbury Phase 2 activities may influence the availability, distribution, and health of culturally important foods, including fish, wildlife, birds, and traditional plants, through changes to habitat, water quality, and ecosystem conditions (fish and fish habitat, wildlife and wildlife habitat, vegetation, surface water, groundwater, and soil VCs). Increased contaminants of concern, including air emissions and construction-related sedimentation (air quality and surface water VCs), may affect species quality or abundance, reducing harvesting success and altering seasonal harvesting patterns. Sensory disturbances such as noise, vibration, odour, dust, and visual changes (acoustic, air quality, and soil VCs) may further influence the ability or desire to harvest in preferred areas, affecting both access and cultural continuity (cultural use sites and areas and social and economic conditions);
- **Effects on the value and perceived quality of country foods;** Changes to environmental conditions, including air quality, water quality, noise, vibration, odour, and dust (air quality, acoustic, surface water, groundwater, and soil VCs), may influence community perceptions of the safety, purity, and cultural integrity of harvested foods. Even where measurable contamination is not present, concerns about exposure to tire-derived toxins, industrial runoff, or habitat disturbance may reduce confidence in traditional foods and limit their use in cultural, social, and ceremonial contexts (cultural use sites and areas). Reduced participation in harvesting and communal food-sharing practices can affect food security, intergenerational knowledge transfer, and broader aspects of Indigenous health and well-being (human health VC and social and economic conditions); and
- **Effects on Indigenous health due to changes in air quality, noise, and water quality;** Tilbury Phase 2 activities may contribute to changes in air quality, noise and vibration levels, and surface and groundwater quality, which can influence the experience of exercising Indigenous interests (air quality, acoustic, surface water, and groundwater VCs). These sensory and environmental disturbances, including odour, dust, reduced visibility, and changes to drinking and recreational water quality, may affect participation in harvesting and subsistence activities, cultural and spiritual practices, and communal activities (cultural use sites and areas). Such disruptions can influence cultural practices, customs, and values associated with important sites, with potential consequences for physical, mental, and spiritual health and well-being (human health VC). Even where measurable contamination is not present, perceived declines in environmental quality may reduce confidence in land- and water-based activities essential to cultural continuity and community cohesion.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on Indigenous health and well-being. These include the following:

- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting the STSA's physical well-being and confidence in harvesting;

- **Acoustics (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting the STSA's comfort, well-being, and connection to land and water;
- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting the STSA's nutritional reliance on healthy salmon and aquatic ecosystems;
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for the STSA's health and well-being;
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by the STSA sustenance, directly impacting health and well-being;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to the STSA's physical health;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting the STSA's nutritional well-being;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports the STSA's food security and health by safeguarding salmon and other species essential to FSC harvesting;
- **Land and Resources VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting the STSA's long-term aspirations for land and water restoration and reducing stressors that can affect well-being;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures and early notification to Indigenous nations, help protect culturally important sites and landscapes that support the spiritual and emotional well-being of the STSA;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to the STSA's overall well-being; and
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect the STSA members' physical, cultural, and mental health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on Indigenous health and well-being:

- **Condition 10 (Condition Community Feedback Process)** provides the STSA with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** require ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with the STSA to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to

catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;

- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting the STSA's physical health and overall well-being;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If the STSA historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being; and,
- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- Accidents and Malfunctions Reporting would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### The EAO's Analysis and Conclusions

After consideration of the mitigation measures and potential effects, described above, the EAO identified the following residual effects:

- Sensory disruption and psychological stress;
- Reduced confidence in country food safety and harvesting practices; and
- Disruption of cultural continuity and intergenerational knowledge transfer.

The EAO's characterization of the residual effects of Tilbury Phase 2 on Indigenous health and well-being are summarized in the table below.

Table 46: Summary of residual effects and rationale on the S'ólh Téméxw Stewardship Alliance and its Indigenous health and well-being.

| Residual Effect                                                                                                                                                                                                                                                                                             | Assessment Rating*                                                                                                                                                                                                                                                                         | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Indigenous health and well-being</p> <ul style="list-style-type: none"> <li>- Sensory disruption and psychological stress</li> <li>- Reduced confidence in country food safety and harvesting practices</li> <li>- Disruption of cultural continuity and intergenerational knowledge transfer</li> </ul> | <p>Context (resilience): High</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Short-term</p> <p>Reversibility: Fully reversible</p> <p>Frequency: Continuous</p> <p>Affected Population: Even</p> <p>Risk: Low</p> <p>Uncertainty: Moderate</p> <p>Importance: High</p> | <p><b>Context:</b> The resilience of the STSA communities is assessed as high, reflecting the nations' strong cultural, social, and governance structures that continue to sustain community well-being despite historic and ongoing pressures. Cultural revitalization initiatives and adaptive harvesting practices support the nations' ability to respond to environmental and social change. The People of the Rivers Referrals Office (PRRO) play a key role by providing technical and research support to the STSA throughout the referral process, acting as a facilitator for the STSA communities rather than a decision-making body. Although cumulative industrial and colonial impacts have placed strain on health, cultural practices, and land use, the demonstrated capacity of the STSA communities to adapt and maintain cultural integrity indicates a high level of resilience to the negligible, localized disturbances anticipated from Tilbury Phase 2.</p> <p><b>Magnitude:</b> The magnitude is considered negligible as anticipated changes to health and well-being, such as minor sensory disturbances or temporary uncertainty about country food safety, are not expected to result in a measurable change to Indigenous health outcomes. The ability to exercise Indigenous practices and maintain wellness will remain intact. Negligible to low magnitude impacts to air quality and human health VCs may occur.</p> <p><b>Extent:</b> The extent is assessed as local since potential effects would be limited to areas directly surrounding Tilbury Island and its immediate zone of influence on the Fraser River. They are not expected to spread across the wider territory or affect regional cultural or health systems.</p> <p><b>Duration:</b> The potential effects, including environmental changes and perceptual impacts, are expected to persist throughout Tilbury Phase 2's 40 plus years of Operation, making them medium-term. While sensory disturbances may end after decommissioning, impacts on cultural well-being could have lasting effects.</p> <p><b>Reversibility:</b> Is assessed as fully reversible as residual effects such as noise, vibration, and dust will cease once construction is completed, and air and water quality measures will restore conditions. Confidence in country foods and traditional practices is expected to return once temporary Tilbury Phase 2 disturbances are resolved.</p> <p><b>Frequency:</b> Is rated as continuous because the anticipated effects, such as dust, odour, noise, and vibration, are expected to occur regularly during active construction periods, specific operational activities, or discrete Tilbury Phase 2 phases. These effects may not always be constant but will arise at intervals tied to Tilbury Phase 2 schedules, site preparation, equipment use, or traffic increases.</p> <p><b>Affected populations:</b> considered even as effects are expected to be experienced generally across the community in a relatively uniform manner. No subgroup (e.g., Elders, youth, or harvesters) is expected to experience a disproportionately greater burden, given the negligible nature of the effects.</p> <p><b>Risk:</b> Is assessed as low, because residual effects on Indigenous health and well-being are unlikely to persist after mitigation is applied. The overall magnitude remains negligible to low and of local extent, meaning consequences would not lead to measurable or lasting health impacts.</p> <p><b>Uncertainty:</b> Is considered moderate, as there is limited specific health data and partial integration of Indigenous health frameworks contribute to gaps in fully predicting the scale and long-term consequences of potential impacts.</p> |
| <p>* Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a></p>                                                                                                                                                                    |                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



### Cumulative Effects

As noted in the Background and Current Context sections above, historic and ongoing industrial development in the Lower Fraser River has contributed to long-standing cumulative impacts on the STSA's Indigenous health and well-being. Pollution, habitat degradation, declining access to traditional foods, and increasing pressures on land and water have already created a context in which the STSA health and well-being outcomes are challenged.

As stated above, FortisBC notes that two foreseeable projects, T1B and TMJ, are expected to result in cumulative impacts to air quality and associated human-health pathways, and these additional sensory and environmental stressors could further affect the STSA members' overall health and well-being, especially given existing regional pressures on traditional foods have already been shaped by cumulative industrial, urban, and infrastructure development across S'ólh Téméxw. The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, FortisBC's proposed mitigation measures, and EAO's Table of Conditions, the EAO concludes that Tilbury Phase 2 would have negligible effects on the STSA's health and well-being interests.

#### 16.15.10 Positive Effects of Tilbury Phase 2

According to the Revised Application, Tilbury Phase 2 may create employment, training, and procurement opportunities for the STSA, including Construction phase jobs, Indigenous contracting, and increased revenue through participation in procurement streams. These opportunities have the potential to support community economic development, skill building, and cultural and governance programming. Both the STSA acknowledges that increased employment and economic opportunities could result from Tilbury Phase 2, with potential improvements in social conditions. However, the STSA has emphasized that these benefits depend on minimizing risks to traditional economies and ensuring Indigenous participation.

The magnitude of positive effects will depend on the accessibility of opportunities for the STSA members and businesses, and direct economic benefits may be limited when considered alongside the broader socio-economic conditions and cumulative industrial pressures experienced across S'ólh Téméxw.

#### 16.15.11 Conclusions

Considering the above analyses, the EAO's and FortisBC's engagement with the STSA, FortisBC's commitments in Appendix A of the Revised Application, and the EAO's table of provincial conditions, KMMs to inform federal conditions under the IAA 2019, the EAO concludes that Tilbury Phase 2 is anticipated to have the following impacts on the STSA's Indigenous interests:

- Negligible residual effects to the STSA's harvesting and subsistence activities;
- Negligible residual effects to the STSA's cultural use sites and areas;
- Negligible residual effects to the STSA's socio-economic conditions; and
- Negligible residual effects to the STSA's Indigenous health and well-being.

Considering the above analyses, the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on the STSA's interests has been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with the STSA on Tilbury Phase 2, as outlined above in Section 16.15.2 the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with the STSA.

## 16.16 Skwxwú7mesh Úxwumixw (Squamish Nation)

### 16.16.1 Community Profile

The Skwxwú7mesh Úxwumixw (Squamish Nation) is a Coast Salish Nation with deep ancestral ties to their traditional territory, which spans from Point Grey north to the Elaho River, and east to Port Moody and Whistler. This territory includes Burrard Inlet, Howe Sound, and major urban areas such as Vancouver and the District of Squamish.

The nation has 24 reserves, with communities located in North Vancouver, West Vancouver, and along the Squamish River. Kitsilano 6 is the closest reserve to Tilbury Phase 2 Liquefied Natural Gas (LNG) Expansion Project (Tilbury Phase 2). Skwxwú7mesh Úxwumixw members speak Skwxwú7mesh Sníchim, a critically endangered language undergoing revitalization through dedicated language and cultural programs.

Skwxwú7mesh Úxwumixw governance is led by the Nexwsxwníwntm ta Úxwumixw, with support from departments focused on leadership, intergovernmental affairs, and the protection of Aboriginal Rights and Title. The Nation continues to steward and strengthen its cultural identity, governance, and language despite the ongoing impacts of colonization.

### 16.16.2 Squamish Nation's Involvement in the Environmental Assessment

FortisBC have engaged with Skwxwú7mesh Úxwumixw regarding Tilbury Phase 2 since July 2019, primarily through virtual meetings due to COVID-19. Regular updates were provided, and input was sought on key documents, including the Initial Project Description (IPD), DPD, and Revised AIR; however, no comments were received.

FortisBC also shared draft content specific to Skwxwú7mesh Úxwumixw ([Section 11.15](#)), lists of secondary sources, and offered opportunities to participate in site tours, fieldwork, and review technical reports. Despite these efforts, Skwxwú7mesh Úxwumixw did not raise key issues or propose mitigation measures during the engagement period.

On February 3, 2025, the EAO received an email communication from Skwxwú7mesh Úxwumixw, stating that in their recently released Climate Legacy Strategy<sup>44</sup>, Skwxwú7mesh Úxwumixw does not support new industrial fossil fuel projects in the Skwxwú7mesh Aysáych (territory). Therefore, Skwxwú7mesh Úxwumixw does not support Tilbury Phase 2 and will not be providing any further review or comment related to Tilbury Phase 2.

The assessment of potential impacts on Skwxwú7mesh Úxwumixw was guided by methodology in Section 11.1 of the AIR, incorporating a Gender-based Analysis Plus (GBA Plus) approach. Due to limited direct input, the analysis relied on secondary sources to identify potential effects on Indigenous interests, including harvesting and subsistence activities, cultural use, socio-economic conditions, and health and well-being.

Because Skwxwú7mesh Úxwumixw's traditional territory does not overlap with key Local and RAAs, FortisBC concluded limited potential for Tilbury Phase 2-related effects. However, the absence of input meant that effects on cultural continuity and Indigenous governance systems were not assessed.

### 16.16.3 Assessment Boundaries

The spatial assessment boundaries for each Indigenous interest were based on the overlap between Skwxwú7mesh Úxwumixw traditional territory with the combined Local and RAAs identified for linked VCs. Refer to Figure 11.15-1 in the Revised Application (Indigenous interests and Tilbury Phase 2 Location Figure). Although the Project Footprint is located outside Skwxwú7mesh Úxwumixw traditional territory, it lies directly adjacent to it, with the closest Skwxwú7mesh Úxwumixw reserve (Kitsilano 6) being 16 km away.

The assessment of potential effects related to Tilbury Phase 2 considered three distinct phases:

- Construction phase, with an estimated duration of three to six years;

<sup>44</sup> Squamish Nation Climate Legacy Strategy: [ClimateLegacyStrategy\\_Final\\_Sep16\\_DIGITAL\\_Booklet.pdf](#) (See Quick Start Action #1 which states "No new industrial fossil fuel projects in the Skwxwú7mesh Aysáych".)



- Operation phase, expected to last more than forty years; and
- Decommissioning phase, anticipated to take approximately two years.

#### 16.16.4 Regional Context

The Project Footprint is located on Tilbury Island, B.C., within an existing industrial zone. The site lies in the Tilbury Industrial Park and is already cleared and developed as part of the current LNG facility. Public access is limited, though the Fraser River dike, directly opposite Tilbury Phase 2's fence line, is used recreationally.

Although outside Skwxwú7mesh Úxwumixw's traditional territory, the nation was included in the assessment due to its interest in the nearby Tilbury Marine Jetty (TMJ) project. Other industrial developments in the area, including the TMJ and T1B, may alter the surrounding foreshore and contribute to regional cumulative effects.

FortisBC concluded that Tilbury Phase 2 would not result in residual effects on Skwxwú7mesh Úxwumixw's Indigenous interests and did not conduct a cumulative effects assessment specific to the nation. However, the broader industrial context, including overlapping timelines and proximity to areas of interest, highlights the potential for cumulative impacts on Indigenous interests such as harvesting, cultural use, socio-economic conditions, health and well-being.

#### 16.16.5 Indigenous Interests

The EAO engaged Skwxwú7mesh Úxwumixw during the Early Engagement phase in the development of the [Joint Summary of Issue and Engagement for Tilbury Phase 2 LNG Expansion Project](#), however the EAO did not receive any input during that phase.

During the Readiness Decision phase in the development of the [Readiness Decision Report](#), the EAO engaged with Skwxwú7mesh Úxwumixw who did not specifically indicate their primary concerns regarding Tilbury Phase 2. Therefore, the EAO relied on input gathered from technical advisors and participating Indigenous nations. This information was used in drafting the [Tilbury Phase 2- Schedule C – Application Information Requirements](#) Table 6, see Proposed Preliminary List of Indigenous Interests.

During the Application Development and Review phase and again during the Effects Assessment and Recommendation Phase, the EAO received a communication from Skwxwú7mesh Úxwumixw stating that in their recently released [Climate Legacy Strategy](#), they do not support new industrial fossil fuel projects in their traditional territory. Therefore, Skwxwú7mesh Úxwumixw does not support Tilbury Phase 2 and will not be providing further review or comments.

The Proponent identified Skwxwú7mesh Úxwumixw's Indigenous interests to be assessed in the Revised Application through:

- Reviewing requirements and guidance from the EAO;
- Conducting engagement efforts with Skwxwú7mesh Úxwumixw to gather information on their Indigenous interests outline in [Section 11.15.3](#) Summary of Engagement of the Skwxwú7mesh Úxwumixw's section of the nation's section in the Revised Application; and
- FortisBC relying heavily on secondary data and sources external to Skwxwú7mesh Úxwumixw.

The EAO attempted to engage Skwxwú7mesh Úxwumixw during the development of the Report. As no comments were received on their section, the EAO relied on the preliminary list of Indigenous interests identified in the AIR. The following interests were considered:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions; and
- Indigenous health and well-being.

The assessment of Skwxwú7mesh Úxwumixw's Indigenous interests in this section uses these categories. The EAO's assessment includes describing the Indigenous interest, the current context, potential effects, applicable mitigation, and the resulting effects analysis. If there is an adverse residual effect a characterization of effects and cumulative effects assessment is also completed.

### 16.16.6 Harvesting and Subsistence Activities

#### Background

Skwxwú7mesh Úxwumixw members have historically engaged in, and continue to engage in, fishing for saltwater and freshwater fish species throughout their traditional territory. The Fraser River has been a major source of salmon for Skwxwú7mesh Úxwumixw since time immemorial. They historically practiced a seasonal pattern of arriving on the Fraser River in April to fish and returning to Burrard Inlet in late September, however there is uncertainty about where specifically on the Fraser River this fishing took place or if it was close to Tilbury Phase 2. Skwxwú7mesh Úxwumixw historically hunted and fished within the RAA, but not within the LAA.

Skwxwú7mesh Úxwumixw members gathered plants from forests which was an essential practice for thousands of years, providing materials for construction, tools, clothes, medicine, and various food items like berries, roots, and tender green shoots. Maintaining access to these opportunities is crucial for cultural continuity.

Hunting land and sea animals for food and spiritual purposes, such as deer and elk, has been significant, particularly for Skwxwú7mesh Úxwumixw Elders. Trapping for furs occurred historically, though less frequent today, with some families still maintaining registered traplines.

Skwxwú7mesh Úxwumixw members were economically self-sufficient through their relationship with the land and participated in extensive trade networks with other Indigenous nations, utilizing their traditional territory as a major trade route between the coast and the interior.

#### Existing Conditions

According to the Revised Application, with the arrival of Europeans and the subsequent colonialism, industrialization and urban developments have had far-reaching and detrimental effects on Skwxwú7mesh Úxwumixw's ability to exercise their harvesting and subsistence activities. There have been severe negative impacts on fish populations and habitats due to industrial activities like logging, dredging, pollution in the Howe Sound and Squamish River estuary, leading to the near absence of species like eulachon. With the destruction of old-growth forests and habitat for important plant life and wildlife species, resulting from logging, leading to wildlife population declines.

FortisBC has stated in the Revised Application that Tilbury Phase 2 is on private industrial property and does not have any information indicating that Skwxwú7mesh Úxwumixw currently uses the south arm of the lower Fraser River close to Tilbury Phase 2 for fishing, plant gathering, hunting, or accessing cultural sites. The Department of Fisheries and Oceans (DFO) Canada do not indicate that Skwxwú7mesh Úxwumixw holds a Food, Social and Ceremonial (FSC) fishing license in the lower Fraser River. Furthermore, FortisBC acknowledges that Tilbury Phase 2 is entirely outside of Skwxwú7mesh Úxwumixw traditional territory, though it is directly adjacent to it and overlaps with the RAA for harvesting and subsistence activities.

#### Potential Project Effects

The EAO identified the following pathway of effects, along with the associated VCs outlined in [Appendix 6](#), that may affect Skwxwú7mesh Úxwumixw's harvesting rights and subsistence activities during Construction, Operation, and Decommissioning Phases of Tilbury Phase 2:

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources** from increased noise, light, and air pollution (acoustics, air quality, land and resource VCs) may deter Skwxwú7mesh Úxwumixw members from accessing preferred harvesting areas near Tilbury Phase 2 site. Changes in fish distribution and abundance (fish and fish habitat

VC) and the introduction of invasive plant species (vegetation VC) may further reduce the experience and preference of the practicing of harvesting rights. While Skwxwú7mesh Úxwumixw does not currently fish or harvest close to Tilbury Phase 2, they have historically, and could in the future if the site was decommissioned to a more natural state;

- **Effects to Skwxwú7mesh Úxwumixw Rights to fish for FSC purposes** from habitat loss, (wildlife, fish and fish habitat, vegetation VCs), increased mortality risks to fish, birds, and wildlife (wildlife and wildlife habitat VCs), and changes in their behavior due to sensory disturbances (acoustics, air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water VC) and Fraser River downstream, may further impact traditional harvesting and cultural practices; and
- **Effects on the accessibility and availability of traditional lands and resources** may occur as a result of altered land or water based travel routes, access restrictions, or safety considerations, including changes to navigability and the usability of established travel corridors (land and resource use and surface water VCs), as well as indirect effects from sensory disturbances such as noise, dust, lighting, or visual changes that may discourage travel through otherwise accessible areas (air quality, acoustics, and land and resource use VCs).

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures that the Proponent has proposed in response to potential Tilbury Phase 2-related effects on harvesting and subsistence activities, as mentioned in the section above. A full table of Proponent mitigations can be found in [Appendix A of the Revised Application](#). Below is a summary of Key Mitigation Measures, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Skwxwú7mesh Úxwumixw's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Skwxwú7mesh Úxwumixw's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and fish habitat relied on to support Skwxwú7mesh Úxwumixw's harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Skwxwú7mesh Úxwumixw for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing Construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Skwxwú7mesh Úxwumixw's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to Skwxwú7mesh Úxwumixw's harvesting and cultural practices;

- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices; and
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Skwxwú7mesh Úxwumixw's land and water based cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on Skwxwú7mesh Úxwumixw's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting (see [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for Skwxwú7mesh Úxwumixw to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Skwxwú7mesh Úxwumixw's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Skwxwú7mesh Úxwumixw's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Skwxwú7mesh Úxwumixw's harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support Skwxwú7mesh Úxwumixw's harvesting and cultural practices; and,
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project related roads, which may lower potential impacts on salmon and other fish important to Skwxwú7mesh Úxwumixw's harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial Conditions the EAO identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects on harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Skwxwú7mesh Úxwumixw's harvesting practices and broader ecosystem conditions important to their way of life.

#### The EAO's Analysis and Conclusions

After consideration of the mitigation measures and potential effects, and analysis described above, the EAO has identified that there will not be any residual effects to Skwxwú7mesh Úxwumixw's harvesting and subsistence activities, primarily due to the fact that Skwxwú7mesh Úxwumixw's harvesting and subsistence areas do not overlap with the LAA and the effects from associated VCs will not impact the Regional Assessment Area.

### 16.16.7 Cultural Use Sites and Areas

#### Background

The Skwxwú7mesh Úxwumixw have numerous connections to their traditional lands and waters, which are imbued with meaning through Skwxwú7mesh place names. These places were, and remain, sites for the practice of their traditions, customs, and lifeways. Their culture is defined in relation to the land in its natural state and through the use of its resources. The traditional territory is considered a repository of Skwxwú7mesh Úxwumixw peoples' oral history and knowledge of the land. Oral history sites hold equal importance to archaeological sites for Skwxwú7mesh Úxwumixw members. A strong spiritual and cultural connection to the land informs their identity, based on the premise of living in a harmonious relationship with the land and its resources.

#### Current Context

FortisBC stated in the Revised Application that Skwxwú7mesh Úxwumixw has not identified cultural sites or areas currently in use in or adjacent to the Project Footprint and that Skwxwú7mesh Úxwumixw does not currently use the south arm of the lower Fraser River near the Project Footprint to fish, gather plants, hunt, or access cultural sites. There are no archaeological or heritage resources that were identified in the Project Footprint during assessments in 2013 and 2020.

#### Potential Project Effects

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with associated VCs in [Appendix 6](#), that may affect Skwxwú7mesh Úxwumixw's cultural use sites and areas during Construction, Operation, and Decommissioning Phases of the Tilbury Phase 2 project:

- **Loss of access to and disenfranchisement from cultural sites;** Skwxwú7mesh Úxwumixw harvesters could experience direct adverse effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites, such as the Fraser River as a travelway and traditional use areas (land and resource use VC). Changes in sensory effects (noise, air quality, visual landscape) (land and resource use VC) could change the experience of Skwxwú7mesh Úxwumixw members using cultural sites; and,
- **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas;** Access to cultural sites could be affected (land and resource use VC) by the Project. Adverse effects to culture (culture VC) which are connected to potential effects on wildlife, habitat, and vegetation (See Harvesting and Subsistence section above) could influence the ability or desire to access these sites.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed to potential Tilbury Phase 2 related effects on cultural use sites and areas. These include the following:

- **Air Quality (Section 7.2)** The air quality measures, such as idle reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat and the experiential qualities of culturally important areas. They help protect salmon, wildlife, vegetation, and surface water that support Skwxwú7mesh Úxwumixw's harvesting and cultural practices;
- **Acoustics (Section 7.3)** Noise reduction measures during Construction and Operation—including idle reduction policies, equipment muffling, enclosures, and engineered noise controls—help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by Skwxwú7mesh Úxwumixw;
- **Soil (Section 7.6)** Soil-management measures, including erosion control, spill-prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby

cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Skwxwú7mesh Úxwumixw;

- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system and maintain the environmental conditions and experiential qualities of culturally important areas. These protections support water quality and fish habitat relied on to support Skwxwú7mesh Úxwumixw's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat, water quality, and the environmental conditions and experiential qualities of culturally important areas used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to Skwxwú7mesh Úxwumixw's harvesting and cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic-management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support Skwxwú7mesh Úxwumixw's ability to safely access and continue cultural practices within their traditional territory;
- **Infrastructure and Services (Section 7.12)** Measures to manage traffic, workforce accommodation, emergency response, and waste help limit indirect pressures on local lands, waters, and access routes. By managing congestion and pressures on community services, these measures help maintain safe access to culturally important areas and manage disturbance to cultural landscapes relied on by Skwxwú7mesh Úxwumixw;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas, culturally important plant species, and the environmental conditions and experiential qualities of culturally important areas relied on by Skwxwú7mesh Úxwumixw for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing Construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions and the environmental conditions and experiential qualities of culturally important areas that support the animals and ecosystems important to Skwxwú7mesh Úxwumixw's harvesting and cultural practices;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance-find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support Skwxwú7mesh Úxwumixw's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory; and
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Skwxwú7mesh Úxwumixw's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to Indigenous cultural use sites and areas (see [Section 8](#) of this Report):



- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance;
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for Skwxwú7mesh Úxwumixw to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting Skwxwú7mesh Úxwumixw's continued access to and use of cultural sites during the Project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Skwxwú7mesh Úxwumixw;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emission control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by Skwxwú7mesh Úxwumixw; and,
- **Condition 15 (Chance Find Protocol)** requiring the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Skwxwú7mesh Úxwumixw historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### The EAO's Analysis and Conclusions

After consideration of the mitigation measures and potential effects, and analysis described above, the EAO has identified that there will not be any residual effects to Skwxwú7mesh Úxwumixw, primarily due to the fact that Skwxwú7mesh Úxwumixw cultural use sites and areas do not overlap with the LAA and the effects from associated VCs will not impact the RAA.

### 16.16.8 Social and Economic Conditions and Indigenous Health and Well-being

#### Background

The effects on the social and economic conditions of Skwxwú7mesh Úxwumixw are deeply rooted in their ancient history and intricate connection to their lands, waters, and people, which have continuously shaped their traditions, customs, and ways of life over millennia. This strong spiritual and cultural bond to the land fundamentally informs their identity, emphasizing a harmonious relationship and dependence on its resources.

The effects for Indigenous health and well-being, particularly concerning Skwxwú7mesh Úxwumixw, highlights a complex interplay of historical, social, and economic factors, along with community-led initiatives for holistic wellness. Across Canada, Indigenous populations have endured, and continue to experience, the severe and detrimental effects of colonialism, which have profoundly impacted their social, economic, and health well-being. This systemic discrimination and oppression contribute to pervasive and persistent adverse social and economic conditions for Indigenous peoples relative to non-Indigenous Canadians.



These socio-economic conditions, often referred to as social determinants of health, directly shape health outcomes. As a result, Indigenous peoples in Canada face significant health disparities, including shorter life expectancies, higher rates of chronic and communicable illnesses, increased addiction rates, and higher infant mortality rates compared to non-Indigenous Canadians

#### Current Context

The Skwxwú7mesh Úxwumixw currently has a registered population of 4,497 as of March 2023, with approximately 53.1% residing on their own or other reserves. Social conditions, though impacted by colonialism, show ongoing efforts towards well-being.

Skwxwú7mesh Úxwumixw continues to experience severe and detrimental effects of colonialism that impact their social, economic, and health well-being. Health disparities include shorter life expectancies, higher rates of chronic disease and addiction, and higher infant mortality rates compared to non-Indigenous Canadians. These disparities are often linked to intergenerational trauma, racism, limited education, and high rates of poverty.

Despite these challenges, the Skwxwú7mesh Úxwumixw, through its Yúustway department, provides a range of health and wellness services, including community health, health benefits, home and community care, and recreational services. Departments like Ayás Ménmen focus on child and family services, and Chiýáxw project on asserting jurisdiction in caring for children and families. The Elder's Program and Yúusnewas project (investigating former residential school sites for unmarked graves) highlight cultural and spiritual well-being efforts. The nation also implements policies like the Cultural Grants Policy and Cultural Cedar Tree Policy to support cultural projects and sacred language preservation. Their overall Community Well-Being (CWB) Index score in 2016 was 68.2, higher than the B.C. First Nations average but lower than non-Indigenous B.C. communities.

Housing is a critical priority for the nation. The Hiýárh ta Skwxwú7mesh Housing Society is actively involved in this area, specifically developing and managing non-profit housing. A substantial number of occupied dwellings within the nation needed repairs, with some requiring minor attention and others more significant work. Although the housing CWB Index for Skwxwú7mesh Úxwumixw generally indicates a better situation than the average for B.C. First Nations, it still falls short when compared to non-Indigenous communities. Skwxwú7mesh Úxwumixw members experienced lower employment rates and a significant unemployment rate compared to the broader Metro Vancouver area. While their labor well-being was better than the average for First Nations in B.C., it was still lower than that of non-Indigenous communities.

#### Potential Project Effects

The EAO identified the following pathway of effects, along with associated VCs outlined in Appendix 6,, that may affect Skwxwú7mesh Úxwumixw's social and economic conditions and Indigenous health and well-being during Construction, Operation, and Decommissioning Phases of the Tilbury Phase 2 project:

- **Social and Economic Conditions:**
  - **Effects to Skwxwú7mesh Úxwumixw's employment opportunities, Indigenous businesses, procurement opportunities, and Skwxwú7mesh Úxwumixw revenue:** The Project is expected to positively impact employment (employment and economy VC), especially during the 3 to 6 year Construction phase, which will require many skilled and semi-skilled workers. Skwxwú7mesh Úxwumixw members with trades certificates have the potential to benefit from these job opportunities. The Project may also support Skwxwú7mesh Úxwumixw businesses through procurement and contracting opportunities, although success depends on direct involvement and access to contracts.

- **Indigenous Health and Well-being:**
  - **Effects on the quality, quantity, and availability of harvested country foods:** Land, water or air-based contamination from the Project could adversely affect country foods such as fish and traditional plants. See Harvesting and Subsistence Activities section above;
  - **Effects on the value and perceived quality of country foods:** Quality, quantity or availability of plants or wildlife could be impacted from the Project. Country foods could become contaminated. (See Harvesting and Subsistence section above). Community perceptions with respect to the quality of country foods have the potential to interact with Skwxwú7mesh Úxwumixw members' participation in harvesting and subsistence activities and cultural and spiritual practices even in the absence of adverse effects (land and resource use and culture VCs);
  - **Effects on air quality, noise and water quality:** The Project activities have the potential to contribute contaminants of concern to air and water, and increased noise levels in proximity to the facility property line (air quality, acoustics, surface water, land and resource use, human health VCs); and,
  - **Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites;** The Project may interact with Skwxwú7mesh Úxwumixw's health and well-being through changes to traditional practices, access to cultural sites, and socio-economic factors. Effects on traditional ways of life due may still influence health outcomes indirectly. Positive effects may include increased income and employment opportunities for members, while potential adverse effects relate to shift work and family stress.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that FortisBC has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions and Indigenous health and well-being. These include the following:

- **Land and Resource Use VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Skwxwú7mesh Úxwumixw's long-term aspirations for land and water restoration, and reduces stressors that can affect well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Skwxwú7mesh Úxwumixw members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socioeconomic impacts on Skwxwú7mesh Úxwumixw and supporting health and community stability;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Skwxwú7mesh Úxwumixw's food security, cultural identity, and health by safeguarding salmon and other species essential to harvesting;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Skwxwú7mesh Úxwumixw's cultural continuity and nutritional well-being;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Skwxwú7mesh Úxwumixw's physical health and cultural practices;

- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Skwxwú7mesh Úxwumixw's well-being;
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for Skwxwú7mesh Úxwumixw's subsistence and health;
- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting Skwxwú7mesh Úxwumixw's cultural and nutritional reliance on healthy salmon and aquatic ecosystems;
- **Acoustics (Section 7.3)** Noise reduction measures limit sensory disturbance to people, wildlife, and harvesting areas, reducing stress and supporting Skwxwú7mesh Úxwumixw's comfort, well-being, and connection to land and water;
- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting Skwxwú7mesh Úxwumixw's physical well-being and confidence in harvesting; and
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Skwxwú7mesh Úxwumixw members' physical, cultural, and mental health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on social and economic conditions and Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides Skwxwú7mesh Úxwumixw with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** require ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with Skwxwú7mesh Úxwumixw to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting Skwxwú7mesh Úxwumixw's physical health and overall well-being;
- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being; and,
- **Condition 17 (Dry Street Sweeping Report)** requires FortisBC to submit a report on the effectiveness Dry Street Sweeping to mitigate the effects of 6-PPDQ on fish within eighteen months of a Certificate being issued.-By informing measures to protect downstream aquatic environments, this condition supports Skwxwú7mesh Úxwumixw's health and well-being by helping maintain confidence in environmental quality and minimizing potential concerns related to contamination of culturally important fish and waterways.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- **Accidents and Malfunctions Reporting** would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### The EAO's Analysis and Conclusions

After consideration of the mitigation measures and potential effects described above, the EAO has determined that there will be no residual effects to Skwxwú7mesh Úxwumixw's social and economic conditions and health and well-being interests. This conclusion is informed by the absence of residual adverse effects from Tilbury Phase 2 on employment and the economy, together with the current level of Indigenous health and well-being services provided by Skwxwú7mesh Úxwumixw to their members.

#### 16.16.9 Positive Effects of Tilbury Phase 2

According to the Revised Application, the Tilbury Phase 2 project may create positive effects for Skwxwú7mesh Úxwumixw. One major benefit is the opportunity for direct employment and skills development, particularly during the Project's 3-to-6-year Construction phase, which will require a large workforce of skilled and semi-skilled labor.

In addition to employment, the Project offers potential contracting and procurement opportunities for Squamish-owned businesses. Local and regional Indigenous businesses could benefit by providing goods and services to the Project, supporting broader goals for economic self-sufficiency and business development.

#### 16.16.10 Conclusions

Considering the above analyses and the EAO's engagement with Skwxwú7mesh Úxwumixw, FortisBC's engagement with Skwxwú7mesh Úxwumixw's, Tilbury Phase 2 related mitigations, cumulative effects, the EAO's recommended Table of Conditions and the identified federal Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is not anticipated to have any impacts on Skwxwú7mesh Úxwumixw's Indigenous interests.

Considering the above analyses and the proposed provincial conditions, federal Key Mitigation Measures and Follow-up Programs, the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on the Indigenous interests of Skwxwú7mesh Úxwumixw has been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with Skwxwú7mesh Úxwumixw on Tilbury Phase 2, as outlined above in Section 16.16.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Skwxwú7mesh Úxwumixw.

## 16.17 SᖃÁUTᖃ First Nation

### 16.17.1 SᖃÁUTᖃ First Nation's Section 19.4 Assessment



# Tilbury Phase 2 LNG Expansion Project

## STÁUTW First Nation Indigenous-led Assessment

Prepared for STÁUTW First Nation

April 2026



Cover photo: Shae Harding, 2023

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## ACRONYMS AND ABBREVIATIONS

|                     |                                                                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| AIR                 | Application Information Requirements                                                                                                         |
| AIS                 | Automated Information System                                                                                                                 |
| Revised Application | Environmental Assessment Certificate Application submitted by FortisBC for the proposed Tilbury Phase 2 Liquid Natural Gas Expansion Project |
| BC                  | British Columbia                                                                                                                             |
| BC EAO              | BC Environmental Assessment Office                                                                                                           |
| CEA                 | Cumulative effects assessment                                                                                                                |
| CEMP                | Construction Environmental Management Plan                                                                                                   |
| HTG                 | Hul'qumi'num Treaty Group                                                                                                                    |
| HBC                 | Hudson's Bay Company                                                                                                                         |
| IAAC                | Impact Assessment Agency of Canada                                                                                                           |
| ILA                 | Indigenous-led Assessment                                                                                                                    |
| LAA                 | Local Assessment Area                                                                                                                        |
| LFR                 | Lower Fraser River                                                                                                                           |
| LNG                 | Liquid Natural Gas                                                                                                                           |
| MUS                 | Marine Use Study                                                                                                                             |
| Project             | FortisBC's Tilbury Phase 2 Liquid Natural Gas Expansion Project                                                                              |
| RAA                 | Regional Assessment Area                                                                                                                     |
| SER                 | Society of Ecological Restoration                                                                                                            |
| TMJ                 | Tilbury Marine Jetty                                                                                                                         |
| TUS                 | Traditional Use Study                                                                                                                        |
| USA                 | United States of America                                                                                                                     |
| VC                  | Valued Component                                                                                                                             |

## 1. INTRODUCTION AND PURPOSE

This report represents SṪÁUTW First Nation's Indigenous-led assessment (ILA) under Section 19(4) of the *Environmental Assessment Act* (SBC 2018, c 51) for the Tilbury Phase 2 LNG Expansion Project (the Project). The Project proponent, FortisBC, has submitted an application for an environmental assessment certificate (the Application). This SṪÁUTW First Nation assessment is intended to be included as part of the Assessment Report prepared by the British Columbia (BC) Environmental Assessment Office (EAO).

The purpose of this ILA is to better describe the Nation's Douglas Treaty and Aboriginal rights and interests in the Lower Mainland in the context of the Project, and more accurately identify and characterize the Project's potential impacts on these rights in consideration of existing cumulative effects.

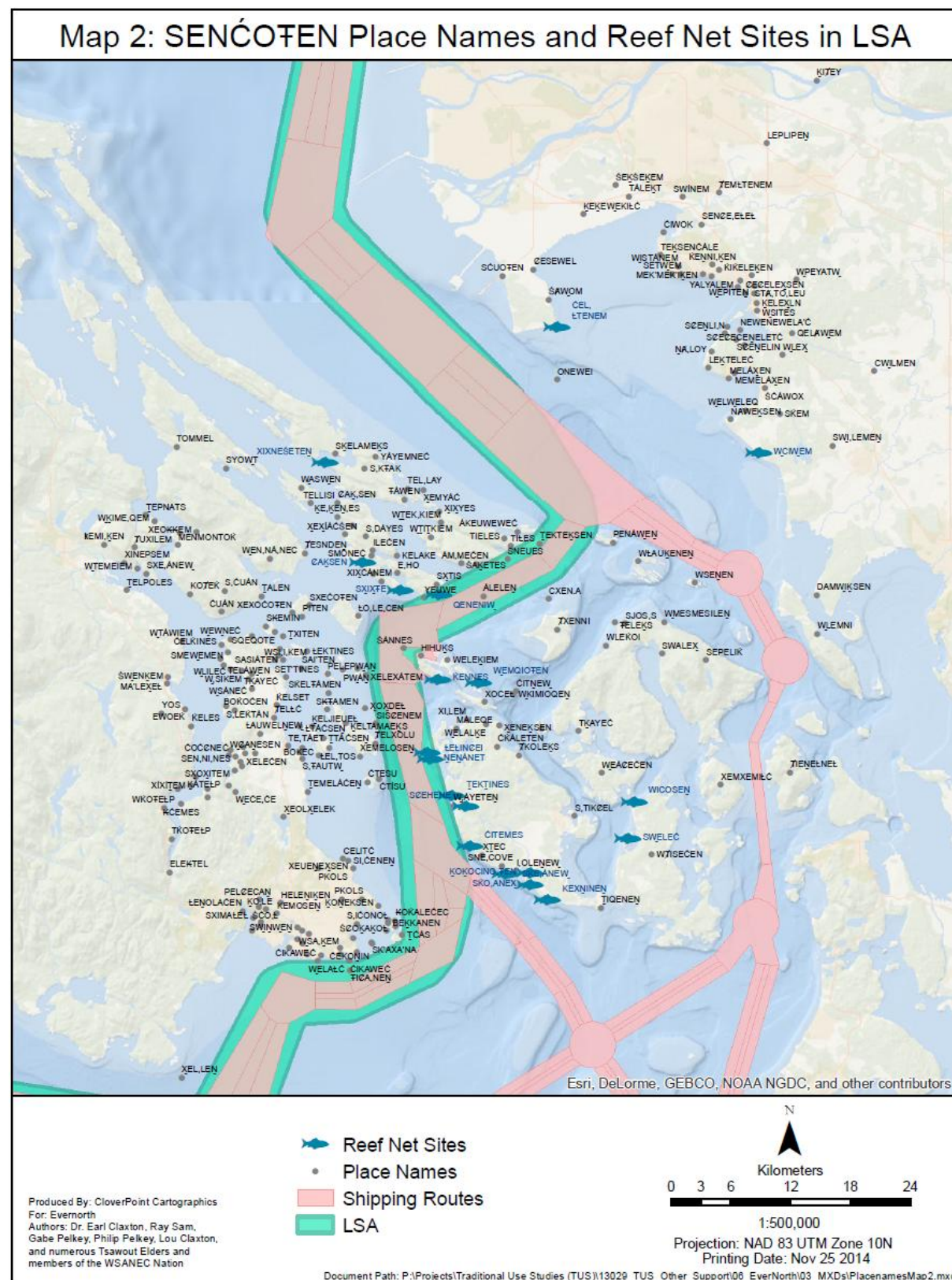
SṪÁUTW First Nation has protected rights to lands and resources within its territory, which spans the San Juan and southern Gulf Islands, from Southern Vancouver Island across the Salish Sea to the Lower Mainland. As a signatory to the Douglas Treaties of the 1850s, SṪÁUTW has rights to harvest and hunt, and to carry on its fisheries as formerly, including incidental rights to access and travel to and from fisheries and to manage traditional waters. These rights have been affirmed several times by the courts (e.g., *Saanichton Marina Ltd. v. Claxton*, 1989; *R. v. Bartleman*, 1984, *R. v. Joseph*, 1990).

This report is fundamentally an assessment of the Project's potential impacts on SṪÁUTW First Nation rights and interests. Cumulative effects in the Project area (and the Lower Mainland broadly) have intensified over approximately 150 years of colonization, industrialization, urbanization, and settlement, which have created barriers to the meaningful exercise of the Nation's rights.

Many First Nations in Canada, including SṪÁUTW, have long recognized that existing and ongoing impacts of cumulative effects must be the starting point to understand the potential impacts of new developments. This contrasts with the conventional Crown environmental assessment process that focuses on the incremental contribution of proposed projects, and only then considers the potential for cumulative effects. The conventional approach is flawed; this was made clear by the findings of Justice Burke in *Yahey v British Columbia*, 2021 BCSC 1287: when considering *rights*, what matters is if the rights can be exercised in a meaningful way—and in the context of additional development, whether those developments constitute a continued or further breach of protected rights.

The existing level of cumulative effects is such that SṪÁUTW cannot meaningfully exercise inherent and constitutionally protected Aboriginal and Treaty rights in the Project area and Lower Mainland. While the incremental effect of any individual project on SṪÁUTW First Nation rights may be relatively minor against the backdrop of existing cumulative effects, each nonetheless has the potential to, at minimum, contribute to the continuation of conditions adverse to the exercise of rights. Concrete and concerted action is required by proponents and Crown governments to reduce cumulative effects and impacts in SṪÁUTW First Nation territory inside and outside the scope of the Project to minimize further breaches of SṪÁUTW First Nation rights.





**Figure 1:** SENĆOTEN place names and SṪOLE/reef net sites from the SṪÁUTW Marine Use Study (Evans et al. 2015), specifically prepared for SṪÁUTW First Nation's review of the proposed Kinder Morgan Trans Mountain Expansion.



## 2. CUMULATIVE EFFECTS IN SṪÁUTW FIRST NATION TERRITORY

For thousands of years before the arrival of non-Indigenous settlers and the imposition of the Canada-USA (United States of America) border, SṪÁUTW lived and harvested at SMOKEĆ/Point Roberts and Boundary Bay, fishing at hereditary reef net sites alongside their allies, including the Lummi First Nation. SṪÁUTW travelled extensively in the Lower Mainland on the ŚNEWIL/ Fraser River and its tributaries, as well as the Salmon, Nicomekl, and Serpentine Rivers and other rivers and streams. SṪÁUTW harvested and traded while travelling, and picked KEXMIN/wild celery), SṪA, KEN/cattails, SẼLEL/tule rushes, SKÁUISELŁ/wapato tubers, and S,ELŁTENEN, /berries; hunted for SMÍEṪ;/deer, KÍYI, EĆ/elk and PEKELKEN/mountain goats; and exchanged fish for goat's wool and other highly valued trade items. These activities and the prosperous economy they supported were anchored by villages, fishing stations, and reef net sites at SMOKEĆ/Point Roberts, SĈEU, OṪEN/Tsawwassen, and along the ŚNEWIL/ Fraser River, as well as by the SEŃCOṪEN place names, travel routes, and ceremonial places that tied—and continue to tie—SṪÁUTW to the lands and waters of the territory (Figure 1).

*There was clean water, clean beaches, dense first growth forests, crystal clear lakes, streams, rivers teaming with fish of all kinds. Huge herds of deer, elk, and flocks of ducks would blot out the sun. Beaches full of crabs, clams, sea urchins, were there for the taking and much more. These are the gifts of XÁLS, Our Creator (Claxton and Elliott 1994:49).*

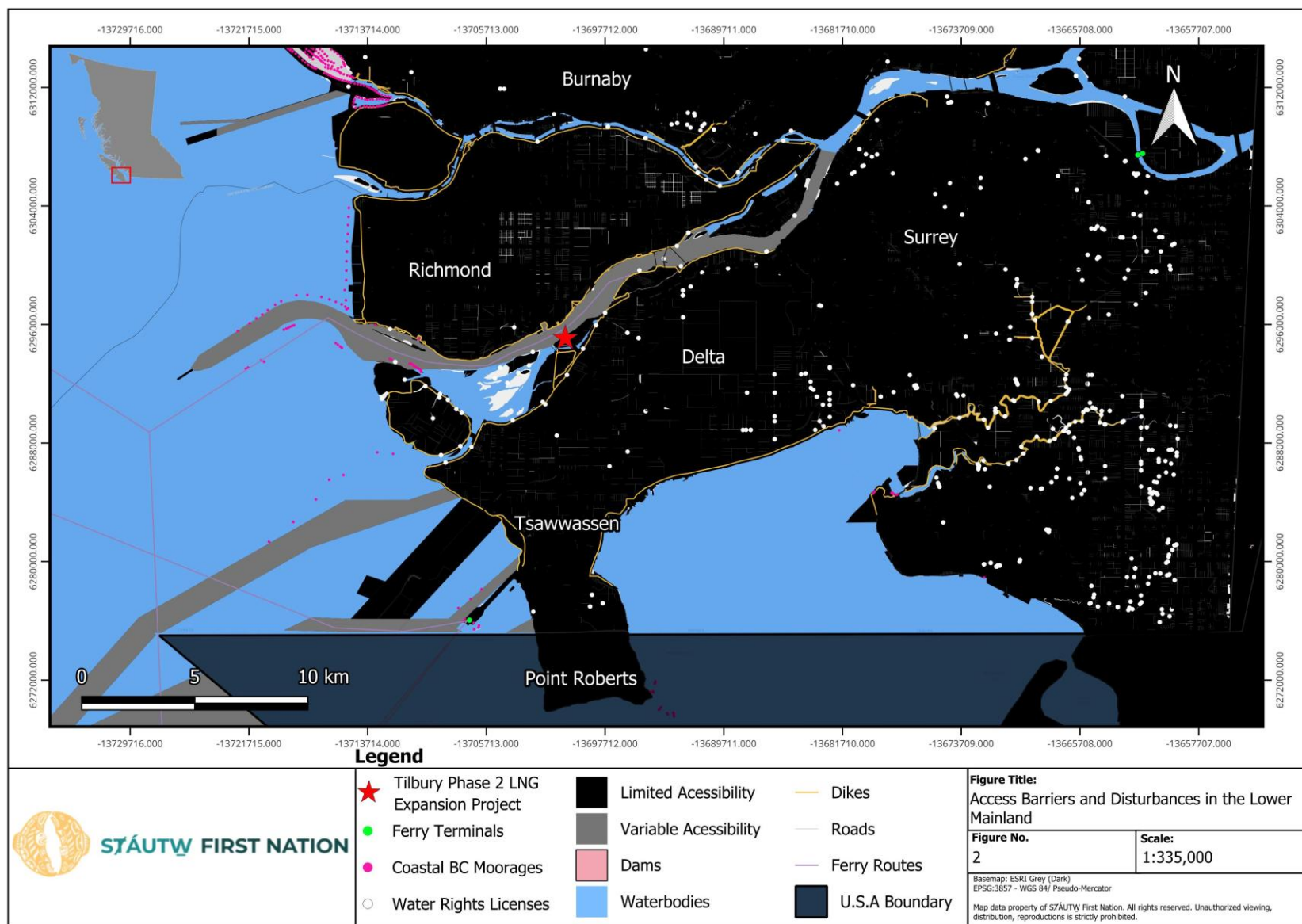
For SṪÁUTW First Nation, it is self-evident that the meaningful exercise of rights is not possible in the Lower Mainland today. This is corroborated by spatial analyses conducted by SṪÁUTW of access barriers and disturbances in the southwestern portion of the Lower Mainland using publicly available data layers from Data Catalogue BC<sup>1</sup> and Parcel Map BC<sup>2</sup> (Figure 2). The analysis shows that between 93.0% and 99.8% of the terrestrial portion of the area is disturbed, depending on the methodology employed (i.e., without additional buffers and excluding parks vs. inclusion of parks and using a 250 m buffer on roads, respectively). Remaining “undisturbed” fragments are generally non-contiguous islands surrounded by residential and industrial development. This level of disturbance is higher than the level of disturbance identified in Blueberry River First Nations territory (i.e., 72.6% to 83.9%) that informed Justice Burke’s findings in *Yahey v British Columbia*, 2021 BCSC 1287.

The Project, if approved, would be a continued breach of the Nation’s inherent and constitutionally protected Aboriginal and Treaty rights. For this reason, SṪÁUTW First Nation urges the Minister to reject the Project without substantive commitments and conditions to address cumulative effects in SṪÁUTW First Nation territory. SṪÁUTW knowledge and understanding along with Western scientific rationales are provided for these conclusions in this assessment for the benefit of FortisBC and BC EAO.

The arrival of European settlers, colonial laws and restrictions, industrial development, and settlement have rapidly transformed the biophysical, social, economic, and cultural landscape of the Lower Mainland and SṪÁUTW First Nation’s territory in general. A timeline of key events focused on the Lower Mainland that have resulted in the loss of habitats and species populations across terrestrial, aquatic, and marine environments that used to allow SṪÁUTW First Nation society and culture to prosper is provided in Table 1. With the direct and intentional disruption of SṪÁUTW First Nation life by colonial institutions and policies, SṪÁUTW political, spiritual, and social systems were also irrevocably disrupted.

<sup>1</sup> More specifically, much of the data included in the map is derived from the BC Cumulative Effects Framework (CEF) Human Disturbance dataset and the CEF Integrated Roads dataset, both of which were developed by the province to support cumulative effects assessment in BC.

<sup>2</sup> The accuracy of this publicly available data may vary and does not represent every type of land or water encumbrance. The land and water designations are subject to change over time (e.g., water licences may expire; Crown lands may become private lands; lease boundaries of industrial projects may change).



**Figure 2:** Access barriers and disturbances to the meaningful exercise of STÁUTW First Nation rights in the Lower Mainland.

Key events include smallpox epidemics brought on by Europeans; the establishment of the Canada-USA border beginning in 1846 (and subsequent agreements), which impacted and eventually cut off access to SṪÁUTW fisheries and village sites south of the border; overfishing and competition from colonial commercial fisheries, and regulations leading to the decline of reef net fisheries in the late 19th and early 20th centuries; and overfishing, contamination, and habitat fragmentation leading to the decline of ŚNEWIL/ Fraser River sockeye salmon throughout the 20th century, continuing to the present.

In the 100+ years since the banning of the reef net fishery in 1916, SṪÁUTW First Nation rights in the Lower Mainland have been further impacted by extensive residential and industrial development, including the expansion and urbanization of cities like Surrey, ŚĆEU, OFEN/ Tsawwassen, and Delta and the draining, diking, and clearing of much of the Lower Mainland for agricultural purposes. Today, the Lower Mainland is blanketed by thousands of private land parcels, developments (including pulp mills, industrial parks, and industrial ports), roads and highways, water licences, and other land and water tenures that limit, block, or otherwise impact SṪÁUTW's access to fishing, hunting, gathering and village sites. Development has also impacted the availability and abundance of plants and animals traditionally gathered by SṪÁUTW through habitat destruction, pollution, and fragmentation.

The remainder of this section summarizes how some of the key environmental conditions foundational to SṪÁUTW First Nation rights have changed over time in the vicinity of the Project, providing important context to SṪÁUTW's ILA.

**Table 1:** Timeline of key events that have impacted the ability of SṪÁUTW First Nation and WSÁNEĆ peoples to meaningfully exercise rights in SṪÁUTW First Nation and WSÁNEĆ territories, with a focus on the Lower Mainland.

|             |                                                                                                                                                                                                                                                                                          |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Early 1800s | Commercial logging in the Vancouver area begins with the cutting of spars for ships (Boyle et al. 1997:186).                                                                                                                                                                             |
| 1818        | Pursuant to the Treaty of Joint Occupation, Great Britain and the United States agree that "Oregon Country" (the area west of the Rocky Mountains) would remain open for joint occupation and settlement for the next ten years (Convention of Commerce 1818; ratified 30 January 1819). |
| 1827        | Great Britain and the United States agree to extend the joint occupation of "Oregon Country" indefinitely (Convention Between His Majesty and the United States of America 1827).                                                                                                        |
| 1827        | The Hudson's Bay Company (HBC) establishes Fort Langley on the ŚNEWIL/ Fraser River. The Fort takes up land and shifts Indigenous harvesting and trading patterns.                                                                                                                       |
| 1839        | HBC constructed a new Fort Langley approximately 4 km upstream from the original post, in part to support increased fish processing and trade (Cullen 1979).                                                                                                                             |
| 1843        | HBC establishes Fort Victoria, a trading post on southern Vancouver Island.                                                                                                                                                                                                              |
| 1846        | The British Crown asserts sovereignty in British Columbia ( <i>Cowichan Tribes v. Canada (Attorney General)</i> , 2025 BCSC 1490)                                                                                                                                                        |
| 1846        | The Oregon Treaty begins negotiation of the Canada-USA border at the 49 <sup>th</sup> parallel, impacting access to the reef net fishery at SMOKEĆ/ Point Roberts, as well as other important areas like Semiahmoo and Birch Bay.                                                        |
| 1849        | Vancouver Island becomes a British Crown Colony. The territory was leased to HBC for a period of 10 years.                                                                                                                                                                               |
| 1852        | The South and North Saanich Douglas Treaties are signed. The Treaties include written promises to allow SṪÁUTW to hunt and carry on their fisheries "as formerly" and keep their village sites and enclosed fields.                                                                      |
| 1856        | Britain and the United States agree to carry out a joint boundary survey (Hayes 2012).                                                                                                                                                                                                   |

|            |                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1858       | The Colony of British Columbia is established. The Fraser River Gold Rush rapidly increases the presence of non-Indigenous settlers in BC.                                                                                                                                                                                                                                                                  |
| Late 1850s | European settlers begin to pre-empt land in the Fraser Delta (Habitat Working Group 1979:9).                                                                                                                                                                                                                                                                                                                |
| 1862-1863  | A smallpox epidemic devastates First Nations' populations throughout BC and Vancouver Island (Van Rijn 2006).                                                                                                                                                                                                                                                                                               |
| 1860       | The <i>Pre-emption Act</i> is passed, setting the stage for the large-scale taking up of land by non-Indigenous settlers. Indigenous peoples are banned from pre-empting land within a few years of the Act.                                                                                                                                                                                                |
| 1860s      | Settlement in what is now Surrey leads to ditching, small creek diversions, and the constructions of dikes along the Serpentine and Nicomekl Rivers (KPA Engineering Ltd. 1994:5). Diking facilitates growing agricultural development of the wet lowlands throughout the lower Fraser basin (Boyle et al. 1997:186).                                                                                       |
| 1866       | The colonies of Vancouver Island and mainland British Columbia are united.                                                                                                                                                                                                                                                                                                                                  |
| 1866       | Indigenous peoples are prevented from pre-empting land. The ban continues until 1953 (Union of BC Indian Chiefs n.d.).                                                                                                                                                                                                                                                                                      |
| 1868       | The Ladner brothers pre-empt land in the area now bearing their namesake. By the late 1800s, Ladner was at the centre of agricultural development (including clearing, diking, and draining) on the mainland (Madysen 2023). In the New Westminster District, which includes what is now Greater Vancouver and the Fraser Valley, 27,797 acres of land had been sold at auction by 1868 (Mikkelsen 1950:3). |
| 1870       | Great Britain and the USA sign a declaration confirming the maps surveying and marking out the international border on the mainland, but are not able to agree on the path of the border through the Salish Sea (Declaration Between Great Britain and the United States 1870).                                                                                                                             |
| 1870       | The Annieville Cannery, the first fish cannery built in British Columbia, opens on the ŚNEWIL/Fraser River across from New Westminster (Annieville Cannery 2024). Other canneries follow, increasing the presence of non-Indigenous settlers on the Fraser.                                                                                                                                                 |
| 1870-1890  | BC's salmon canning industry grows rapidly (Timeline 2024).                                                                                                                                                                                                                                                                                                                                                 |
| 1871       | Great Britain and the USA sign a treaty agreeing to submit their claims to the Emperor of Germany to resolve their dispute on the path of the border, either through the Rosario or Haro Strait (Treaty Between Great Britain and the United States 1871).                                                                                                                                                  |
| 1871       | The Colony of British Columbia joins Canada.                                                                                                                                                                                                                                                                                                                                                                |
| 1872       | The border dispute between Great Britain and the United States is resolved through binding arbitration, with the Emperor of Germany confirming that the border should run through Haro Strait (the United State's position) instead of Rosario Strait (Great Britain's position).                                                                                                                           |
| 1873       | Deas Island Cannery is established (City of Delta 2025).                                                                                                                                                                                                                                                                                                                                                    |
| 1873       | Consistent with the Emperor of Germany's 1872 decision on the border dispute, Great Britain and the USA sign an agreement marking out the border through Haro Strait (Protocol between Great Britain and the United States 1873).                                                                                                                                                                           |
| 1876       | The <i>Indian Act</i> consolidates existing laws that are intended to forcibly assimilate Indigenous people.                                                                                                                                                                                                                                                                                                |
| 1877       | By order of the Joint Indian Reserve Commission, reserves are formally created for the "Saanich Indians" at only some winter villages and fishing sites, in breach of the Douglas Treaties.                                                                                                                                                                                                                 |
| Late 1870s | 10 canneries of the 11 canneries operating in BC are located on the ŚNEWIL/Fraser River (Meggs 1991:22).                                                                                                                                                                                                                                                                                                    |

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1878       | The federal <i>Fisheries Act</i> is implemented in BC, creating a host of fishing regulations that impact Indigenous people's ability to fish commercially and for food (Carlson 2001:164).                                                                                                                                                                                                                                         |
| 1880-1881  | The number of cases of salmon packed from the ŠNEWIL/Fraser River rises from a few hundred in 1870 to 42,155 in 1880 and 142,516 in 1881 (Meggs 1991:22).                                                                                                                                                                                                                                                                           |
| 1883       | 23 canneries are operating on the ŠNEWIL/Fraser River (Timeline 2024).                                                                                                                                                                                                                                                                                                                                                              |
| 1884       | Potlatches are banned under the Indian Act.                                                                                                                                                                                                                                                                                                                                                                                         |
| 1885       | The completion of the Canadian Pacific Railway increases the presence of settlers in the lower Fraser basin (Timeline 2024). Fish traps are established at SMOKEĆ/Point Roberts (Meggs 1991:44).                                                                                                                                                                                                                                    |
| 1888       | The <i>Fisheries Act</i> prohibits Indigenous fishing "by means of nets or other apparatus without leases or licences from the Minister of Marine and Fisheries," but indicates that "Indians shall, at all times, have liberty to fish for the purpose of providing food for themselves but not for sale, barter or traffic, by any means other than with drift nets, or spearing" (Aboriginal Fisheries in British Columbia 2009) |
| 1889       | In an attempt to reduce overfishing, the federal government reduces the number of fishing licences (Timeline 2024).                                                                                                                                                                                                                                                                                                                 |
| 1891       | The non-Indigenous population outnumbers the Indigenous population of BC for the first time (Carlson 2001:166).                                                                                                                                                                                                                                                                                                                     |
| 1892       | The sockeye catch of the non-Indigenous trap net fishery at SMOKEĆ/Point Roberts is 37,000 (US Commission of Fish and Fisheries 1900:303).                                                                                                                                                                                                                                                                                          |
| 1894       | The Gulf of Georgia Cannery, the largest cannery in BC until 1902, begins production on the south arm of the ŠNEWIL/Fraser River (Lorenz et al. 2002:9). Alaska Packers takes over the cannery at Lily Point (Dougherty 2009). Various salmon fishing regulations are implemented in the Fraser River District (Rathbun 1900:326).                                                                                                  |
| 1895       | The sockeye catch of the non-Indigenous trap net fishery at SMOKEĆ/Point Roberts grows to 680,000 (US Commission of Fish and Fisheries 1900:303).                                                                                                                                                                                                                                                                                   |
| 1896       | 21 fish traps are active at SMOKEĆ/Point Roberts and Boundary Bay (Meggs 1991:45).                                                                                                                                                                                                                                                                                                                                                  |
| 1897       | 54 BC canneries operating on the west coast export more than 48 million points of canned salmon (Lorenz et al. 2002:13).                                                                                                                                                                                                                                                                                                            |
| Late 1800s | Farmers in the Nicomekl lowlands begin reclaiming land for agricultural purposes through the construction of dikes and drainage ditches and canals (Cook 2020:7).                                                                                                                                                                                                                                                                   |
| 1901       | The total salmon pack from the ŠNEWIL/Fraser River reaches two million cases, an amount that subsequently leads to concerns about the sustainability of the canning industry on the ŠNEWIL/Fraser River (Meggs 1991:82).                                                                                                                                                                                                            |
| 1910-1911  | The Surrey Diking District is formed to construct sea dams on the Serpentine and Nicomekl Rivers. Both rivers are closed to navigation for dam construction (Cook 2020:7).                                                                                                                                                                                                                                                          |
| 1911       | Sales of subdivided lots on Crescent Beach at the mouth of the Nicomekl River begin (Luxton 2016:3).                                                                                                                                                                                                                                                                                                                                |
| 1912       | Extreme overfishing by the colonial commercial fishing industry devastates the ŠNEWIL/Fraser River salmon runs (Carlson 2002:167).                                                                                                                                                                                                                                                                                                  |
| 1913       | Sea dams on the Nicomekl and Serpentine Rivers are completed (KPA Engineering Ltd. 1994:5). The Hells Gate rock slide devastates the ŠNEWIL/Fraser River salmon run (Carlson 2002:167).                                                                                                                                                                                                                                             |
| 1916       | Fish traps are banned in Canada in an effort address overfishing. Although reef nets are not the cause of overfishing, they are considered a trap and included in the ban (Elliott 1990:60; Barsh 2021). Some reef net fishing south of the Canada-USA border continues.                                                                                                                                                            |



|             |                                                                                                                                                                                                                                                                            |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1917        | The salmon cannery peaks in BC, with 84 canneries in operation (Timeline 2024).                                                                                                                                                                                            |
| Late 1910s  | After decades of heavy fishing, the salmon runs around SMOKEĆ/Point Roberts are depleted, leading Alaska Packers to close the cannery at Lily Point (Dougherty 2009).                                                                                                      |
| 1918        | The North Arm of the ŚNEWIL/Fraser River is dredged to improve navigability for larger vessels (Richmond Archives 2018).                                                                                                                                                   |
| 1919-1922   | The ŚNEWIL/Fraser River closes for fishing completely due to drastically reduced salmon populations (Carlson 2002:168).                                                                                                                                                    |
| 1920s       | Dip net fishing is banned on the ŚNEWIL/Fraser River (Carlson 2002:168).                                                                                                                                                                                                   |
| 1924-1926   | Sumas Lake is drained (Carlson 2002:168).                                                                                                                                                                                                                                  |
| 1930        | By 1930, urbanization (especially in Vancouver and Richmond) and agriculture (especially in Surrey) have taken over much of the delta area and lowland near ŚNEWIL/Fraser River (Boyle et al. 1997:190).                                                                   |
| 1931        | The population of Vancouver reaches almost 250,000 (BC Statistics n.d.). The Vancouver Airport opens on Sea Island.                                                                                                                                                        |
| 1936        | WSÁNEĆ peoples report that they have been prevented from digging clams, a key trade item, in their homeland by the Department of Fisheries (Knighton 2004:15).                                                                                                             |
| 1941-1946   | The Royal Canadian Air Force opens a flight training school at Boundary Bay (Boundary Bay Airport 2025). The base is decommissioned in 1946.                                                                                                                               |
| 1950s       | Mechanical drag line dredging of the Nicomekl River becomes more frequent (Cook 2020:8).                                                                                                                                                                                   |
| 1950s-1980s | The population of Delta expands rapidly, growing from 8,752 in 1956 to 74,692 in 1981 (Province of British Columbia n.d.). Surrey's population undertakes a similar trajectory, almost doubling from 49,366 in 1956 to 98,601 in 1971 (Province of British Columbia n.d.). |
| 1953        | The Trans Mountain Pipeline is built, crossing the ŚNEWIL/Fraser River north of Surrey and terminating at Burnaby Tunnel (Trans Mountain Corporation n.d.).                                                                                                                |
| 1955        | Annacis Island becomes Canada's first industrial park (Annacis Island 2017).                                                                                                                                                                                               |
| 1956        | The first offshore tankship carrying oil from the terminus of the Trans Mountain pipeline at Burnaby to California departs in the 1956 with 118,000 barrels of oil (Trans Mountain 2015).                                                                                  |
| 1957        | On February 25, 1957, a Ministerial Order issued under the Indian Act recognized SṪÁUTW, Tseycum, Tsartlip, Pauquachin, and Malahat as separate Indian Bands and divided the WSÁNEĆ reserves among the Bands. (Department of Citizenship and Immigration 1957)             |
| 1958-1959   | Construction of SĆEU,OFEN/Tsawwassen ferry terminal and causeway begins (Tsawwassen First Nation n.d.).                                                                                                                                                                    |
| 1959        | The George Massey Tunnel opens. Now connected to Vancouver, suburban growth in Delta and other municipalities south of the ŚNEWIL/Fraser River increases (Artibise and Favrholt 2007).                                                                                     |
| 1960        | BC Ferries' first route between Swartz Bay and SĆEU,OFEN/Tsawwassen opens (Gyarmati 2020b).                                                                                                                                                                                |
| 1968        | Construction of the Deltaport begins (Tsawwassen First Nation n.d.).                                                                                                                                                                                                       |
| 1970        | The Delta coal port officially opens at Roberts Bank. At the time, the port is one of the largest deep sea facilities in the world (Gyarmati 2020a).                                                                                                                       |
| 1970s       | Sand from the Nicomekl River is dredged to form a beach area at Blackie's Spit in Surrey (Berris et al. 1999:4). The Nicomekl River is also dredged in the 1970s.                                                                                                          |

|      |                                                                                                                                                                                                                                                                                                                                                                        |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1971 | Tilbury LNG Plant begins operation on the ŚNEWIL/Fraser River at Tilbury Island in Delta (FortisBC 2025a). The population of Vancouver reaches almost 430,000, nearly quadrupling in 50 years from 117,217 in 1921 (Province of British Columbia n.d.).                                                                                                                |
| 1973 | The SĆEU,OFEN/Tsawwassen terminal and causeway are expanded (Tsawwassen First Nation n.d.)                                                                                                                                                                                                                                                                             |
| 1976 | The SĆEU,OFEN/Tsawwassen terminal and causeway are expanded again (Tsawwassen First Nation n.d.)                                                                                                                                                                                                                                                                       |
| 1983 | The Boundary Bay Airport is restored and reopened (Boundary Bay Airport 2025).                                                                                                                                                                                                                                                                                         |
| 1986 | The Alex Fraser Bridge is completed across the ŚNEWIL/Fraser River, increasing suburban growth in Delta (Artibise and Favrholt 2007).                                                                                                                                                                                                                                  |
| 1991 | The SĆEU,OFEN/Tsawwassen terminal and causeway are expanded again (Tsawwassen First Nation n.d.)                                                                                                                                                                                                                                                                       |
| 1997 | The Deltaport container terminal opens (Gyarmati 2020a).                                                                                                                                                                                                                                                                                                               |
| 1998 | A DFO study determines that “approximately 117 streams, many of them salmon bearing, appear to have been physically lost in the Lower Fraser Valley since records first started to be kept” (Precision Identification Biological Consultants 1998:6).                                                                                                                  |
| 2009 | A record low return of sockeye salmon to the ŚNEWIL/Fraser River results in the closure of the fishery for the third consecutive year (Cohen 2012a:3). This return represents the low point of a steady decline in sockeye salmon stock since the early 1990s (Cohen 2012a:2).                                                                                         |
| 2010 | The Deltaport Third Berth expansion opens (Gyarmati 2020a).                                                                                                                                                                                                                                                                                                            |
| 2011 | As of 2011, at least 160 hectares of low marsh at Sturgeon Bank have receded, impacting essential habitat for birds and salmon (Maxwell 2021:10; Balke 2017)                                                                                                                                                                                                           |
| 2012 | In response to concerns about the state of ŚNEWIL/Fraser River sockeye salmon, the Cohen Commission is established. The Commission finds that climate change and human activities (including road construction, dams, mining, and agriculture) have had adverse impacts on ŚNEWIL/Fraser River salmon at all life stages (Cohen 2012b).                                |
| 2016 | The population of Surrey exceeds half a million (Province of British Columbia n.d.).                                                                                                                                                                                                                                                                                   |
| 2017 | Contaminated water from drilling operations (horizontal boring) is released into creeks (including a creek that flows into the Serpentine River) in Coquitlam and Surrey, killing hundreds of fish (Black Press Media Staff 2022).                                                                                                                                     |
| 2018 | A mass die-off of fish and crayfish in the Nicomekl River is caused by discharge from a cement plant (Larsen 2018).                                                                                                                                                                                                                                                    |
| 2019 | A landslide at Big Bar Canyon, north of Lillooet, traps migrating salmon and devastates early Fraser River salmon runs (Owen 2020).                                                                                                                                                                                                                                    |
| 2020 | A study published in 2020 determines that an additive commonly used to prevent damage to tire rubber (6PPD-quinon) is likely the cause of acute mortality events in coho salmon populations (Tian et al. 2021). ŚNEWIL/Fraser River sockeye salmon have their worst return in recorded history (Rooney 2020).                                                          |
| 2021 | A research study concludes that only 15% of historical floodplain fish habitat in the Lower Fraser still exists (Finn et al. 2021:8). The study further finds that 1,727 of salmonid stream habitat has been completely lost from the landscape (Finn et al. 2021:8). Boundary Bay populations of salmon have experienced some of the most devastating habitat losses. |
| 2023 | The Roberts Bank Terminal 2 Project is approved by the Government of Canada and BC.                                                                                                                                                                                                                                                                                    |



|      |                                                                                                                                                                                                                                                                                                       |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2024 | A spill in the Hope Slough, which flows into the ŚNEWIL/Fraser River, kills thousands of salmon (CBC News Staff 2024). The Tilbury Marine Jetty Project is approved by IAAC and the province and receives an Environmental Assessment Certificate. The Trans Mountain Expansion Project is completed. |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 2.1 Ambient Environmental Conditions

From the 1850s to today, the overarching trajectory of ambient environmental conditions that support ecosystem and human health have declined, with adverse effects for the resources and environmental qualities that are the basis of SṪÁUTW First Nation cultural life, economy, and identity.

### *Water Quality and Flow*

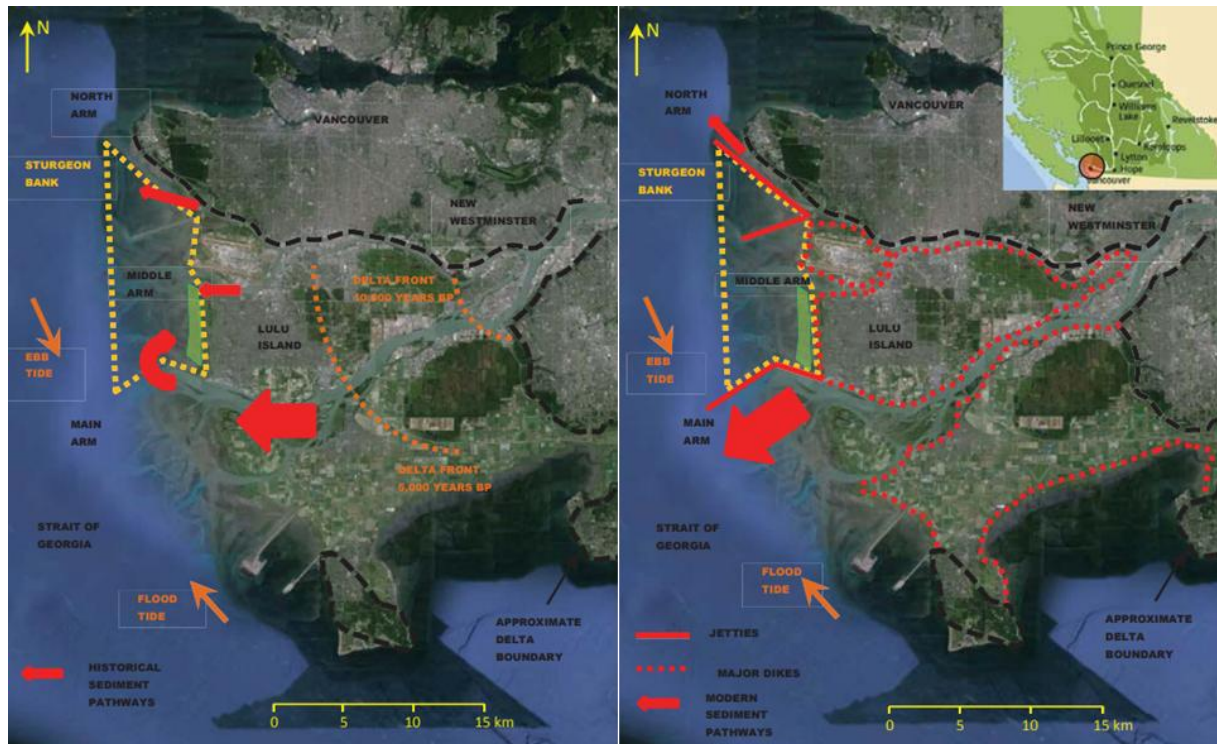
Through the late 1800s and into the mid-1900s, water quality in the lower ŚNEWIL/Fraser River was increasingly impacted by untreated sewage disposal and industrial runoff (Keeling 2004; Environment Canada 1992; Boyle et al. 1997; Hoos and Packman 1974; Landos 2024). Because water quality in the lower ŚNEWIL/Fraser River is impacted by activities in the upper watershed, the effects of growing industries of forestry, mining, agriculture, urban development, and other human activities upstream are concentrated cumulatively in the lower ŚNEWIL/Fraser River (Landos 2024). Into the 1960s, sewage and drainage was still flowing untreated into the ŚNEWIL/Fraser River (Keeling 2004:76). Pulp mills in Kamloops and Prince George also added contaminant loadings which were thought to be reaching a point of threatening “the symbolically and economically important salmon fisheries of the river” (Keeling 2004:76).

While the implementation of more recent water quality objectives and developments in pollution control have improved water quality since, contaminants (e.g., bacterial levels, urban and agricultural runoff) remain a concern (Hanna 1998; Keeling 2004; 2005; Environment Canada 1992); this is especially so “where flows are limited and flushing is restricted, such as sloughs, side channels, and small streams” (Environment Canada 1992:39). Keeling (2005) notes that “attempts to construct the ŚNEWIL/Fraser estuary as a sink for wastes failed to account for its complexity and variability, resulting in long-term environmental degradation” (59). Total ammonia and phosphorus concentrations have increased from 2003 to 2020 (Metro Vancouver 2020). In 2020, while most water quality objectives were met, total suspended solids and some total metal concentrations were noted as above objectives or guidelines (Metro Vancouver 2020). (ŚNEWIL/Fraser River water quality objectives and provincial and federal guidelines do not necessarily reflect SṪÁUTW conditions required for the meaningful exercise of rights.)

In addition to marine pathogens and heavy metal contaminants, sediment loadings have also changed over time due to dredging, diking, jetty construction, and riverbank armouring (Atkins et al. 2016; Barrie and Currie 2000). In the 1800s, navigational dredging was already taking place, creating a loss of sediment from the delta (Atkins et al. 2016:793). By 1975, channel training works on the South Arm of the ŚNEWIL/Fraser River were complete, and with the trifurcation project in New Westminster constructed, 85% of the ŚNEWIL/Fraser River discharge, along with nearly 100% of the sediment loadings, were then being transported through the South Arm (Atkins et al. 2016:793) (Figure 3). Since 2024, approximately 4x10<sup>6</sup> m<sup>3</sup> of sand each year is dredged in the arms of the lower ŚNEWIL/Fraser River and deposited in the deeper waters of the Salish Sea (La Croix et al. 2024; Atkins et al. 2016:793). Ongoing dredging contributes to coastal erosion and negatively impacts aquatic ecosystems through habitat degradation (Schaefer 2004; La Croix et al. 2024).

Simultaneous to the engineered alteration of the Lower Mainland’s waterways, terrestrial ecosystems and associated flow regimes have also been changed substantially from settlement and development. This is encapsulated by a description in a 1994 report on the Serpentine and Nicomekl Rivers from the BC government’s floodplain mapping program:

*[T]he drainage basins have undergone dramatic changes and continue to change at an unprecedented rate. The tidal flats in the lowlands have become farmlands. The once-forested uplands are now a patchwork of residential subdivisions. Several small lakes which once existed in the basins have been drained. Storm drains and ditches, many with small detention basins, now convey runoff from the uplands to the lowlands, altering the hydrologic response of the basin from its predevelopment regime (KPA Engineering Ltd. 1994:6).*



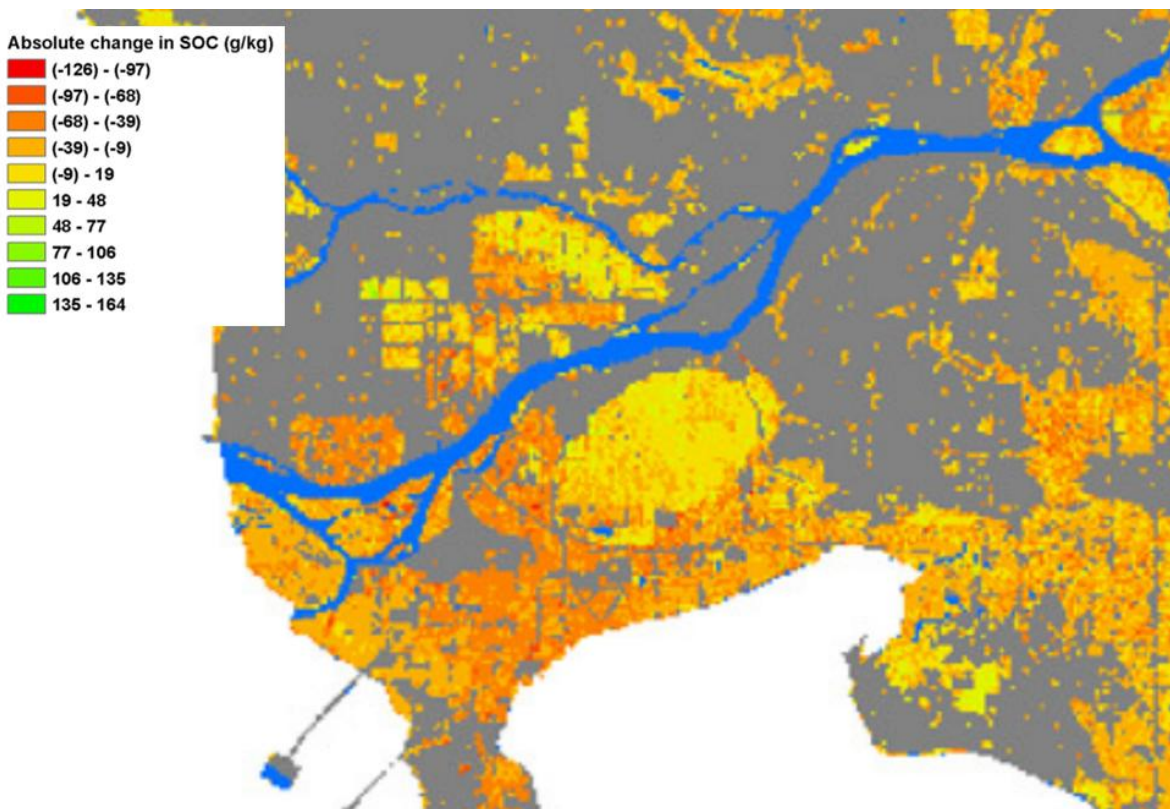
**Figure 3:** Conceptual site model for pre-1800s (LEFT) and existing (RIGHT) sediment regimes of the Fraser Delta. Red arrows indicate sediment pathways; larger arrows imply more sediment. Red solid lines indicate jetties, and red dashed lines indicate dykes. (Atkins et al. 2016)

### Air Quality

From around the 1850s, air quality declined with industrialization until the mid-1900s when new regulations implemented in response to public concern led to improving air quality into the present day (Thiessen 2017; Environment Canada 1992; Hoos and Packman 1970). Sources of air pollution in the mid-1900s in the Lower Mainland included coal steam locomotives; bulk ship loading facilities; sawmills; slash-and-burn forestry operations; commercial incinerators and municipal garbage burning; and household chimneys and rubbish fires (Thiessen 2017:18). By the mid-1950s and into the 1960s, air quality measures led to improving conditions. For example, dust and soot falling on the ground declined steadily to 8.3 tons per square mile per month in 1968, down from 30 tons per square mile per month in 1949 (Thiessen 2017:35, 88-89). Improvements were also observed for haze and sulphur dioxide in the air (Thiessen 2017:35). By the mid-1980s, anthropogenic air pollution still affected air quality, but had stabilized, likely because of more stringent air pollution regulations (Environment Canada 1992). From 2002 to 2021, nitrogen dioxide, sulphur dioxide, and carbon monoxide have been trending downward, and short-term and average concentrations have declined since the mid-1990s, except for PM<sub>2.5</sub> due to wildfire smoke in recent years (Metro Vancouver 2024).

### Soil Quality

In 1821, soil quality was described as “fertile” in the ŚNEWIL/Fraser Delta (Merk 1931:73-74, as quoted by Oliver 2010:98). Soil quality has declined since (Boyle et al. 1997; Environment Canada 1992), “due to intensive agricultural production, heavy fertilization, and limited conservation practices” (Environment Canada 1992:51). There have been declines in both net primary production and organic soil carbon over the last 170 years, with organic soil carbon’s most intense declines from the mid-1800s to 1930 (Boyle et al. 1997:185). A study in 2018 found that soil quality has continued to decline in the ŚNEWIL/Fraser Delta due to agricultural practices (Augustinowicz 2021:32). Soils in the ŚNEWIL/Fraser Delta have declining soil organic matter levels as well as deep soil compaction (Odhiambo et al. 2012:41). Another study showing a decrease in soil organic matter from 1984 to 2018 (Figure 4) attributed large losses to land use and land cover changes in the region (Paul et al. 2020). Land use and land cover changes in the ŚNEWIL/Fraser Delta include the extensive diking and dredging of the ŚNEWIL/Fraser River described in the *Water Quality and Flow* section above. Notably, the flooding events of the ŚNEWIL/Fraser River prior to the diking and alteration of flow contributed to the fertility of the soils that initially attracted agricultural land uses (Grandolfo-Lucia 2016) that are now causing declines in soil fertility (Augustinowicz 2021; Odhiambo et al. 2012; Paul et al. 2020).



**Figure 4:** Absolute change in soil organic carbon from 1984 to 2018 from positive change (green) to negative change (red). Blue areas represent water area, and grey areas represent built up land in 2018. (Paul et al. 2020)

### Ambient Noise

Prior to widespread urbanization and development, there was minimal anthropogenic noise, with the soundscape dominated by the “ocean, forest, birds, animals, winds, Indian life” (Schafer 1973; Penner 2021:30;32). Schafer (1973) provides a timeline of the Vancouver soundscape from pre-1836 to 1973,

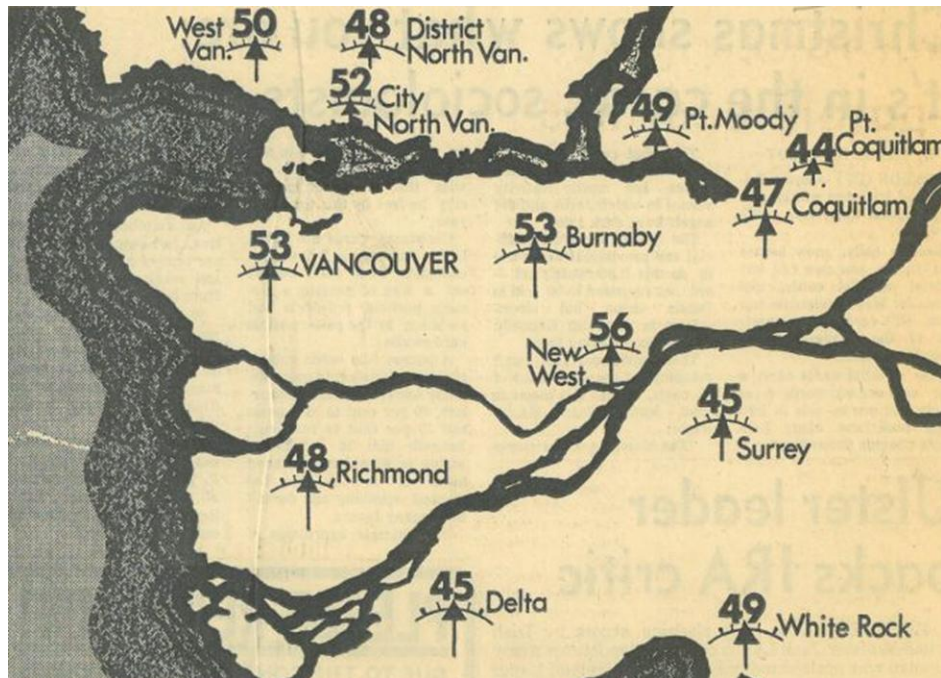
documenting the introduction of specific noises in the soundscape. Notably, the steam-driven train added noise in 1887 and airplanes in 1910 (Schafer 1973).

Noise levels became a broad concern to residents of the Lower Mainland in the mid-1900s, and notably so by the mid-1970s after the expansion of Vancouver International Airport (GVRD 1986). Across the Lower Mainland, a study of noise levels was first conducted in 1971 through the Greater Vancouver Noise Survey, which found that the average ambient noise level was 45 dBA and 48 dBA in Delta and Richmond respectively (Figure 5). Average ambient noise was recorded at 58 dBA during the day and 52 dBA at night for industrial areas, and 45 dBA during the day and 42 dBA at night for rural areas (Table 2). By 1975, the areas around the South Arm of the SNEWIL/ Fraser River were noted as having “serious noise levels” resulting from the Vancouver Airport by the Greater Vancouver Regional District (GVRD 1986) (Figure 6). Atmospheric noise levels measured in 2021 at a site on the east side of Burns Bog captured an average noise level of 72.5 dB (equivalent to 72.5 dBA at a frequency of 1kHz) during rush hour and 57.7 dB (equivalent to 57.7 dBA at a frequency of 1kHz) prior to rush hour (Ebb Environmental Consulting Inc 2021), revealing that noise levels have increased from 1971. However, the recent trend may be in decline based on a 2020 study noting a decrease in the 24-hour noise level (i.e. average noise level of a 24-hour period) in Metro Vancouver by an average of 2.20 dBA between 2019 and 2020 (Yu et al. 2023).

**Table 2:** L10 (indication of peak noise), L50 (indication of mean level of noise during a given time period), and L90 (indication of ambient sound level in absence of noise sources) in dBA for industrial, commercial, residential, and rural areas during the day and at night across the Lower Mainland as part of the Greater Vancouver Noise Study (Price 1972).

| Level                      | Industrial |           | Commercial |           | Residential |           | Rural     |           |
|----------------------------|------------|-----------|------------|-----------|-------------|-----------|-----------|-----------|
|                            | Day        | Night     | Day        | Night     | Day         | Night     | Day       | Night     |
| <b>L<sub>10</sub></b>      | <b>69</b>  | <b>64</b> | <b>72</b>  | <b>66</b> | <b>64</b>   | <b>55</b> | <b>58</b> | <b>53</b> |
| <b>L<sub>50</sub></b>      | <b>58</b>  | <b>52</b> | <b>62</b>  | <b>52</b> | <b>51</b>   | <b>44</b> | <b>45</b> | <b>42</b> |
| <b>L<sub>90</sub></b>      | <b>49</b>  | <b>44</b> | <b>51</b>  | <b>43</b> | <b>42</b>   | <b>35</b> | <b>36</b> | <b>32</b> |
| <b>Mean upper extremes</b> | <b>63</b>  | <b>59</b> | <b>68</b>  | <b>64</b> | <b>57</b>   | <b>50</b> | <b>51</b> | <b>48</b> |
| <b>Mean lower extremes</b> | <b>56</b>  | <b>50</b> | <b>59</b>  | <b>48</b> | <b>49</b>   | <b>42</b> | <b>44</b> | <b>36</b> |





**Figure 5:** Noise levels (dB) across the Lower Mainland in 1971 as part of the Greater Vancouver Noise Survey (BKL n.d.).



**Figure 6:** Areas impacted by noise from Vancouver International Airport in 1975. Grey cross-hatching indicates areas "seriously affected" by noise from airport operations, and grey hatching indicates areas "slightly lower but still serious noise levels" (GVRD 1986).

Underwater noise has emerged as an issue since the mid-1800s, which has not been quantified prior to recent decades in the SNEWIT/ Fraser River estuary (i.e. 2000s, 2010s, 2020s). While the mandate to manage general habitat protection provisions including sound have been included in the *Fisheries Act* and

*Oceans Act* since 1977 and 1996 respectively, measures for underwater noise specifically have only been introduced since 2008 (Breeze et al. 2022). While not specific to the ŚNEWIL/Fraser River estuary, one report comparing the findings of three underwater noise studies from 1965 to 2002 in the deep waters of the Northeast Pacific Ocean (i.e. a significant distance off the continental shelf of North America) found that noise levels had increased from around 80 dB to 91 dB across this time period (Chapman and Price 2011). In the Salish Sea, two studies have quantified non-anthropogenic noise (i.e. underwater noise due to rain and wind alone) which can be used as a proxy for noise levels around the time of the Douglas Treaties. MacGillivray et al. (2024) found the inner Salish Sea broadband (i.e. all frequencies) noise to be around 80 dB in summer and 90 dB in winter at 10 metres depth, while Burnham et al. (2021) found the inner Salish Sea to be around 48 dB in winter (no value for summer) modelled at 8kHz (i.e. not broadband but a specific frequency).

Underwater noise has increased dramatically in recent decades, in large part due to increases in vessel traffic (see Section 2.5 for more information on vessel traffic specifically) (MacGillivray et al. 2024; Breeze et al. 2022; St-Pierre 2023). Quantifying of anthropogenic noise in the ŚNEWIL/Fraser River estuary specifically has been limited to Environmental Assessment processes such as the Fraser River Tunnel Project and Pattullo Bridge Replacement Project, which have documented existing broadband (i.e. all frequencies) sound pressure levels in the South Arm at a median of 108.7 dB, with ambient sound exceeding 120 dB 20% of the time (BC Ministry of Transportation and Infrastructure 2015:4.3-8; Zykov et al. 2018:29).

Underwater noise is known to impact marine mammals and fish. Impacts of anthropogenic sound on fish are well documented, including behaviour changes (e.g., spatial movement), reduced foraging efficiency and communication, increased stress hormones, and reduced fitness (Popper and Hawkins 2018; Holles et al. 2013; Nichols et al. 2015; Whitefield and Becker 2014; Nedelec 2015; Murchy 2024). Salmon are known to avoid noise (Boyes 1982). Adult salmon (sockeye and pink) migrating back into the ŚNEWIL/Fraser River have been found to avoid approaching vessels (Xie et al. 2008). Underwater noise can result in altered behaviour and masking of acoustic signals in marine mammals (Burnham et al. 2021; MacGillivray et al. 2024; Erbe et al. 2019). KELŁOLEMEĆEN/killer whales alter respiration patterns, swim speeds, direction, and behaviour (decreased foraging behaviour and increased surface-active behaviour) in loud soundscapes (Erbe et al. 2019; St-Pierre 2023).

STÁUTW First Nation members have also identified large-vessel traffic effects as contributing to poor fish and ecosystem health by increasing sedimentation and water turbidity and the exposure of shorelines and the river bottom and seabed to additional wave action and currents. These concerns are captured in the quotes below.

*That sediment that's being created and the clarity in the water. People don't think that bothers anybody, but if you're a fish you have to breathe it. Yeah. And it's really detrimental to their health too. (STÁUTW Respondent ID110)*

*Not only the salmon, but the whales, seals, and everything, they all use these same paths that these huge freighters are using. So the freighters are creating a destruction all along their path. And now the sea life can't live in that anymore. And it's like a little desert all along there. All along their path, you know, there's sediment disturbance in the way. (STÁUTW Respondent ID110)*

*The kelp and the eelgrass and stuff, there's virtually nothing left under the pass of the ships [...] The force that's put onto the bottom is something that follows up underneath even though they're not touching the bottom there. The more and more ships they see, the more and more actual damage. (STÁUTW Respondent ID110)*

The implications of these changes to water, air, soil, and noise are many and cumulative across generations of SṪÁUTW.

## 2.2 Fish and Fishing Conditions

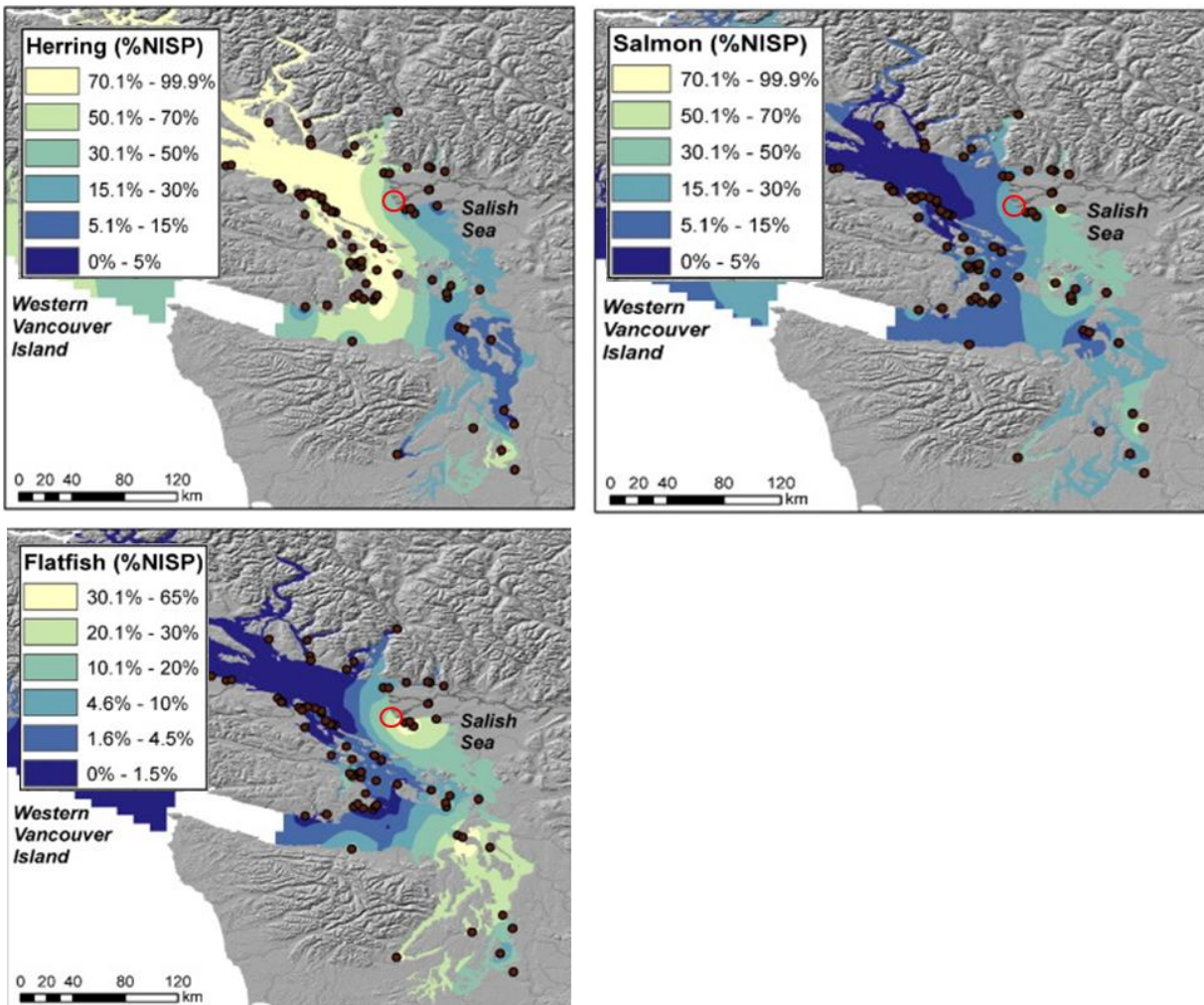
### *Salmonids*

In the mid-1800s, stocks of the five species of pacific salmon (chinook, coho, chum, pink, and sockeye) and sea-run trout (steelhead, cutthroat, and bull trout) were considered abundant in the SṪÁUTW/Fraser River (Albright 1985; HTG n.d.; Carlson 1998; Haggan et al. 2006; Lepofsky et al. 2005). The “huge quantity of fish that appeared during short intervals” (Carlson 1998:23) were a “predictable and reliable resource” (Albright 1985:10). Sockeye runs alone were estimated at about 100 million fish prior to 1913 (Lepofsky et al. 2005:272).

*At times there were so many salmon jumping as one looked across the strait, that the salmon seemed as though they were hanging in mid air, even the water became frothy from salmon jumping as they travelled to the Fraser River (Claxton and Elliott 1994:24).*

Notably, in the archaeological record, salmon, herring, and flatfishes (i.e. halibut, flounder, sole) rank as the top three most ubiquitous fish taxa found at archaeological sites in the Salish Sea, with 15-30% of the fish bone fragments identified at sites around the SṪÁUTW/Fraser River estuary coming from salmon alone (McKehnie and Moss 2016) (Figure 7). Similar findings were documented at the Crescent Beach site in Boundary Bay by Ham (1982:255).





**Figure 7:** Geographic patterning of relative abundance of herring (top left), salmon (top right) and flatfish (bottom left) versus all other fish bones identified, based on zooarchaeological data (NISP refers to the number of identified specimens) from archaeological sites represented by black dots. Relative abundance is interpolated by inverse distance weighting from archaeological sites. Red circle encompasses where the South Arm of the SNEWIL/ Fraser River meets the Salish Sea. Note that between panels, colours represent different %NISP ranges. (McKechnie and Moss 2016)

Salmonid populations have decreased since the mid-1800s (Boyle et al. 1997; Levings 2004; Environment Canada 1992; Ross 1953; Hoos and Packman 1974), in part due to “the heavy exploitation of salmon by [colonial] commercial fisheries<sup>3</sup> interest around the last decade of the Nineteenth Century” (Rozen 1978:62, as quoted in HTG n.d.:8). The first cannery opened operations in 1871 (Ross 1953:111), leading to decades of higher fishing pressure, and “by the -1890s [...] the newcomers had transformed fishing into a growing industry and established a monopoly on the river” (Ross 1953:111).

<sup>3</sup> References to commercial fisheries should be understood to mean industrial-scale commercial fishing rather than smaller-scale and traditional harvest and trade. We use the term “colonial” commercial fishery to denote this difference. Indigenous participation in colonial commercial fisheries should not be construed as being representative of Indigenous cultural, political, and/or economic beliefs and practices.

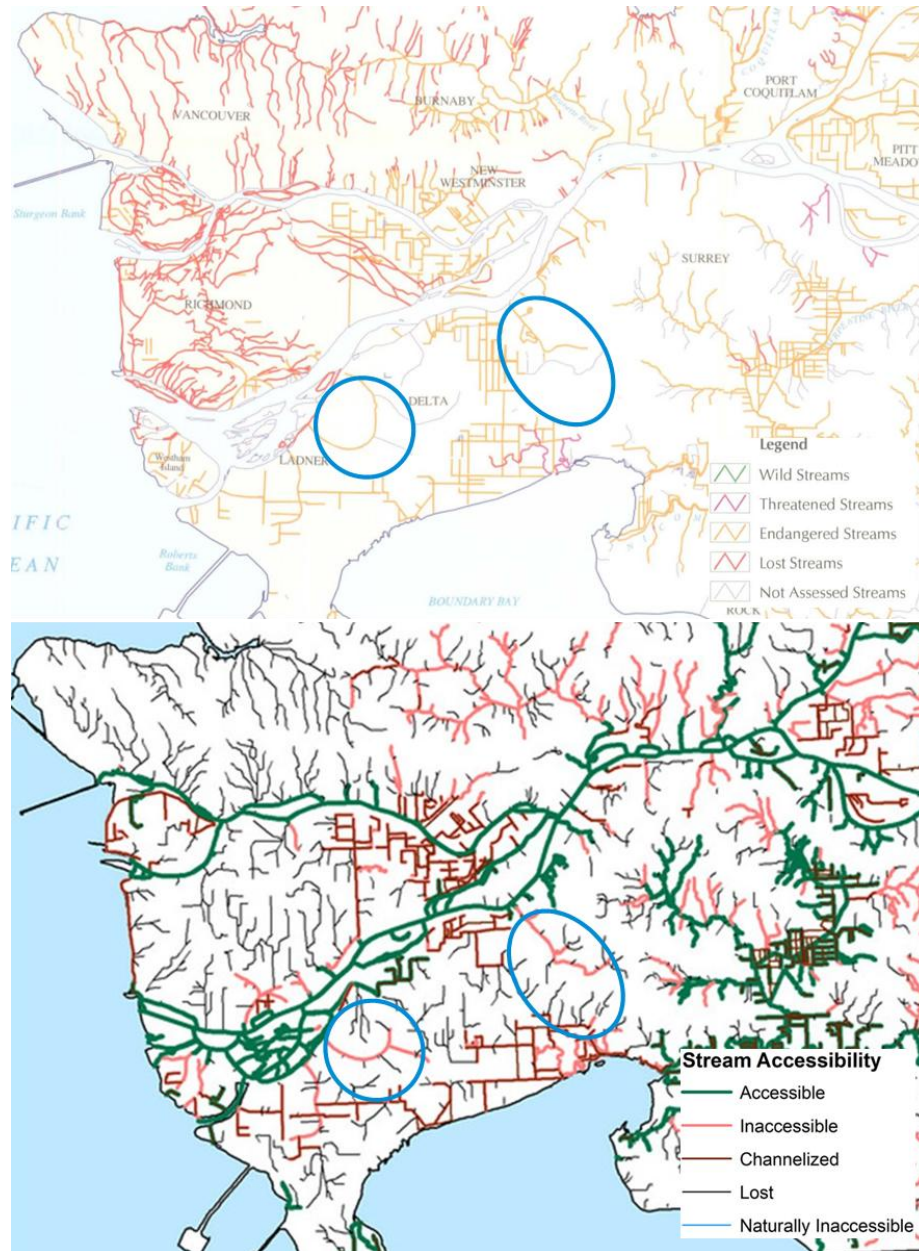
Salmonid stocks in the ŚNEWIL/Fraser River declined further throughout the early- to mid-1900s, with fluctuations and some recovery of certain species in recent decades. Prior to 1913, the dominant run of sockeye every fourth year was in the order of 100 million fish (Ricker 1987, as cited by Landos 2024:54 and Lepofsky et al. 2005:272). The decades following were marked with reduced catches indicating drastic sockeye declines (Landos 2024; Ross 1953:130). Restoration efforts and controls on fishing effort in the 1940s and 1950s led to some population recovery in the second half of the century, although still lower relative to the pre-1913 era (Landos 2024; Environment Canada 1992:70). Recent sockeye population estimates are in the order of 100,000 annually in 2018, 2019, and 2020, and up to 1.5 million in 2021 (Landos 2024). Pink salmon have followed similar trends to sockeye, with great declines followed by a slight recovery, and 2021 returns estimated to be 7.99 million (Landos 2024; Environment Canada 1992:70). Chum showed initial declines followed by a slight increase but returns since 2017 were well under predictions (Landos 2024; Environment Canada 1992:70). Chinook and coho populations have trended downwards and remained low (Landos 2024; Environment Canada 1992:70). While there are conflicting estimates on total salmon returns of all species, several sources point to returns around 20 to 24 million into the early 2000s (Environment Canada 1992:70; Lepofsky et al. 2005:272).

Trout stocks have also trended down since the mid-1800s. Not much is known about coastal cutthroat trout populations distributed in the lower ŚNEWIL/Fraser River; five populations are extinct, four were at high risk of extinction as of 2018, and the rest (accounting for approximately 80% of these populations, though total number of populations is unknown) were of unknown status (Hatfield Consultants 2018:50; McPhail et al. 1998). Prior to 1974, coastal cutthroat trout with an anadromous life history (sea-run coastal cutthroat trout) had been in decline over several decades in the lower ŚNEWIL/Fraser River (Hoos and Packman 1974:110). Beyond cutthroat trout, steelhead trout (i.e. anadromous rainbow trout) colonial commercial catches were not reported prior to the 1930s, but showed a “sharp decline” in the 1940s and continual decline in the 1960s and 1970s (Hoos and Packman 1974:124). There is concern that the ŚNEWIL/Fraser River winter steelhead trout stock are at risk of extinction as they are often caught as by-catch in net salmon fisheries (Hatfield Consultants 2018:50). Two upper ŚNEWIL/Fraser River stocks of steelhead trout that migrate through the lower ŚNEWIL/Fraser River are designated as Endangered by COSEWIC in a 2020 reassessment.

In addition to fishing pressure, habitat loss, diking, and declines in water quality have contributed to declining salmon stocks (Boyle et al. 1997:193; DFO 2025; Levings 2004; Hanna 1998; Finn et al. 2021), with only limited spawning habitat left in the lower ŚNEWIL/Fraser River and associated tributaries. Many streams throughout the lower ŚNEWIL/Fraser River have become inaccessible to salmon, leading to significant loss of spawning and rearing habitat (Finn et al. 2021; DFO 2025; Levings 2004; Precision Identification Biological Consultants 1998) (Figure 8). Fisheries and Oceans Canada (DFO) notes that “salmon spawning locations were more extensive prior to intensive land and in-water development in the Lower Fraser” (DFO 2025:para.13). The Lower ŚNEWIL/Fraser River is also important feeding habitat for salmon fry and smolts (Schaefer 2004:42), and the first- and second-order streams are vital for non-anadromous trout (Levings 2004:222). Urbanization has contributed to habitat loss leading to the extinction of numerous stocks (Levings 2004:222). By 1988, the loss of estuarine salmon habitat was estimated at about 75% (Birthwell et al. 1988, as cited in Hanna 1998:71).

Boyle et al. (1997:194) note that heavy metals and organic contaminants such as chlorinated phenols have been found in aquatic organisms in the ŚNEWIL/Fraser River and tributaries, with undetermined effects on the viability of aquatic organisms. While the exact role that contaminants have had in salmon population declines remains unclear due to a lack of data, multiple lines of evidence including reports by the Cohen Commission, DFO, and best professional judgment from toxicology experts point to contaminants having sublethal effects on salmon that have contributed to long-term declines by introducing additional stressors on top of fishing pressure and habitat loss (Landos 2024). These sublethal effects include

physiological impairment; reproductive and developmental effects; reduced growth rates; and increased susceptibility to disease and predation, nutritional stress, and sub-optimal environmental conditions (Landos 2024).

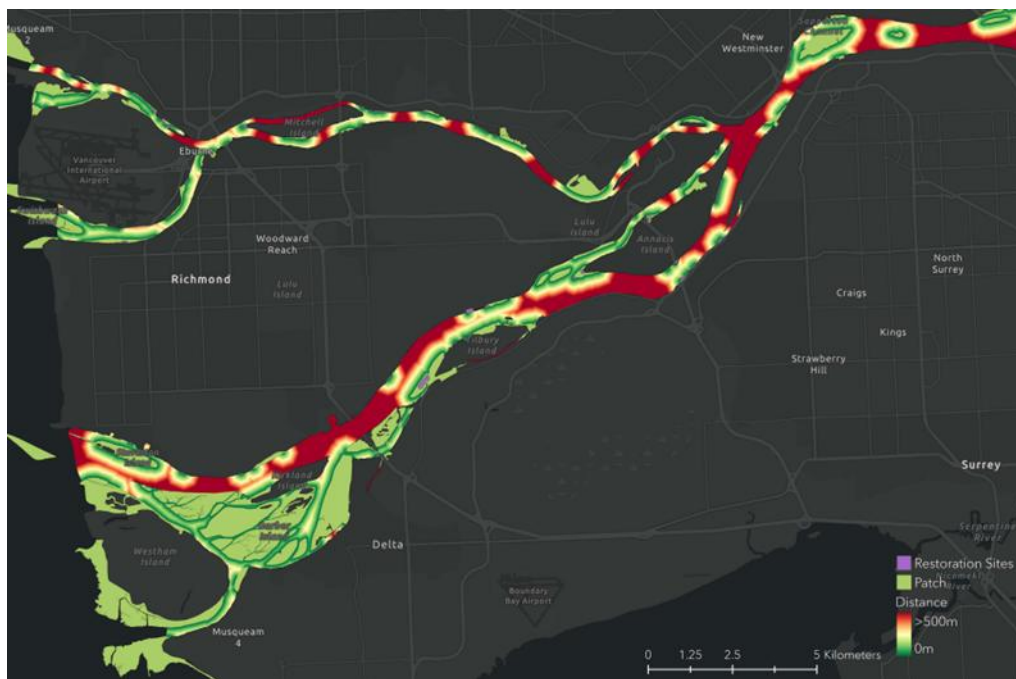


**Figure 8:** (TOP) Status of stream health in 1998 based on extent of habitat degradation as wild (green), threatened (pink), endangered (yellow), or lost (red) (Precision Identification Biological Consultants 1998), and (BOTTOM) status of stream connectivity in 2021 based on mapped barriers to fish passage for salmon as accessible (green), inaccessible (red), channelized (marron), or lost (grey) (Finn et al. 2021). Several streams marked as endangered (TOP – yellow) in 1998 are lost or inaccessible to salmon (BOTTOM – grey or red) in 2021 (examples shown in blue circles).

Tidal marsh areas in the SNEWIL/Fraser River estuary are important habitat for juvenile Pacific salmon including chinook, chum, and pink (Levy and Northcote 1982). Juvenile chinook salmon currently use



estuary habitats extensively from late March to July (lower ŚNEWIL/Fraser River population) or even until mid-August (South Thompson ocean-type population) (Scott et al. 2024). An analysis of habitat connectivity in the ŚNEWIL/Fraser River estuary reveals that extensive development (including the hardening of shoreline) has disconnected patches of suitable salmon rearing habitat, meaning salmon may have to migrate downstream for multiple tidal cycles to reach the next patch of suitable habitat (Loranzo 2024) (Figure 9). In addition to reduced connectivity in the mainstem of the ŚNEWIL/Fraser River, streams are also degraded habitat. A study in 1998 found that from the mouth of the ŚNEWIL/Fraser River to Stave River, 51% of streams were endangered, 21% threatened, and the remaining 28% were wild (Precision Identification Biological Consultants 1998). Streams were assessed based on criteria evaluating environmental state (e.g. loss of riparian vegetation, diking, water quality, urbanization) and were considered threatened if they met one criterion, and endangered if they met two or more criteria. Across the entire Fraser Valley from Hope to the mouth of the ŚNEWIL/Fraser River, 15% of streams were marked as lost by 1998 (Precision Identification Biological Consultants 1998). Salmon habitat is predicted to change unfavourably under all future climate change scenarios (Iacarella and Weller 2023), with the lower ŚNEWIL/Fraser region experiencing increases in the frequency with which critical thresholds for temperature are surpassed, reducing spawning migration success (Hague et al. 2011).



**Figure 9:** Suitable salmon rearing habitat patches (solid green) and the distance from these habitat patches (dark green at 0m to red at >500m) showing habitat connectivity. (Loranzo 2024)

### Groundfish

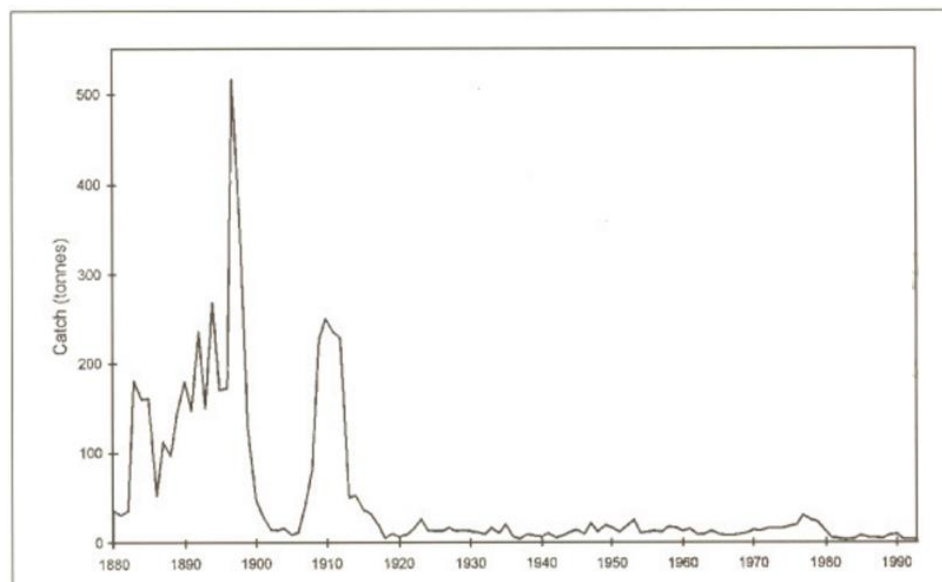
Starry flounder and English sole have been documented at the mouth of the ŚNEWIL/Fraser River and as far up as Mission for Starry flounder (Ketchen et al. 1983; Hoos and Packman 1974:114; McPhail et al. 1998; Levings 2004). Flatfishes including flounder and sole (alongside other herring and salmon) rank among the top three most ubiquitous fish taxa found at archaeological sites in the Salish Sea, with 20-30% of all fish bones identified at archaeological sites around the ŚNEWIL/Fraser River estuary coming from flatfish species (mostly halibut, flounder and sole) (McKehnie and Moss 2016) (Figure 7). Little information is available about the historical abundance of starry flounder or other flounder and sole species within the ŚNEWIL/Fraser River (Hoos and Packman 1974:114-115). Both starry flounder and English sole were

historically harvested commercially in the Salish Sea and ŚNEWIL/Fraser River estuary, but stocks have declined significantly since the 1960s (Levings 2004). In 1973-1974, starry flounder were recorded at a density of 4.14-4.82 individuals per 100 m<sup>2</sup> between the mouth of the ŚNEWIL/Fraser River and Tilbury Island (Richardson et al. 2000). Similarly, starry flounder were found at every sampling occasion in the Deas Slough area of the ŚNEWIL/Fraser River estuary in a study in 1976-1977, with a density of 9 individuals per 100 m<sup>2</sup> (Birtwell et al. 1993).

Sturgeon are also an important groundfish to the ŚNEWIL/Fraser River ecosystem. Like other fish of colonial commercial value, white sturgeon experienced dramatic population declines in the decades following the increases in harvest rates in the late 1800s and is now considered “threatened” in the lower ŚNEWIL/Fraser River with under 50,000 individuals remaining (DFO 2025).

On an archaeological timeframe (i.e. 10,000 cal B.P. to around 1800; McKechnie et al. 2014; Ritchie et al. 2016), sturgeon and salmon remains were identified at the Dionisio Point archaeological site on Galiano Island. While sturgeon do (rarely) swim in saltwater ocean habitats between freshwater systems, they are most closely associated with brackish and freshwater habitats such as the ŚNEWIL/Fraser River as well as areas in western Vancouver Island (Ewonus 2011). Thus, the sturgeon identified at the archaeological site on Galiano Island gives indication of sturgeon presence in the ŚNEWIL/Fraser River system prior to the 1800s as well as fishing and transport activities at the time, with the authors indicating “the most logical origin for this [sturgeon] specimen is the ŚNEWIL/Fraser River” with subsequent transport across the Salish Sea (Ewonus 2011:86).

In the mid- to late-1800s, “sturgeon weighing up to 184 kg were a daily occurrence in the Fraser River catches at the time” (DFO 1995:7). However, exploitation resulted in “serious depletion of the older age classes” by the early 1900s, as well as an overall decrease in abundance (Hoos and Packman 1974:122). Across the ŚNEWIL/Fraser River, catches fell in the early 1900s followed by a short period of recovery, but since 1917, annual harvest has remained low (DFO 1995:7-8; Oloriz and Parlee 2020; Landos 2024:69; Environment Canada 1992:72) (Figure 10). Sturgeon populations declined “to the point that when a large individual fish was caught in 1930 it was considered exceptional” (Landos 2024:69).



**Figure 10:** Estimated colonial commercial gillnet harvest of green and white sturgeon in the ŚNEWIL/Fraser River from 1880 to 1990. (DFO 1995)

Population declines of sturgeon in the ŚNEWIL/Fraser River have been linked to overfishing,<sup>4</sup> declines in prey species eulachon, and declines in habitat quality and quantity due to dredging, gravel extraction, diking and channelization (Hatfield et al. 2004:2-3; Landos 2024:69; Hanna 1998:71). Additionally, effects of contaminants may have contributed to population declines. In 1974, the Federal Fisheries Inspection Laboratory found high mercury levels (above the federal standard maximum acceptable limit) in white sturgeon between Mission and New Westminster in the ŚNEWIL/Fraser River (Hoos and Packman 1974:113). The longevity of white sturgeon put them at greater risk of mercury bioaccumulation, especially when they spend their whole lives exposed to mercury-contaminated waters.

Population declines of sturgeon have continued in more recent decades. Mark-recapture data (much of it collected through the catch-and-release recreational fishery) shows a 25% decline in 7-to-55-year-old fish from 2006 to 2019 and a 70% decline in juvenile (7-to-12-year-old fish) from 2004 to 2019 (Landos 2024:69-70). While the recapture rates of large sturgeon indicate that this fishery does not result in direct mortality, there is a potential that stress from catch-and-release practices may contribute to low juvenile recruitment and spawning success (Oloriz and Parlee 2020). The lower ŚNEWIL/Fraser River population of white sturgeon was assessed as Threatened by COSEWIC in 2012. Robust abundance data is lacking, but the best estimate of white sturgeon in 2015 was 47,166 individuals (Hatfield Consultants 2018).

#### *Forage Fish*

As noted by Morin et al. (2023:303) there were “significant reductions in the major forage fish fisheries around Vancouver within decades of the initial Euro-Canadian settlement”.

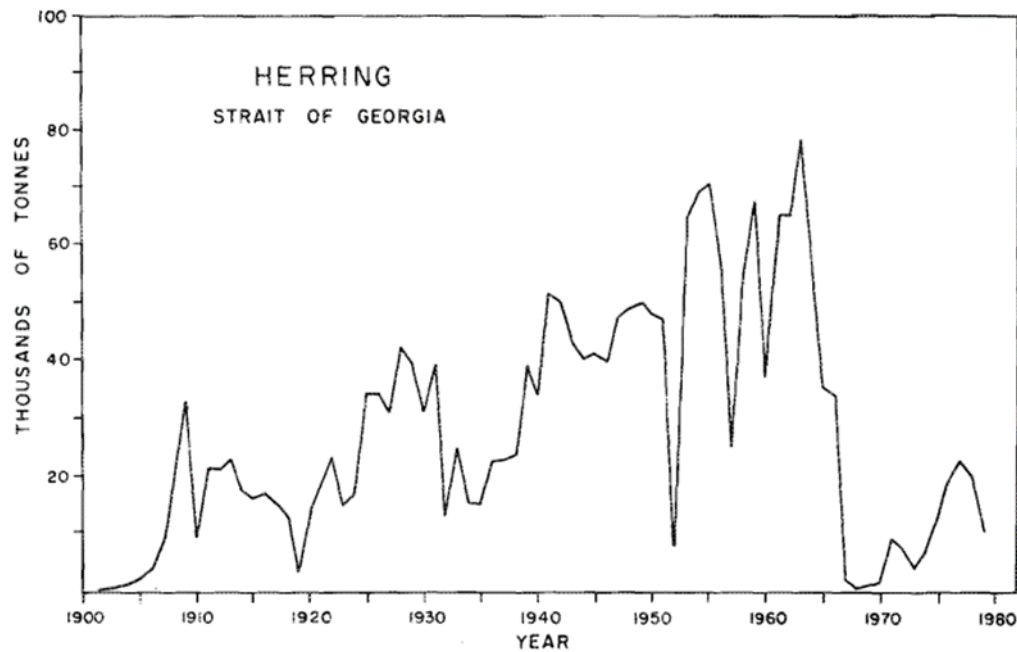
Herring, while not considered anadromous, do spawn in estuarine habitats along the shores of the ŚNEWIL/Fraser River on eelgrass and other intertidal and subtidal vegetation. Herring populations show significant declines across the last 200 years, from consistently highly abundant in the archaeological record to near total collapse in the late 1960s, followed by minor recovery and recent declines (though data on the recent declines is lacking) (McKehnie et al. 2014; Ketchen et al. 1983; Landos 2024; Province of BC 1971; Schweigert et al. 1990; Cleary et al. 2017; DFO 2020).

Archaeological fisheries data that spans 2,500-200 y B.P. indicates that in the Salish Sea, herring were consistently highly abundant with low variability, where sufficient herring was consistently available to meet the needs of harvesters (McKehnie et al. 2014). Herring, alongside salmon and flatfishes, rank as the top three most ubiquitous fish taxa found at archaeological sites in the Salish Sea, with 30-50% of fish bones identified at archaeological sites around the ŚNEWIL/Fraser River estuary coming from herring (McKehnie and Moss 2016) (Figure 11). Overall, the archaeological record indicates that ancient herring populations had a higher mean abundance than in the last century (McKehnie et al. 2014).

The colonial commercial fishery for herring was first reported in 1877 where landings ranged from 130 to 650 tonnes from the Salish Sea through beach seines (Ketchen et al. 1983). Production from the Salish Sea reached 42,000 tonnes in the late 1920s, settling to 13,000 tonnes in 1932 (Figure 11). From 1935-67, production increased to meet expanding markets and rose to +70,000 tonnes by the mid-1950s with an all time high of 78,000 tonnes in 1963-64 (Ketchen et al. 1983). Several indicators suggest that abundance (not always directly correlated to landings) was highest in 1949 to 1954 but was still relatively high during the 1963-64 season. This was followed by a sudden drop in abundance as measured by low spawning escapement. This drop in abundance is mostly attributed to the colonial commercial fishery (i.e., increased

<sup>4</sup> Regarding overfishing, sturgeon management (and thus fishing regulations) at the turn of the century (i.e. 2000) was likely based on overestimations of sturgeon abundance. There are several sources of overestimation not accounted for at the time. First, BC Commercial Catch Statistics do not separate green and white sturgeon, meaning decision-making will not be specific to either species. Second, poaching is widespread, undercounting for fishing pressure. And third, initial catch data were first collected decades after the inception of colonial commercial fisheries (DFO 1995:8).

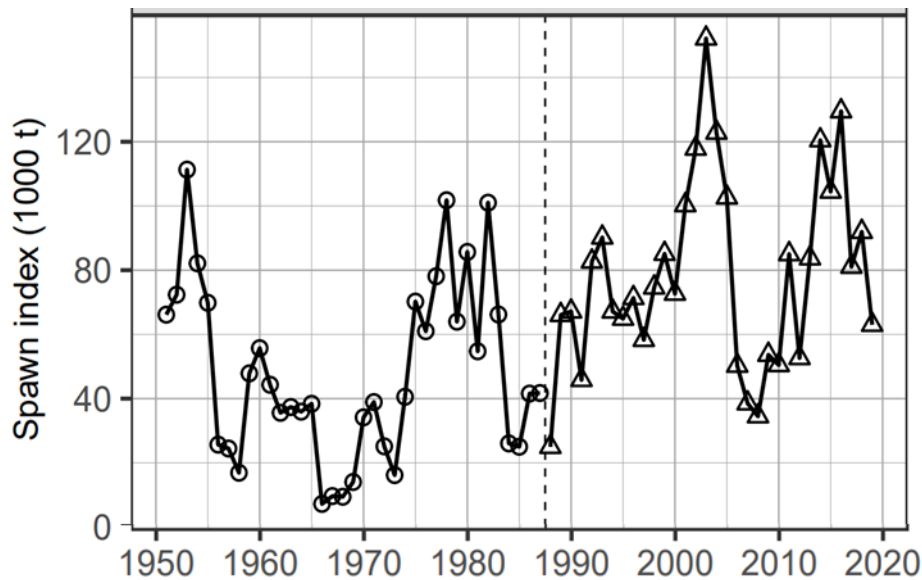
efficiency in fishing gear, increased effort) as well as some less impactful natural factors like the effect of sea surface temperature on egg survival (Ketchen et al. 1983). Herring recovered rapidly by the mid-1970s after a 4-year closure of the colonial commercial fishery (Landos 2024:71; Province of BC 1971:132). Through the late 1970s and early 1980s there were declines that even quota management introduced in 1986 failed to reverse. Up to 1986, herring bait fishermen continued to see spawning biomass declines and disappearances (Schweigert et al. 1990).



**Figure 11:** Historical production of herring by the Canadian fishery in the Strait of Georgia (in statistical areas 13-19 and 29). Note that times when production does not reflect abundance include: (1) the dips in the 1950s which correspond to industrial strikes on production (e.g. fishing years of 1952-53 and 1957-58), (2) the dip from 1967 to 1971 which reflects the closure of all herring fisheries but small bait and food herring, and (3) the post-1971 production where severe restrictions kept the colonial commercial catch low even as stock size recovered. (Ketchen et al. 1983)

While the stock of herring in the Salish Sea has not completely collapsed, its status is highly variable and remains unknown. A recent assessment in 2017 for the entire Salish Sea population shows an increasing trend in stock biomass since 2010 (Cleary et al. 2017:23). However, an approximate 60% reduction in biomass from 2017 to 2020 has been reported (Landos 2024:71). However, limitations around information and large uncertainties surrounding this recent decline were reported by DFO (DFO 2020:9). Additionally, within the context of a longer timeline, the spawn index (extent of herring spawn as a proxy for abundance) has been highly variable in recent decades (Figure 12). Differences of abundances between the archaeological record and modern pattern of variability has been attributed to industrial-scale colonial commercial fishing (McKehnie et al. 2014).

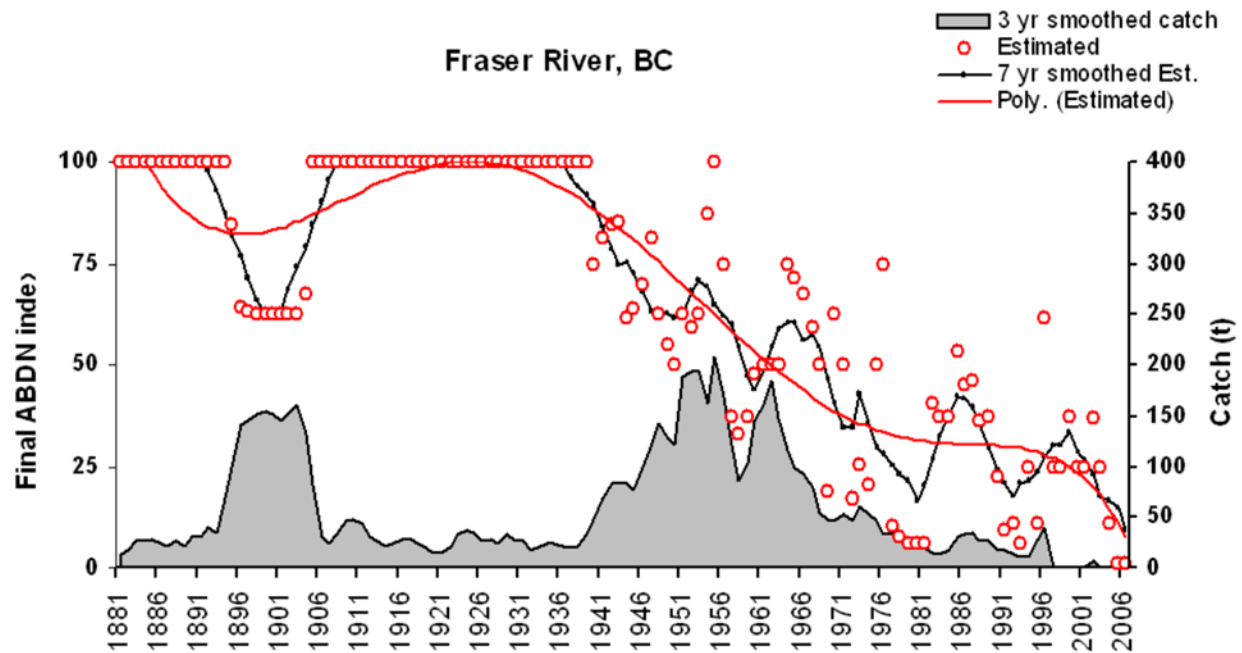




**Figure 12:** Time series for Pacific herring spawn index in thousands of tonnes (t) from 1951 to 2019. Note that it remains unclear if the decline from 2016 to 2019 in spawn index value accurately reflects a true decline in estimated spawning biomass as the model has insufficient information. Dashed vertical line indicates shift in dominant survey method from surface (pre-1987) to dive (post-1988) surveys. (DFO 2020)

Another forage fish of significance in the ŚNEWIL/Fraser River is eulachon. Eulachon are an important food source for many culturally significant species including salmon and sturgeon. Eulachon populations associated with the ŚNEWIL/Fraser River have trended from abundance to an “Endangered” population at 1% of pre-contact levels (Landos 2024; Hoos and Packman 1974; Moody 2008; Morin et al. 2023; DFO 2015; 2025; Burns et al. 2023; Hatfield Consultants 2018).

Eulachon returns in the late 1800s were considered “vast and immense” (Landos 2024:68). Eulachon were harvested commercially since 1881 but have declined since then, likely in part due to habitat destruction (Hoos and Packman 1974:123). Eulachon populations dipped in the late 1800s due to the initial expansion of the colonial commercial fishery, but likely recovered during the decades following when commercial catch was low, likely due to a focus on new and more valuable fisheries (Moody 2008) (Figure 13). However, this was followed by a steep decline in eulachon abundance throughout the latter half of the 1900s after the colonial commercial eulachon fishery expanded once more (Morin et al. 2023:316). The ŚNEWIL/Fraser River population of eulachon were assessed as blue listed by the BC Conservation Data Centre in 2000 and as Endangered by COSEWIC in 2011 (DFO 2015; 2025; Burns et al. 2023:633). In 2024, the population is in a state of significant decline, with one report indicating current populations are around 99% below pre-contact levels (Landos 2024:68), and another report documenting a 98% decline over the decades of the 1990s and 2000s specifically (Hatfield Consultants 2018:49).



**Figure 13:** ŠNEWIL/Fraser River estimated eulachon abundance status (circles), seven-year smoothed abundance status estimations (black line), three-year smoothed catch (grey fill) and a polynomial fitted trend line (red line). Abundance estimates are based on quantitative catch data (also including CPUE, spawning stock biomass estimates, test fishery catches) as well as qualitative data (annual run size report comments, and fishing effort comments). Note that the low colonial commercial eulachon catches between the early 1900s and early 1940s reported here are likely due to deteriorated eulachon markets as knowledge of other species increased, which is why eulachon abundance is estimated to be high during this time. (Moody 2008)

#### Marine Invertebrates

Many marine invertebrates are found at the mouth of the ŠNEWIL/Fraser River. While marine invertebrate populations have not declined the same extent as other fisheries (except TEXTEX/Olympia oyster and Á,CEX/Dungeness crab), barriers to consumption come from the declines in water quality (see section on *Water Quality* above), contaminating shellfish and presenting risks to human health if consumed.

In the archaeological record, species such as crab, chiton, ŁÁU,KEM/mussel, TEXTEX/Olympia oyster, sand clam, bent-nosed clam, STELO,EM/cockles, SQLÁ,I,/ littleneck clams, and S,OXE/butter clams were found at the Crescent Beach archaeological site in Boundary Bay (Ham 1982:251) indicating these species were ubiquitous (i.e. consistently encountered in archaeological samples, indicating consistent harvest and use of the species, which is interpreted by archaeologists as relative abundance) in the archaeological timeframe (i.e., 10,000 cal B.P. to around 1800; McKechnie et al. 2014; Ritchie et al. 2016).

Colonial commercial landings of the TEXTEX/Olympia oyster were not reported until 1884, and continued until 1935 until it collapsed due to overfishing; heavy mortality from a severe winter in 1929; and competition with introduced Pacific oyster in 1912 (Ketchen et al. 1983).

Á,CEX/Dungeness crab catches were first documented in Boundary Bay (and potentially also Sturgeon and Roberts Banks) in the early 1900s (Ketchen et al. 1983; Hoos and Packamn 1974:99). Landings were not well documented until 1951, and even then, fishing effort recorded may not be directly indicative of abundance because it does not account for number of traps fished. Across the entire Salish Sea, there are indications that abundance has declined from mid-1960s to mid-1970s (Ketchen et al. 1983:1108-1109).

However, little information is available to quantify that decline or to contextualize it within the longer-term population size variability.

Sporadic limited colonial-commercial fisheries have occurred for sea urchins and sea cucumbers over the years (Ketchen et al. 1983). Additionally, as of 1974, shrimp fishing was taking place off Sturgeon Bank, though it was noted that at the time there was no management program in effect (Hoos and Packman 1974:100).

The colonial commercial fishery of clams in the Salish Sea likely developed in the late 1800s, but landings were not recorded until 1951. Landings of butter, littleneck, and manilla clams together since 1951 have fluctuated from around 300 tonnes to 900 tonnes (Ketchen et al. 1983). Fluctuations in landings have only in some instances been connected to overfishing (i.e., other reasons for changes in landings include pollution or socio-economic conditions like availability of other work) (Ketchen et al 1983:1113). While the fluctuations in landings may not accurately represent abundance of clams, beaches within easy access are heavily exploited (Ketchen et al. 1983).

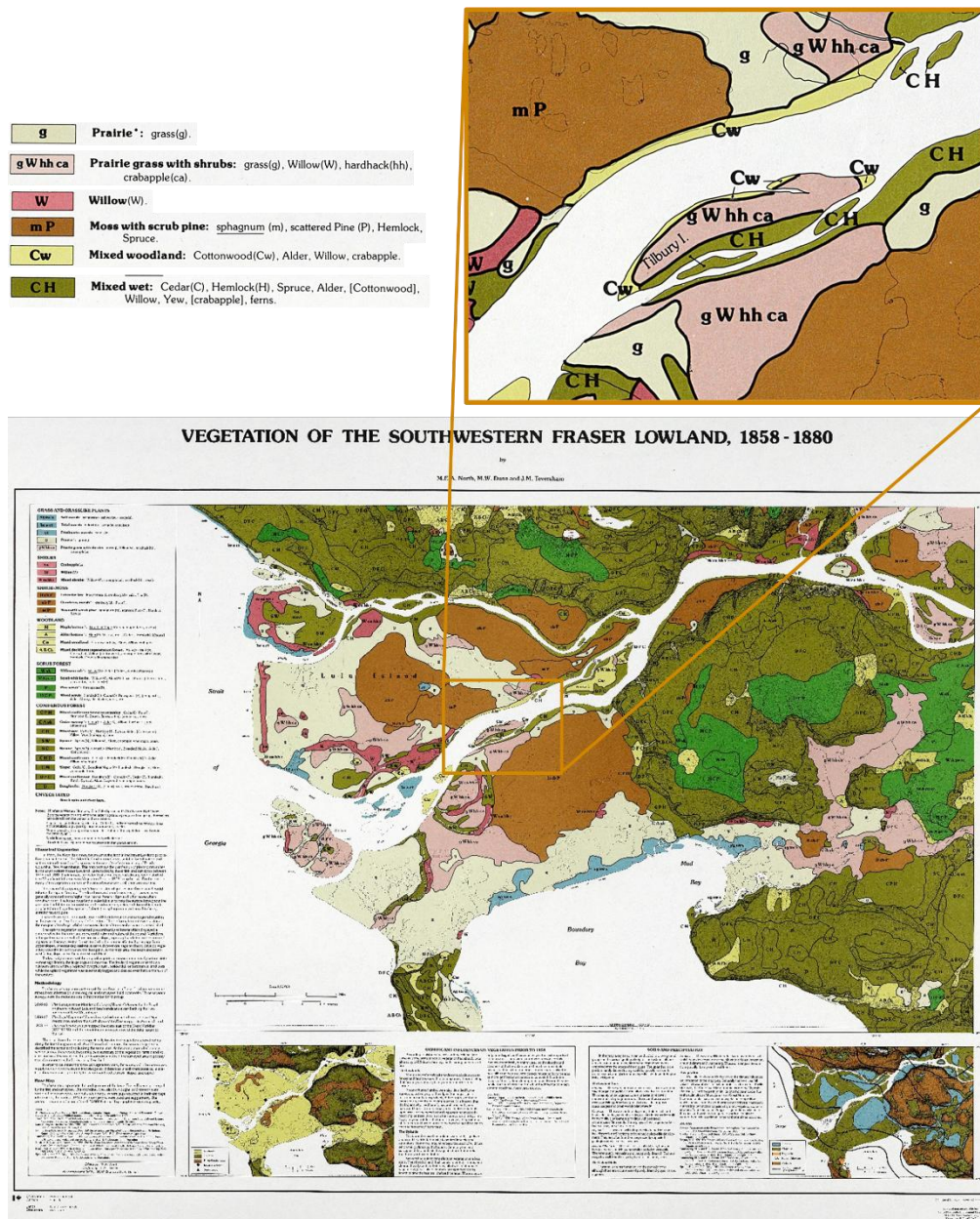
In the 1970s, Boundary Bay specifically was found to contain a “sizeable population of butter clams, littleneck clams, horse clams, mussels, cockles, and mud clams” that while never exploited by colonial commercial operations like at other accessible beaches, were harvested recreationally (Hoos and Packman 1974:97-99). In addition, although native *TECTEX*/Olympic oyster were still present, non-native species such as Pacific and Atlantic oyster were the most abundant, Atlantic oyster having been “seeded extensively” by the Crescent Oyster Company in Boundary Bay (Hoos and Packman 1974:87). Hoos and Packman (1974) note that “Boundary Bay was the single most productive oyster bed in British Columbia prior to 1960 when the fishery was closed owing to coliform bacterial pollution” (86).

A preliminary baseline study of Roberts and Sturgeon Banks in 1973 found the infaunal community to be a “normal” estuarine habitat “relatively unaffected by present developments on the Fraser” (Hoos and Packman 1974:90). However, this same study also documented significantly high levels of mercury and silver in molluscs from Sturgeon Bank, and PCBs in crabs, likely from the Iona sewage outlet, indicating the infaunal community was not “normal”. Overall, shellfish are “common” in the Fraser River tidal flats but contaminated, restricting harvest (Hoos and Packman 1974).

Shellfish harvesting across the SṪÁUTW/ Fraser River delta continues to be closed today due to a biotoxin closure and a sanitary closure (BC CDC n.d.). Marine biotoxins (e.g. saxitoxins, domoic acid) are a group of contaminants naturally produced by phytoplankton causing shellfish poisoning (paralytic, amnesic, and/or diarrhetic) in humans and other animals. Sanitary closures are the result of high levels of microbial pathogens (e.g. the bacteria *Salmonella*, the virus Norovirus) that can affect human health. Notably, marine pathogens originate from pollution sources such as wastewater treatment plant effluent, dredging, and agricultural activities. Thus, sanitary closures can be attributed to declines in water quality due to those human activities throughout the entire SṪÁUTW/ Fraser River basin. In 2018, the invertebrate community was noted to reflect “the relatively poor-quality mud-sand substrate conditions typical of the region” (Hatfield Consultants 2018:50).

## 2.3 Vegetation and Plant Gathering Conditions

An understanding of the richness of opportunity for SṪÁUTW First Nation plant gathering around the time of Treaty in the Lower Mainland can be aided by outlining the condition of vegetation in that period.

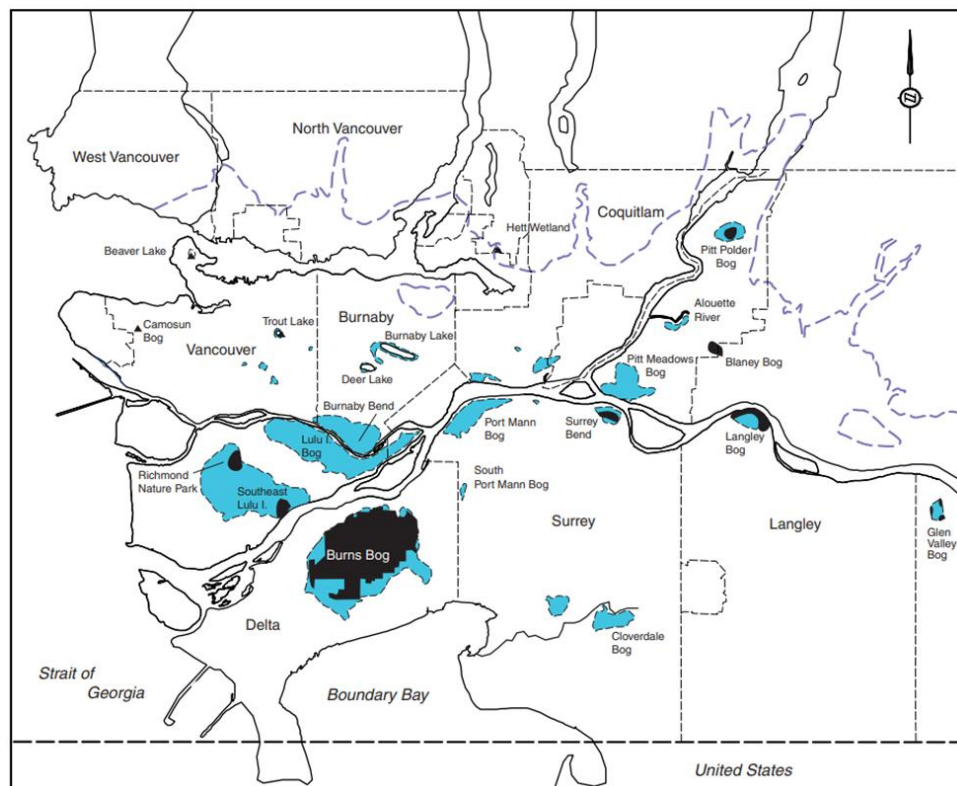


**Figure 14:** Vegetation cover of the SNEW/ Fraser delta in 1858-1880, with inset showing areas surrounding Tilbury Island. (Minister of Supply and Services Canada 1979)

Around 1858, the Vegetation LAA was covered in a combination of prairie grass and shrubs that flooded seasonally, as well as mixed and wet forest (Figure 14). The wetlands—including fen, marsh, bog, and swampy habitats—were extensive across the Lower Mainland (Boyle et al. 1997:190) (Figure 14 and Figure 15), and “substantial areas [of prairie] were flooded seasonally” (Lepofsky et al. 2005:272). These wetland areas contained abundant and accessible resources including STÁKEN/cattails, rushes, SELTENEN/berry bushes, and SKÁUISELL/wapato (Lepofsky et al. 2005:272; Butler and Campbell 1987; Lyons 2017; Lyons et al. 2020; 2023; McKelvie 1947; Szychter 1992; Ham 1982):



- The marshy areas south of Canoe Pass were filled with several types of STÁKEN/cattails and rushes (Rozen 1985:248 as cited by HTG n.d.:6). Grasslands were plentiful behind the flooded areas (Butler and Campbell 1987:17; Oliver 2010:99; Ham 1982:37).
- S,ELTENEN/Berry bushes including cranberries and blueberries were found in the boggy areas (Ladner 1979:17; Butler and Campbell 1987:15). Archaeological sites across the ŠNEWIL/Fraser delta show a high ubiquity for berries such as salal, red elderberry, raspberry, Oregon grape, and bog cranberry indicating their extensive presence historically (Lyons 2017). In 1858, Royal Engineers that surveyed the ŠNEWIL/Fraser River delta came across extensive growths of blueberries in boggy areas where First Nations had engaged in controlled burning to prevent encroachment of pines (Butler and Campbell 1987:13-14). Even into the early 1930s, "wild blueberries and blackberries were still available for picking" (Szychter 1992:78), and "berries...grew in profusion on the marshy lands" (McKelvie 1947:73).
- Archaeobotany and paleoethnobotany studies document wetland SKÁUISEL/wapato gardens in the Pitt River area of the Lower Mainland (Lyons et al. 2020; 2023), indicating that such SKÁUISEL/wapato gardens could have existed in other locations throughout the Lower Mainland.



**Figure 15:** Map of 1925 (BLUE) and 2000 (BLACK) boundaries of peat bogs in Fraser Delta (Hebda et al. 2000:181) illustrating the loss of these areas over time. Purple dashed lines indicate the extent of the Fraser Lowland. (Butler 2019)

Around 1858, in addition to the prairie and wetland, the perimeter of Tilbury Island was covered by both mixed woodland of ČEUN-ELČ,ČEUN-ELP/cottonwood, ŠKOLNELČ/alder, SXELE,ILČ/willow and crabapple, as well as mixed wet coniferous forests of XPÁY/POŠELEK/cedar, 7KIL,ELČ/hemlock, TFKÁ,ILČ/spruce, and TENKÁLČ/yew (Figure 14). Across the Lower Mainland more generally, forested areas included deciduous forests of SXELE,ILČ/willow, crabapple, 7FKÁ,ELČ/maple, ČEUN-ELČ,ČEUN-ELP/cottonwood, and

SKOLNELĆ/alder in the drier sections of fens, including across ŠNEWIL/Fraser River delta, while coniferous sections were dominated by JSÁY/Douglas fir, XPÁY/western red cedar, and 7KLEĆ/hemlock (Boyle et al. 1997:190; Ross 1953:132; Szychter 1992:48; Oliver 2010; Butler et al. 2021; Ham 1982:42-45). John Work (1824) notes that “nothing but thick willows are seen for some distance from the water, where the banks though low are well wooded with pine, cedar, alder and some other trees” (as quoted in Butler et al. 2021:6). Figure 16 and Figure 17, while photographed in 1977 and 1987 respectively, present an image of what native shrubs and trees lining a slough and grasses and estuarine marsh might have looked like in 1850 on the South Arm of the ŠNEWIL/Fraser River such as around Tilbury Island.



**Figure 16:** Native shrubs and trees line the path of a slough west of the London Farm house in Steveston on the South Arm in 1977. City of Richmond Archives photograph 1984 4 21. (Friends of Richmond Archives 2025)



**Figure 17:** Estuarine marsh in the Alaksen Wildlife Area showing grassy areas. Photo circa 1987. (Butler and Campbell 1987)

Diking activities from the 1890s onward introduced barriers to First Nations access to land, water, and food resources. Ethnobotanist Nancy Turner (2014) notes that while SKÁUISELL/wapato used to occur in dense patches in the Fraser Valley, diking and draining of wetlands have reduced SKÁUISELL/wapato’s abundance and led to its disappearance from many of the areas where it had once been cultivated. And, as described by Gandolfo-Lucia (2016:49), which the dyke system protected farmers it also “produced new social vulnerabilities. The successful construction of a system of dikes was simultaneously a dispossession of the First Peoples of the valley because they interrupted traditional ecologies and sources of food” and furthermore facilitated colonial settlement and land privatization (56).

The loss of land for native plant communities and reduction in native plant coverage due to urbanization, agriculture, and spread of introduced species, etc. can be summarized along four rough time periods, punctuated by key land use and development changes.<sup>5</sup>

#### *Pre-1900: The Dawn of Colonial Cultivation, Ditching, and Diking*

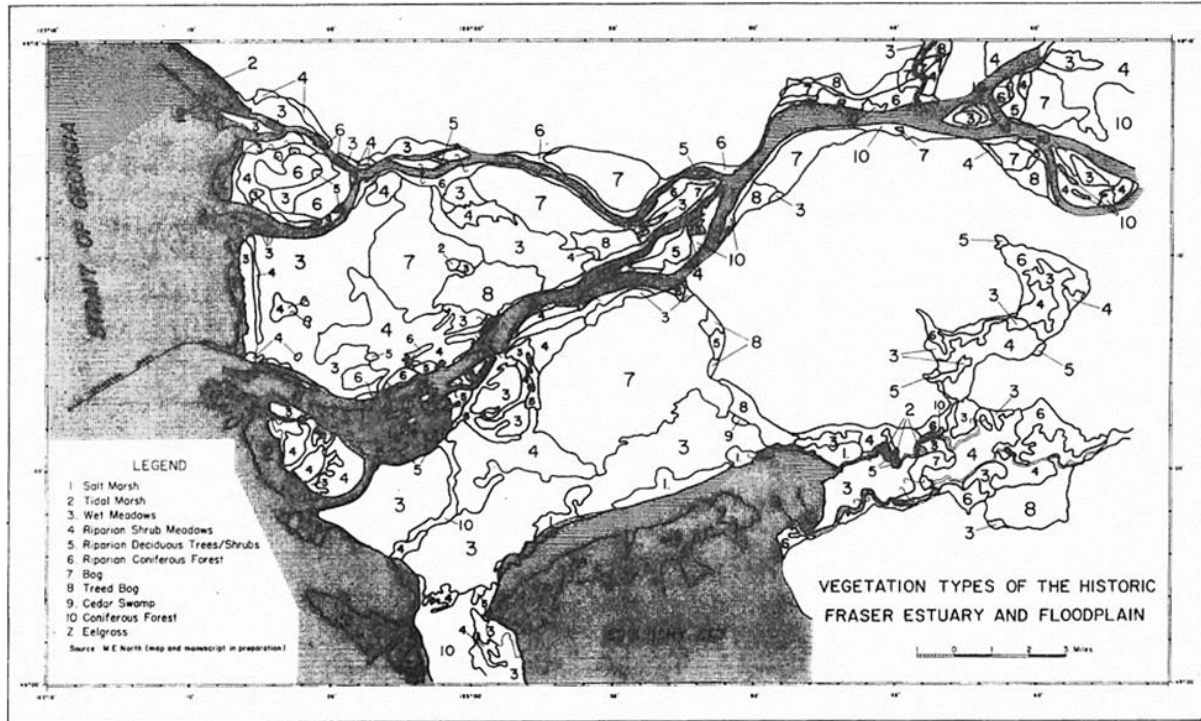
As previously discussed, around the 1850s, Tilbury Island was covered by prairie and shrubs with small patches of forest on its perimeter consisting of deciduous ĆEU,N-EŁĆ,ĆEU,N-EŁP/cottonwoods and

<sup>5</sup> Note that these time periods were identified by the authors to aid the reader in following the information presented along the timeline.

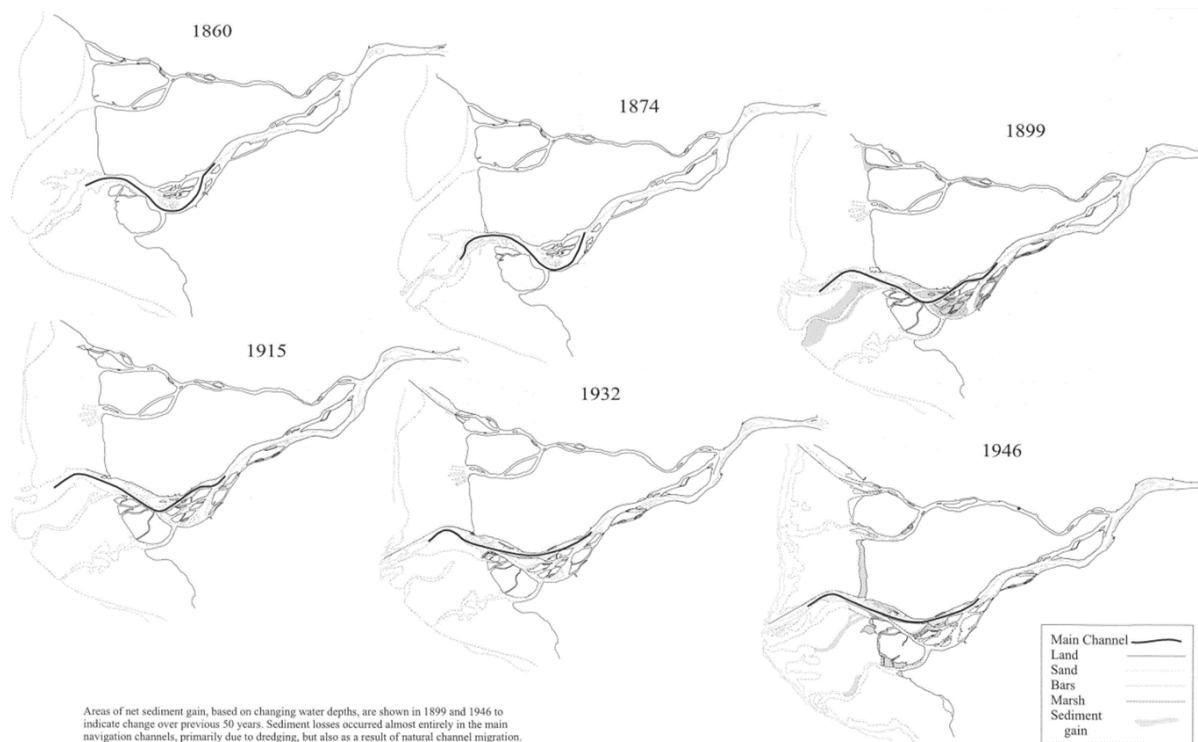


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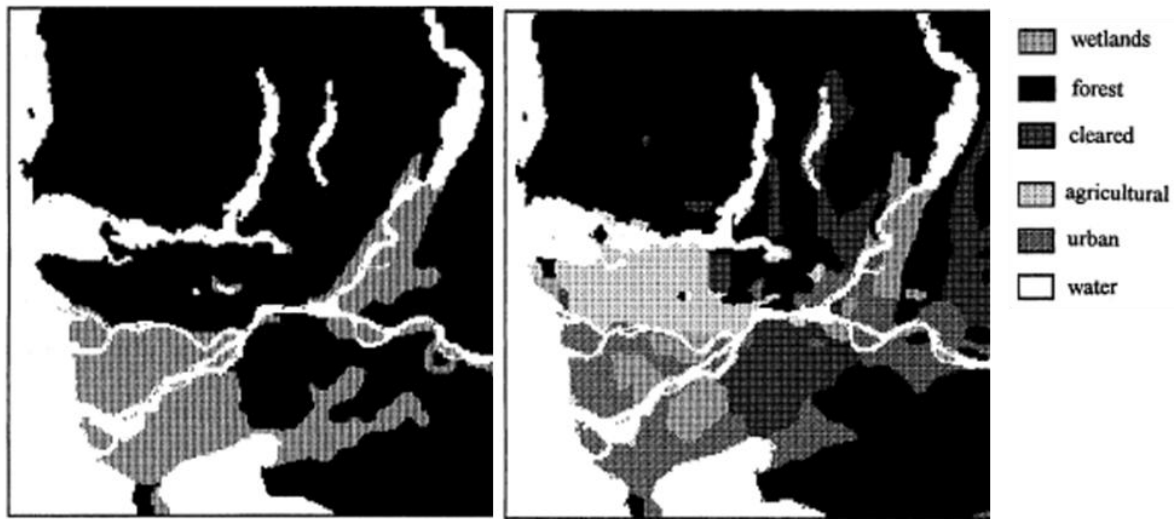
**Figure 19:** Vegetation types of historic ŠNEWIL/Fraser River estuary (notably including salt and tidal marsh as well as eelgrass) prior to European settlement, based on flooding and soil studies as well as survey reports from early settlers in 1858-1888. (DFO 1979)



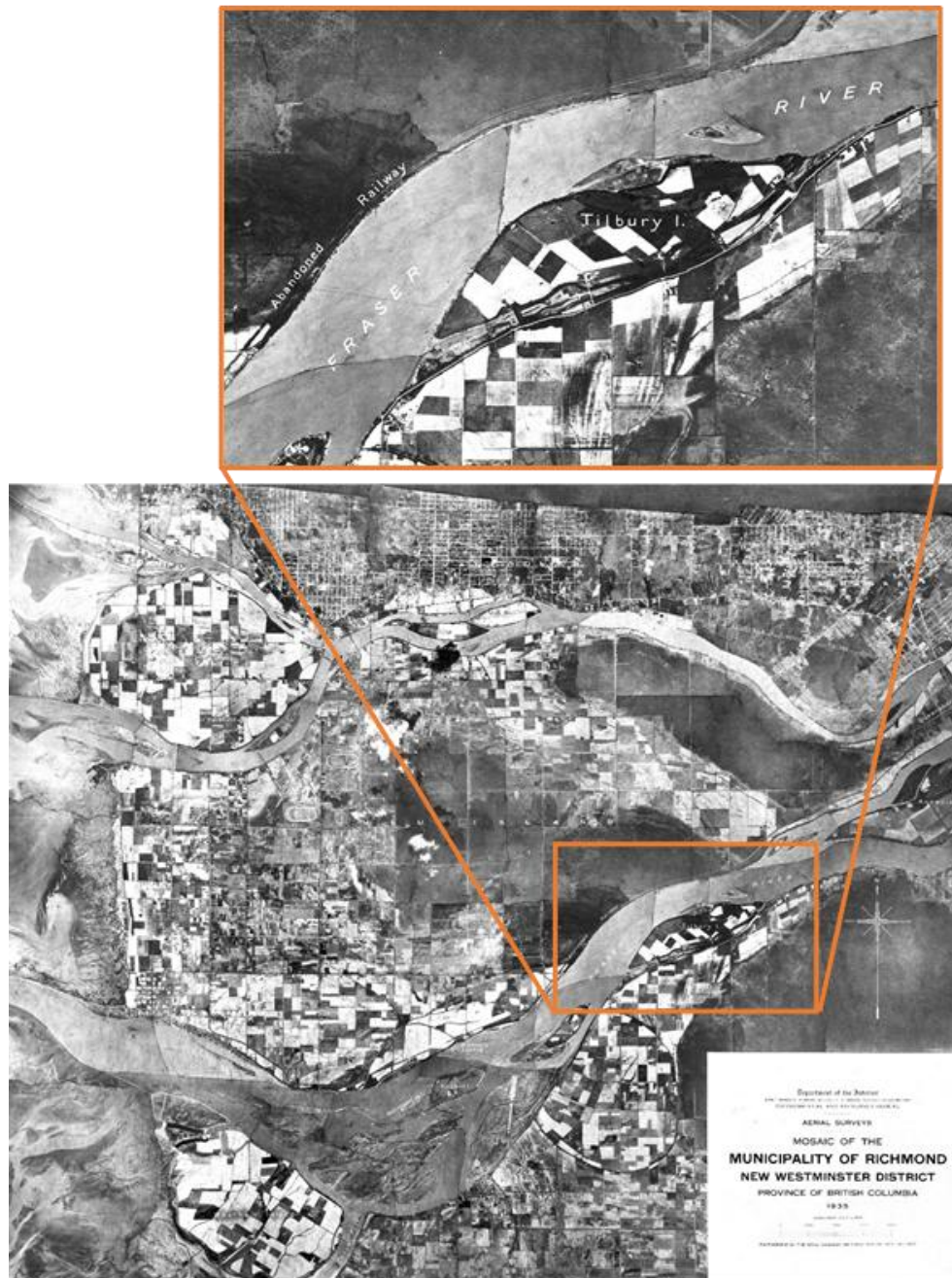
**Figure 20:** Hydrographic chart showing channel changes between 1860 and 1946 as well as marsh vegetation features (prominent dashed lines). (Hales 2000)

### 1900-1950: Land Clearing, Conversion, Extraction, and Encroachment of Invasive Species

Through the early 1900s, shifts in vegetation cover continued, including loss of wetlands and forests to farms (Butler 2019) (Figure 21 and Figure 22) and introduction of invasive species of vegetation such as sow thistle and mare's tail (Ladner 1979:18; McKelvie 1947:68). Tilbury Island continued to be used for farming practices (Figure 22). In addition, the expansion of dikes continued to shift sedimentation patterns and tidal marshes, where salt marshes in the SNEWIL/Fraser River estuary were experiencing rapid vertical aggradation between 1910 and 1954, and lateral growth between 1930 and 1954 (Hales 2000) (Figure 20).



**Figure 21:** Approximate land cover for the Lower Mainland prior to 1827 (LEFT) and in 1930 (RIGHT) showing conversion of wetland to urban use along the South Arm including on Tilbury Island. (Boyle et al. 1997)

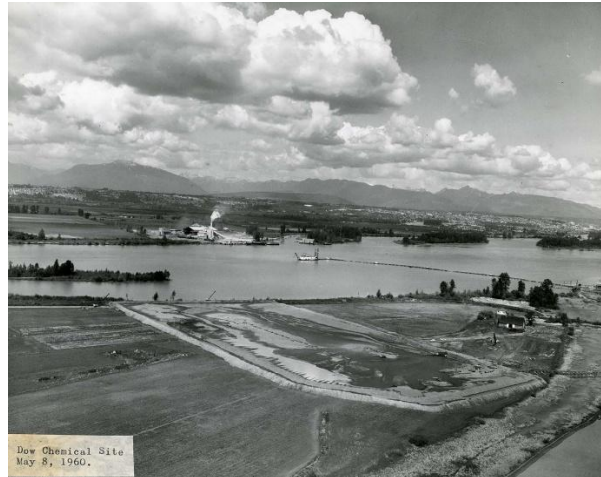


**Figure 22:** Aerial survey of Fraser Delta in 1930 showing urbanization and agricultural development, with inset showing Tilbury Island. (Department of the Interior 1935)

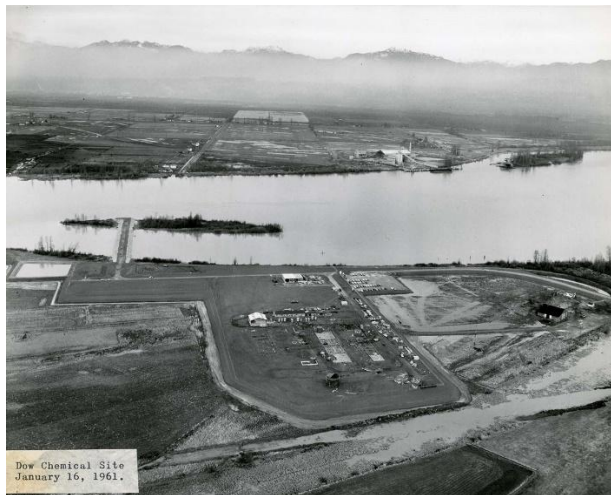
*1950-2000: Accelerating Land Conversion, Urbanization, and Industrialization*

At Tilbury Island during this period, land use was transitioning from farmland to industrial use. The Dow Chemical plant was under development in 1960 and operating in 1961 (Figure 23; Figure 24; Figure 25). A decade later, the Tilbury Island LNG facility opened in 1971.

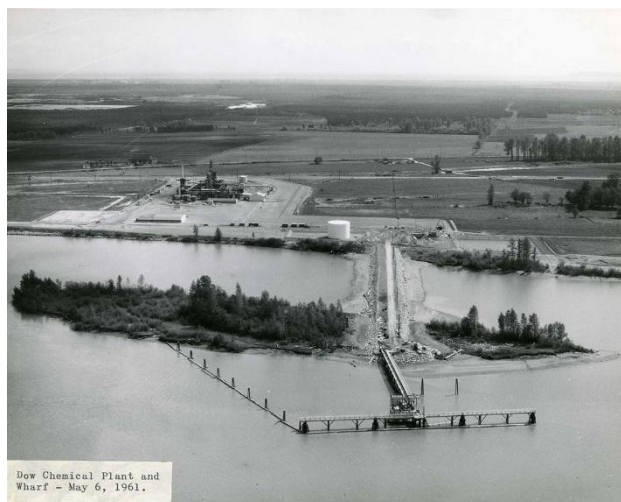




**Figure 23:** Photograph of the future site of Dow Chemical on Tilbury Island, looking towards Lafarge Cement on Lulu Island. Don, Lion, and Annacis Islands are to the right. May 1960. (City of Richmond Archives, Item # 2010 87 39)



**Figure 24:** Photograph of the future site of Dow Chemical on Tilbury Island, looking towards Lafarge Cement on Lulu Island. Lion Island is to the right. January 1961. (City of Richmond Archives, Item # 2010 87 41)



**Figure 25:** Photograph of the Dow Chemical site and Wharf on Tilbury Island, Delta. May 1961. (City of Richmond Archives, Item # 2010 87 42)

More generally across the Lower Mainland, by the late 1900s, continued urbanization and industrialization had left minimal wetland, bog, and forested areas (Department of Environment 1975:8; Hanna 1998:69; Oliver 2010:12;157). Seasonal wet meadows, which used to cover 43% of the Fraser Delta in 1880, made up <1% of land cover, with bog reduced from 26% to 1%, and trees and shrubs from 31% to 10% (Table 3). By the turn of the century, XPÁY/western red cedar was present “significantly less than before 1827” while deciduous trees had increased from 1919 (Boyle et al. 1997:190).

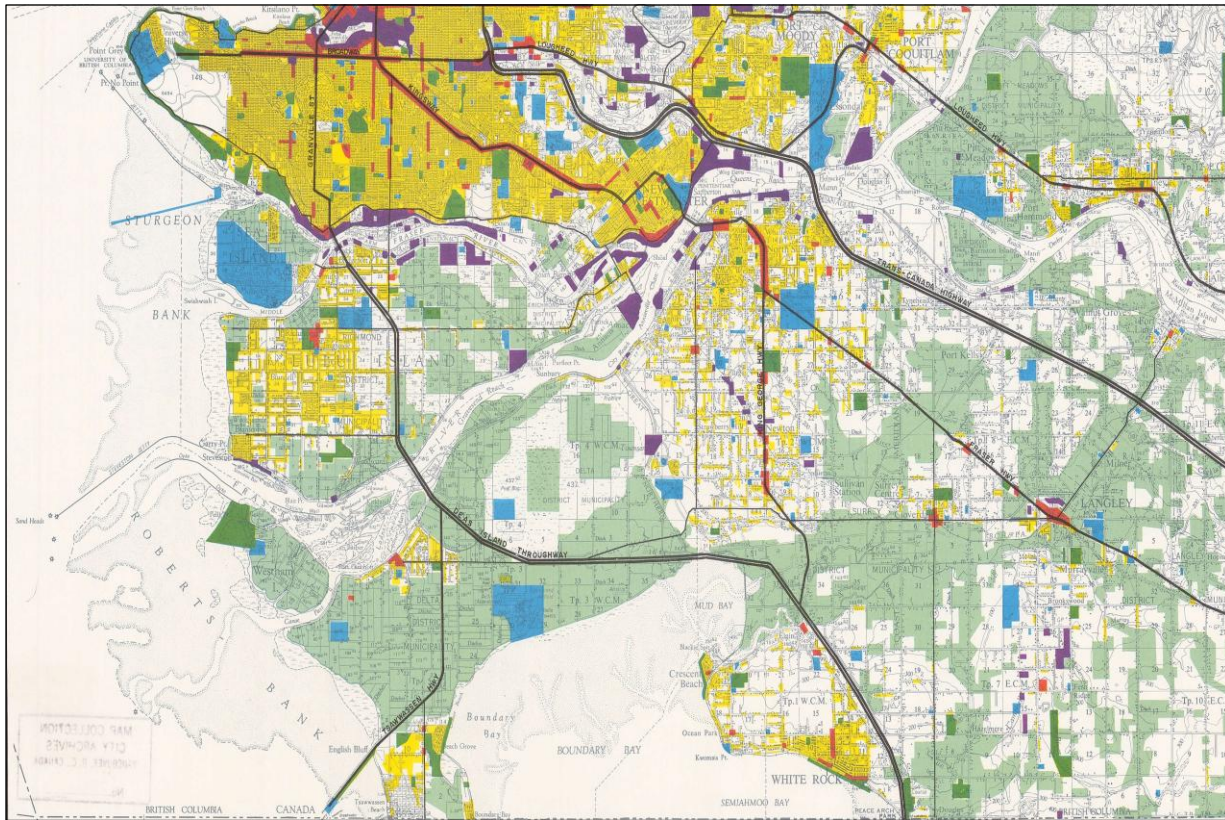
As evident on the map of Figure 26, by the late 1960s the Lower Mainland had been heavily developed and urbanized. Most of the SNEWIL/Fraser River was surrounded by industrial, agricultural, and industrial development. Figure 26 shows residential, commercial, industrial, civic and institutional, parks and recreational, and agricultural zoning in the southwestern portion of the Lower Mainland in 1968.

Marsh aggradation and lateral growth slowed after 1954, though lateral growth continued through to 1994 at the end of the study by Hales (2000). In 1979, authors of the Fraser River Estuary Study concluded that “the present Fraser wetlands are but a vestage [sic] of the original estuarine and floodplain system which supported large numbers of both resident and migratory fauna” (DFO 1979:1).

CELEM/Eelgrass lost 30% of their coverage on Roberts Bank between 1969 and 1984 (Harrison 1990), and the eelgrass habitats that remain have decreased in condition and become more fragmented across the Salish Sea (Nahirnick et al. 2020; Santo 2022). Salt marsh decreased from 2,230 hectares in the 1850s to 380 hectares by 1979 (Table 4). Visualizing these losses, eelgrass and tidal marsh were documented by Swinbanks in 1979, as shown in Figure 27. Human activities that have contributed to marsh and other intertidal vegetation loss include diking, industrialization (e.g. port development), river training structures (i.e. jetties), dredging, filling, and log booming (DFO 1979).

**Table 3:** Historical changes from 1880 to 1985 in the areal extent of habitat types in the Fraser River Delta, based on Butler and Campbell (1987). (Schaefer 2004)

| Habitat                        | Area of delta cover (%) |      |
|--------------------------------|-------------------------|------|
|                                | 1880                    | 1985 |
| Seasonal wet meadows           | 43                      | <1   |
| Bog                            | 26                      | 1    |
| Trees and shrubs               | 31                      | 10   |
| Cultivated farmland            | 0                       | 37   |
| Urban/industrial/miscellaneous | 0                       | 52   |

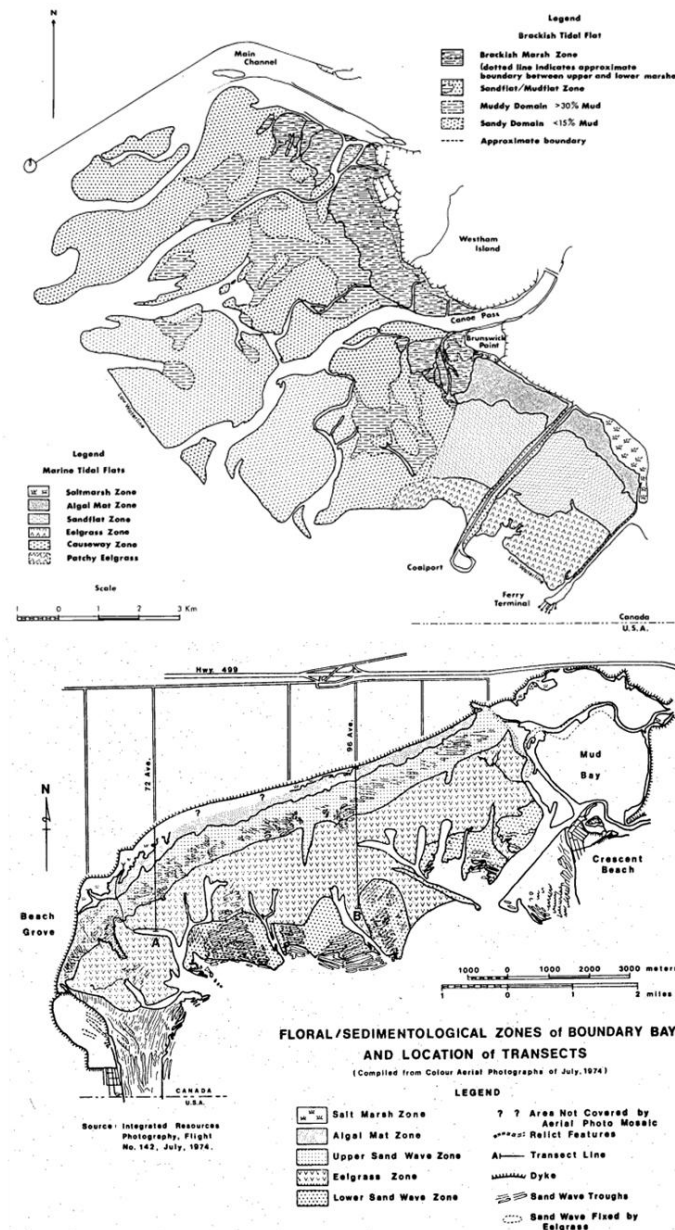


**Figure 26:** Development in the Western Portion of the Lower Mainland, 1968 (City of Vancouver Archives, Item #MAP 739). Yellow parcels are residential; red parcels are commercial; purple parcels are industrial; blue parcels are civic and institutional; dark green parcels are parks and recreation; and light green parcel are agricultural.

**Table 4:** Historic Extent (prior to European Settlement) and present extent (1979) of the marshes and wetland communities in the SNEWIL/Fraser River floodplains (from the mouth of the river to Mission, including Pitt River system). Of the area flooded annually, 31% remains in a “relatively natural state” due to diking. (DFO 1979)

| Plant Community     | Historic Extent (ha.) | Present Extent (ha.) |
|---------------------|-----------------------|----------------------|
| Salt Marsh          | 2,230                 | 380                  |
| Bulrush Marsh       | 1,760                 | 1,690                |
| Cattail/Sedge Marsh | 1,830                 | 1,493                |
| Wet Meadows         | 12,400                | 2,604                |
| Wet Meadow/Willow   | 2,350                 | 258                  |
| <b>TOTAL</b>        | <b>20,570</b>         | <b>6,425</b>         |





**Figure 27:** Vegetation and sediment cover of intertidal areas of Roberts Bank (TOP) and Boundary Bay (BOTTOM) in 1979 (Swinbanks 1979).

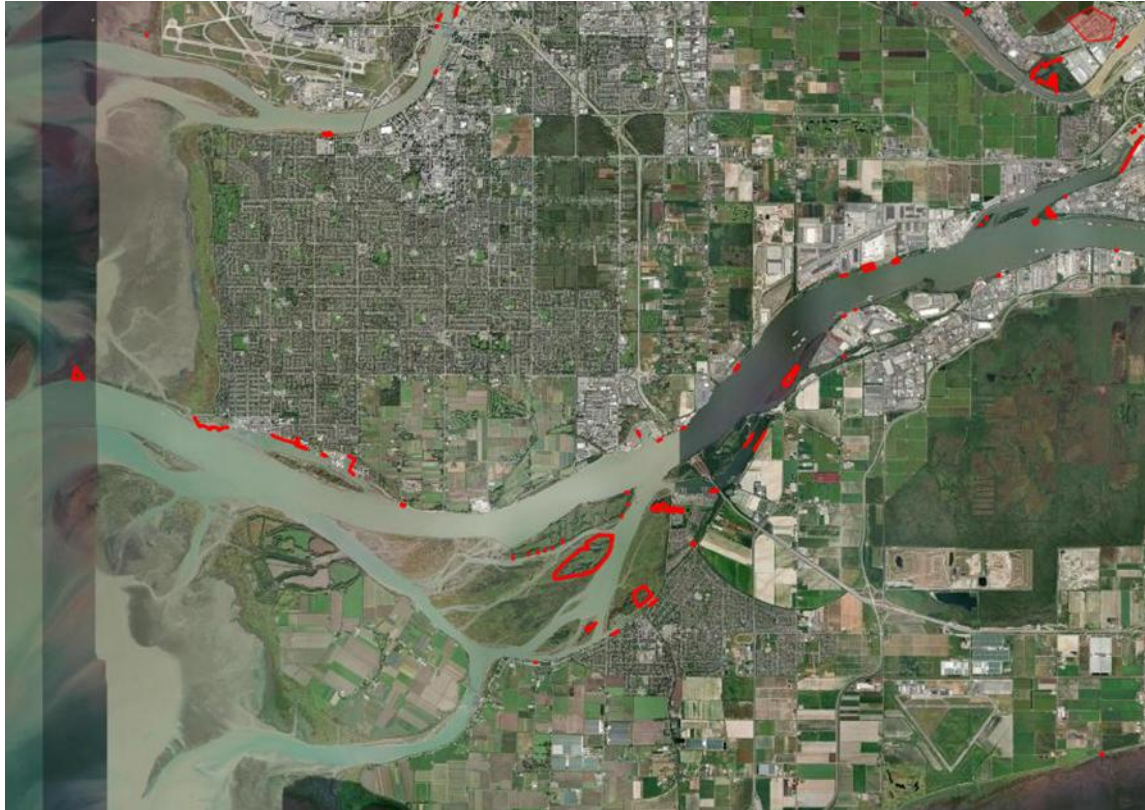
Tidal marsh habitat losses have continued since the 1980s, with 160 hectares of tidal marsh lost in Sturgeon Bank in the SNEUIL/ Fraser River delta from 1989 to 2011 (Balke 2017). Wake erosion from vessels is a major factor driving marsh recession (Stewart et al. 2024). While the North Arm has experienced higher levels of tidal marsh recession correlated to the higher levels of vessel activity (specifically, tugboats with log boom tows), this gives insight into what effects may occur in the South Arm should vessel traffic continue to increase.

Tidal marsh conservation has been a focus since the 1980s, with over 100 tidal marsh creation projects delivered throughout the SNEUIL/ Fraser River estuary to compensate for and offset habitat loss. Figure 28 shows the location of tidal marsh projects (78 of over 100 tidal marsh creation projects known assessed in



Stewart et al. 2024). A study in 1995 found that compensation activities have ensured no net loss of brackish-freshwater marsh in the ŚNEWIL/ Fraser River estuary from 1983 to 1993, but a net deficit for saltmarsh specifically (Kistritz 1995). However, recent research has showed that these compensation activities do not result in habitat equal in ecological value to what was lost; salmon were found to be less abundant at sites where compensation activities had taken place compared to unmodified sites (Noble 2024).

Alongside tidal marsh loss, tidal marsh vegetation in the ŚNEWIL/ Fraser River estuary has experienced homogenization through increased abundance of invasives over the 40-year period from 1979 to 2019 (Lane et al. 2024).



**Figure 28:** Locations of tidal marsh creation projects on the South Arm of the ŚNEWIL/ Fraser River as compensation for loss (FREMP n.d.b)

*Present Day: Significant Losses and Rarity of Historical Habitat*

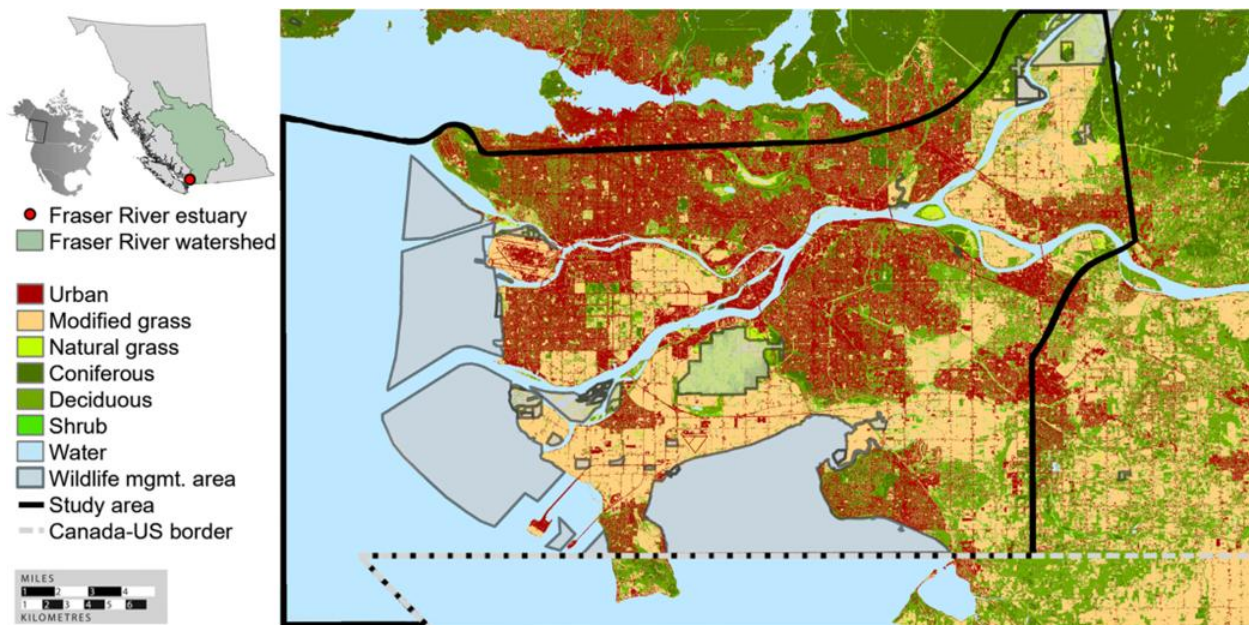
At Tilbury Island, industrial activity has continued with the “construction and operation of the Weyerhaeuser marine jetty, sawmill, and lumber yard” (Golder Associates Ltd. 2019:44).

Across the Lower Mainland in general, as summarized by Boyle et al. (1997:194), by the turn of the century,

*land cover in the Lower Fraser Basin has changed significantly since Europeans arrived in 1827. Forested areas have declined, and there have been changes in species composition and stand age as a consequence of logging, an increase in fires, agricultural development, and urbanization. Diking the extensive wetlands and fens of the Fraser lowlands and clearing land for agricultural purposes have reduced both wetlands and lowland forests. Consequently, agricultural and urban areas have increased in the basin.*

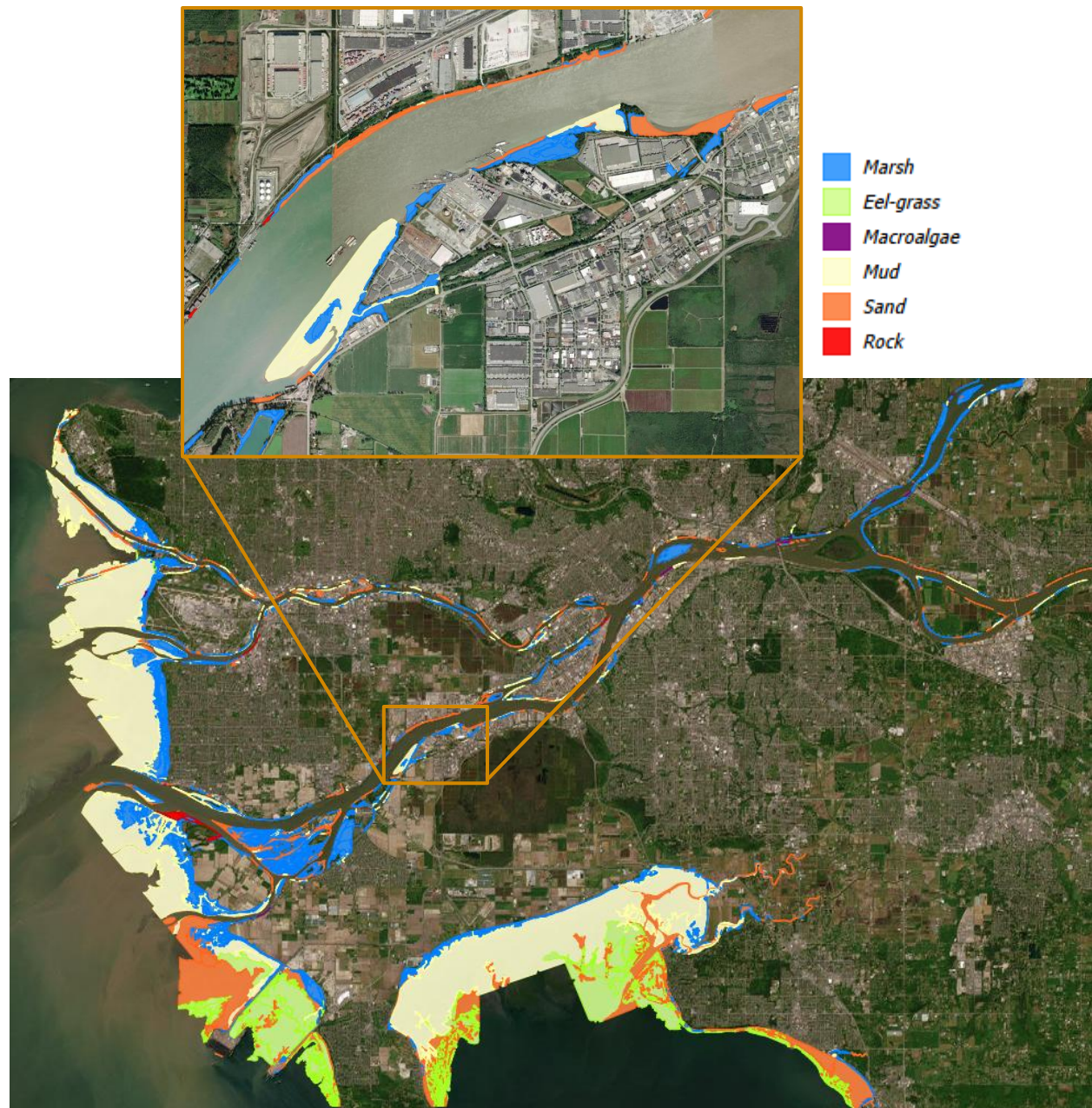
Approximately 5% of native plant species became locally extinct in the lower ŚNEWIL/Fraser within the past 100 years (Boyle et al. 1997:193). Land cover in 2014 is shown in Figure 29.

Major marine vegetation areas mapped in 2007 through shoreline habitat surveys are shown in Figure 30 (FREMP n.d.a.) (more recent mapping in 2020 by Worthington et al. 2024 from Earth observation data shows similar coverage of tidal marsh to FREMP n.d.a.). Much of the benthos in the ŚNEWIL/Fraser River estuary has become “often like an anoxic environment” due to historical effects of log booming from the accumulation of woody debris, and other human activities such as agriculture (Santo 2022:35;53). Sedimentation management actions in the ŚNEWIL/Fraser River delta have destroyed much of the marsh in the main navigation channels, but also created stable areas on the lee side of channel training structures that have enabled marsh development (Hales 2000). Historical gold mining activities in the latter half of the 19<sup>th</sup> century may have resulted in an increased sediment load deposited in the ŚNEWIL/Fraser River delta. This layer of sediment was also found to have an unnaturally high level of mercury likely linked to mining activities (Hales 2000). These historical and ongoing activities have led to the decrease in marsh and eelgrass habitat in the ŚNEWIL/Fraser River Estuary, as well as the reduction in quality of the habitat that remains.



**Figure 29:** Fraser River delta habitat and land cover in 2014 from Lidar and Multispectral Scanner imagery (Vancouver Fraser Port Authority, Metro Vancouver Land Cover Classification, 2014). Red shading represents urban areas, beige represents modified grass (predominantly agricultural lands), and natural grass, forest, and shrub cover in shades of green. (Kehoe et al. 2020)





**Figure 30:** Marsh (blue), eelgrass (green), and sandflat (orange and pale yellow) habitat in the SNEWI/ Fraser River estuary in 2007, with inset showing Tilbury Island (FREMP n.d.a).

## 2.4 Wildlife and Hunting Conditions

### *Waterfowl*

The SNEWI/ Fraser River wetlands historically supported an abundance of waterfowl prior to 1850 (Albright 1985; Butler and Campbell 1987; Butler et al. 2021; Ladner 1979; Ross 1953; Leach 1979). The SNEWI/ Fraser River delta (tidal marshes and wetlands in particular) is a key link in the Pacific Flyway, one of the largest bird and waterfowl migration routes in North America (Wilson 2003:2; Butler and Campbell 1987; La Croix et al. 2024). Migratory waterfowl were “plentiful in spring and fall” (Albright 1985:13). There

were an estimated 214 species that used the floodplains of the ŚNEWİŁ/Fraser River prior to 19th century diking (Butler et al. 2021). Many historians in the 1800s noted the abundance of birds in the ŚNEWİŁ/Fraser River delta (Butler et al. 2021:1-2; Leach 1979:29); John Work wrote in 1824 that “geese, particularly white ones, were very numerous” (as quoted by Leach 1979:29). Accounts from early settlers record game birds as “readily available” (Ladner 1979:18) and “tolerably plentiful” (Ross 1953:XI). The diversity of birds found in the ŚNEWİŁ/Fraser River delta prior to colonization is further buttressed by archaeological findings of bird bones at village sites in the lower ŚNEWİŁ/Fraser River; species present from 250-1,200 years ago include those shown in Table 5 (Trost 2005 as cited in Butler et al. 2021:6).

**Table 5:** Lines of evidence for presence of different bird species in the Lower Mainland prior to 1860.

| Common Species Name           | Archeological Evidence (Trost 2005 as cited in Butler et al. 2021:6) | Qualitative Accounts from Early Historians and Settlers |
|-------------------------------|----------------------------------------------------------------------|---------------------------------------------------------|
| Common Loons                  | Yes                                                                  |                                                         |
| grebes                        | Yes                                                                  |                                                         |
| geese                         | Yes                                                                  | Ross (1953:XI)                                          |
| mallards                      | Yes                                                                  | Ladner (1979:18); Ross (1953:XI)                        |
| teals                         | Yes                                                                  | Ladner (1979:18); Ross (1953:XI)                        |
| scaups                        | Yes                                                                  |                                                         |
| Long-tailed Ducks             | Yes                                                                  | Ladner (1979:18)                                        |
| scoters                       | Yes                                                                  | Ross (1953:XI)                                          |
| goldeneyes and/or Buffleheads | Yes                                                                  |                                                         |
| mergansers                    | Yes                                                                  |                                                         |
| Bald Eagles                   | Yes                                                                  |                                                         |
| coots                         | Yes                                                                  |                                                         |
| gulls                         | Yes                                                                  |                                                         |
| shorebirds                    | Yes                                                                  |                                                         |
| crows                         | Yes                                                                  |                                                         |
| blackbirds and songbirds      | Yes                                                                  |                                                         |
| grouse                        |                                                                      | Ladner (1979:18); Ross (1953:XI); Diaz (2019:48)        |
| widgeons                      |                                                                      | Ladner (1979:18); Ross (1953:XI)                        |
| pintails                      |                                                                      | Ladner (1979:18); Ross (1953:XI)                        |
| wood ducks                    |                                                                      | Ladner (1979:18); Ross (1953:XI)                        |
| shovelers                     |                                                                      | Ladner (1979:18); Ross (1953:XI)                        |
| gadwalls                      |                                                                      | Ladner (1979:18); Ross (1953:XI)                        |

Waterfowl, which were documented in the billions in 1820 in the Lower Mainland, declined to around 500,000 annually in the last four decades of the 20th century (Table 7) (Butler and Campbell 1987:6; Boyle et al. 1997). Butler et al. (2021) note that while conditions for hunters might not be directly comparable, “the average hunter in the 1950s was getting less than one sixth [...] of the number shot by the hunters in

1929" indicating that "waterfowl were more numerous in the early 20th century than by the mid-century" (7). As noted by Leach (1979:29), "most of the species of geese and swans formerly common or abundant in the lower Fraser Valley became transient or rarities between 1859 and 1947" and "have declined to a small remnant of their former numbers". In addition to declines in population abundances, species richness has decreased from 214 bird species across the floodplain prior to diking at the end of the 19th century to 187 species in agricultural areas, 127 in residential, and 75 in industrial in 2021 (Table 7; Butler et al. 2021). Though waterfowl and other bird species were in decline to 1995, many species of previous concern in 1987 have "fared well in the ensuing years" (Butler et al. 2021).

**Table 6:** Estimated populations of wildlife in the Lower Mainland in 1820 and 1995. (Boyle et al. 1997)

| Wildlife          | Estimated population |           |
|-------------------|----------------------|-----------|
|                   | 1820                 | 1995      |
| Roosevelt elk     | 1000                 | 0         |
| Black-tailed deer | 1000                 | 6000-7000 |
| Black bear        | 2000                 | 500-600   |
| Grizzly bear      | 200-300              | 0         |
| Rodents/rabbits   | thousands            | thousands |
| Waterfowl         | billions             | 506,600*  |

**Table 7:** Number of species that used the original floodplain prior to the 19th century diking contrasted with species numbers found in 2021 in farmland, residential, and industrial lands of the SNEWIL/Fraser River delta (Butler et al. 2021)

| Species groups               | Original floodplain | Farmlands  | Residential | Industrial |
|------------------------------|---------------------|------------|-------------|------------|
| Waterfowl                    | 27                  | 22         | 6           | 2          |
| Wading birds                 | 4                   | 2          | 0           | 0          |
| Raptors                      | 14                  | 13         | 9           | 4          |
| Shorebirds                   | 30                  | 30         | 1           | 1          |
| Gulls                        | 10                  | 9          | 7           | 2          |
| Owls                         | 9                   | 8          | 6           | 4          |
| Swift/Hummingbird/Woodpecker | 10                  | 9          | 10          | 5          |
| Songbirds                    | 99                  | 89         | 84          | 56         |
| <b>Total</b>                 | <b>214</b>          | <b>189</b> | <b>127</b>  | <b>75</b>  |

Several bird species have also historically been introduced to the Lower Mainland and may be present in the Indigenous Interests LAA, competing with native species (Taylor 1950:12-13), including:

- Pheasants introduced in 1869 (Ball 1981:36-37);
- Quail introduced in the early 1960s (Ball 1981:36-37); and
- Canada Geese systematically introduced to the SNEWIL/Fraser River estuary in the late 1960s and 1970s from Southern Ontario and Alberta, forming a hybrid population (Janus et al. 2022:8). Note that Canada Geese native to the SNEWIL/Fraser River estuary used the areas as migratory habitat but not as breeding habitat until the mid-1900s (Janus et al. 2022:7). In 2022, the hybrid population of introduced Canada Geese living year-round in the SNEWIL/Fraser valley was estimated at 20,000 (Janus et al. 2022:8). The introduction of Canada Geese has created conservation and management issues due to unintended and detrimental effects such as destruction of vegetation (Janus et al. 2022:14-15).



### *Land-based Mammals*

In addition to waterfowl, the Lower Mainland had an abundance of terrestrial animals prior to 1850 including STKÁYE/wolves, SPÁĚT/bears, KÍYĚĆ/elk, SMÍET/deer, ČEĆIKEN/mink, SXÍEQES/raccoon, PEPEĚIN/skunk, SKELÁU/beavers, XOĚEN/martens, and SKELKEL/muskrat (Oliver 2010; Stiefel 1985; Ross 1953; Keen 2002; Ball 1981; McKelvie 1947; Albright 1985; Ham 1982). John Work, who was on McMillan's expedition in 1824, documented consistent marks of beavers such as chewed tree stumps and beaver lodges and dams that along their route from the Nicomekl River through the Salmon River and down the ŠNEWIL/ Fraser River (Oliver 2010:99). Keen (2002) notes that in the 1860s "beaver, muskrat and mink were plentiful, as were deer. There were even reports of bears being seen on the islands which now comprise Richmond" (2). This is echoed by Ross (1953) who documents that in the 1860s "when settlement began in the 1860s there were wolves and bears roaming the islands. Nearby it is believed there were wapiti [elk], deer, mink, beavers and seals" (XI). A similar perspective is documented by McKelvie (1947) that "the woods were alive with game in those days. Bands of elk stalked majestically across forest openings, fleet deer grazed in the many natural meadows" (3). Across the Lower Mainland, Roosevelt elk and black-tailed deer were estimated at a population of 1,000 each in 1820, with black bear estimated at 2,000 and QEIQYEĆEN/grizzly at 200-300 (Boyle et al. 1997). Archaeological evidence from village sites across the Lower Mainland confirms the presence and use of many of these terrestrial mammals including SPÁĚT/bears, SMÍET/deer, SKELÁU/beavers, hare, and lynx (Diaz 2019:48).<sup>6</sup>

Terrestrial mammal populations followed even steeper trajectories in population declines, beginning with the fur trade and continuing with the rapid urbanization and land conversion (see land cover change in Plant Gathering section above) (Oliver 2010; Ball 1981; Boyle et al. 1997; Butler and Campbell 1987; Szychter 1992; Hoos and Packman 1974; Province of British Columbia 1971).<sup>7</sup>

#### *Pre-1900: The Fur Trade Decimates Beaver*

In the 1800s, the fur trade along the ŠNEWIL/ Fraser River resulted in "a substantial reduction in fur bearer populations, particularly that of beaver" (Ball 1981:48) such that "in 1896, the government moved to protect beaver, marten, and land otter [...] it appears that beaver continued to be depleted" (Ball 1981:49). The loss of Roosevelt elk was even faster, and were extirpated quickly following initial colonization of the Lower Mainland in 1850 (Hoos and Packman 1974; Butler and Campbell 1987:19; Boyle et al. 1997:193). Other terrestrial mammals such as SMÍET/deer and rodents were still abundant; early settlers supplemented their diet of home-grown vegetables with "wild game, which was still plentiful in the nineteenth century" (Szychter 1992:74).

#### *1900-1970: Urbanization Continues Trends of Declining Mammal Populations*

Snowshoe hare, TEKNEĆ/cougar, STKÁYE/wolf, and QEIQYEĆEN/grizzly bears were extirpated during this era (Table 6; Boyle et al. 1997:193). Boyle et al. (1997) notes that QEIQYEĆEN/grizzly bears specifically (though likely others as well) were "extirpated from the basin due to ecosystem changes" (193).

<sup>6</sup> Archaeological evidence is provided for the presence of bears, deer, beavers, hare, and lynx in the Lower Mainland prior to 1860 by Diaz (2019:48). Qualitative accounts are also available for different species of terrestrial mammal in the Lower Mainland, including wolves, deer, and mink (Ross 1953: XI); bears and elk (Ross 1953: XI; McKelvie 1947:3); and beavers (Oliver 2010:99, citing John Work in 1824; Ross 1953:XI).

<sup>7</sup> Note that following time periods were identified by the authors to aid the reader in following the information presented along the timeline.

### 1970-Present: Remaining Wildlife Restricted to Remaining Forests

In 1995, black-tailed deer were present in the thousands, a 6-7 fold increase from their estimated population in 1820 in the Fraser Delta (Table 6) (Butler and Campbell 1987:19) but can only “be found scattered throughout the more heavily wooded portions of the delta, especially in and around Burns Bog, as are limited numbers of black bear” (Hoos and Packman 1974). Black bear population estimates in 1995 were between 500 and 600, decreasing from 2,000 in 1820. In 1985, trees and shrubs covered 10% of the delta, down from 31% in 1880 (Table 8). (Remaining forest cover is mapped in Figure 29 and 31.)

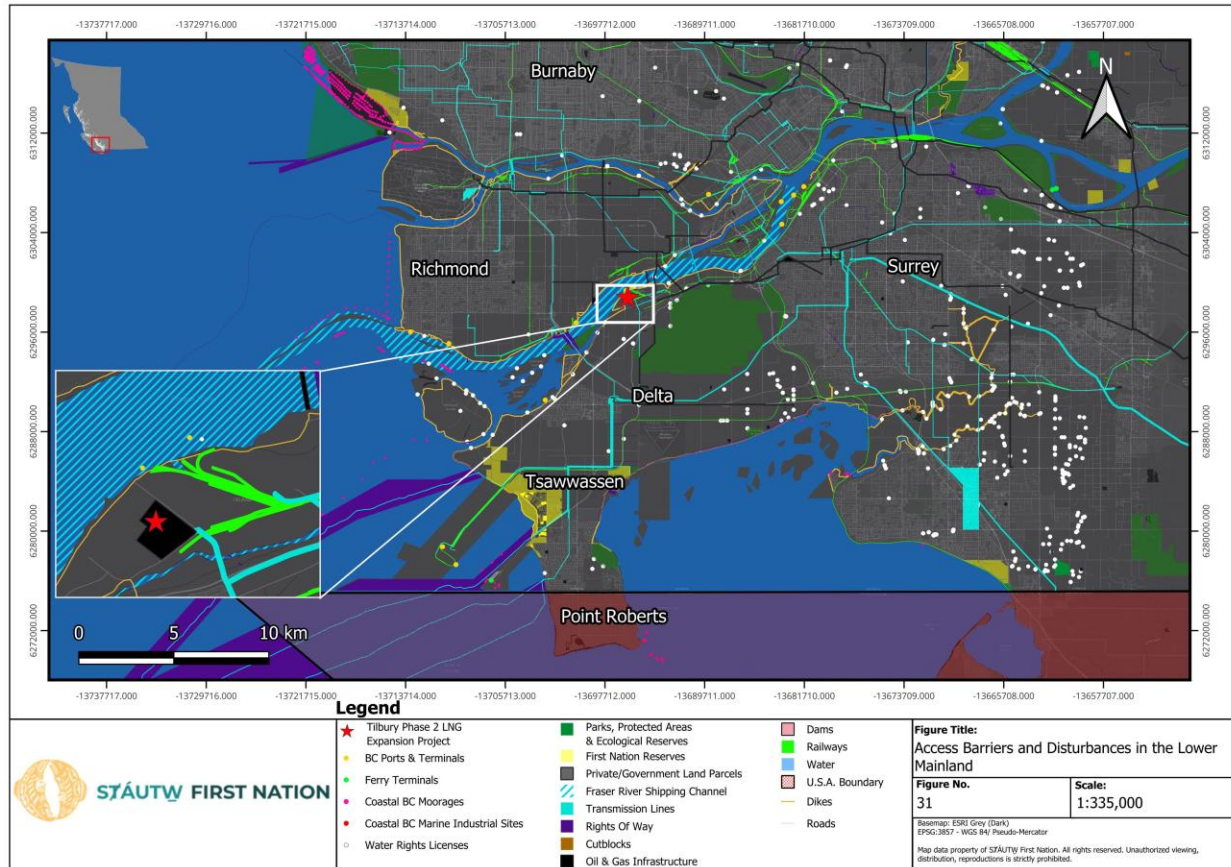
In a 1971 report, the Province of British Columbia noted that “unless our efforts increase in proportion to the increased pressures on both fish and wildlife and their habitat, it is unlikely that they will survive to provide for future generations the pleasure it has afforded many of us in the past” (18).

**Table 8:** Mammal and bird species that were threatened or extirpated in the Fraser Delta by 1987. (Butler and Campbell 1987)

| Species                                                          | Status*                      | Reference                    |
|------------------------------------------------------------------|------------------------------|------------------------------|
| Snowshoe hare ( <i>Lepus americanus washingtoni</i> )            | Extirpated 1950              | Cowan and Guiguet 1965       |
| Roosevelt elk ( <i>Cervus elaphus roosevelti</i> )               | Extirpated 1850              | Cowan and Guiguet 1965       |
| Cougar ( <i>Felix concolor</i> )                                 | Extirpated 1900              | Anderson 1884                |
| Wolf ( <i>Canis lupus fuscus</i> )                               | Extirpated                   | Cowan and Guiguet 1965       |
| Yellow-billed Cuckoo ( <i>Coccyzus americanus</i> )              | Extirpated 1950              | Munro and Cowan 1947         |
| Purple Martin ( <i>Progne subis</i> )                            | Extirpated 1966              | Weber 1980                   |
| Western Bluebird ( <i>Sialia mexicana</i> )                      | Extirpated 1971              | Weber 1980                   |
| Horned Lark ( <i>Eremophila alpestris</i> )                      | Extirpated 1981              | R.W. Campbell, unpubl. data  |
| Burrowing Owl ( <i>Athene cunicularia</i> )                      | Extirpated 1976              | BCWRS                        |
| Black bear ( <i>Ursus americanus</i> )                           | Threatened<br>12 individuals | Kucy 1971                    |
| Sandhill Crane ( <i>Grus canadensis tabida</i> )                 | Threatened<br>4 individuals  | Weber 1980                   |
| Common Barn-Owl ( <i>Tyto alba</i> )                             | Threatened<br>26 individuals | Campbell <i>et al.</i> 1972a |
| Yellow-headed Blackbird ( <i>Xanthocephalus xanthocephalus</i> ) | Threatened<br>40 individuals | Weber 1980                   |

\* Extirpated = no longer occurs (mammals) or nests (birds) in the Fraser River delta; threatened = numbers declining and will be extirpated if present conditions prevail, or occurs in such low numbers that its future existence is precarious.





**Figure 31:** Access barriers and disturbances in the Lower Mainland shown as different kinds of development alongside parks and remaining publicly accessible forest lands.

### Marine Mammals

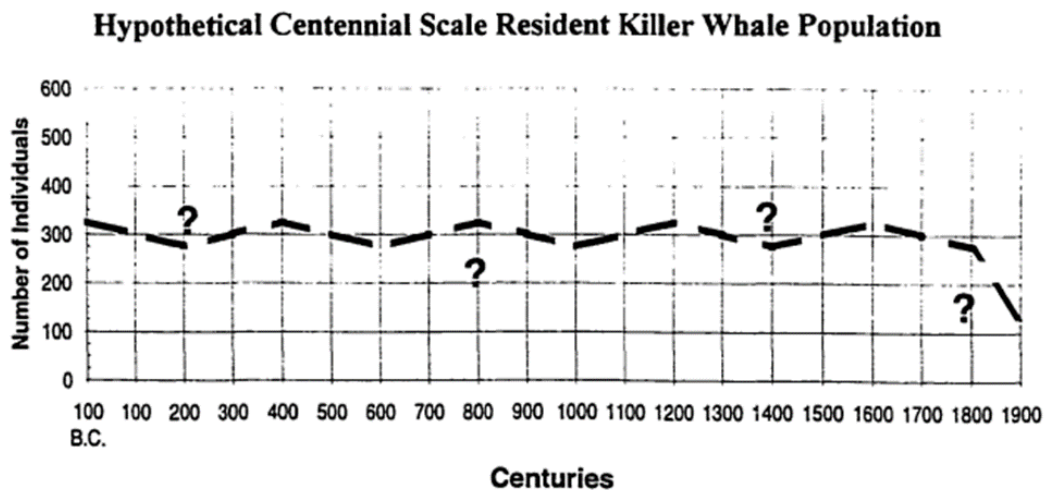
Alongside waterfowl and land mammals, marine mammals play an important ecological and cultural role in the ŚNEWIL/ Fraser River estuary and into the Salish Sea.

KELLOLEMEĆEN/killer whale populations, specifically for Southern Resident Killer Whales (SRKWs), have declined over the past 200 years from a population of around 200 to 75 individuals in 2025 (Orca Network 2025).

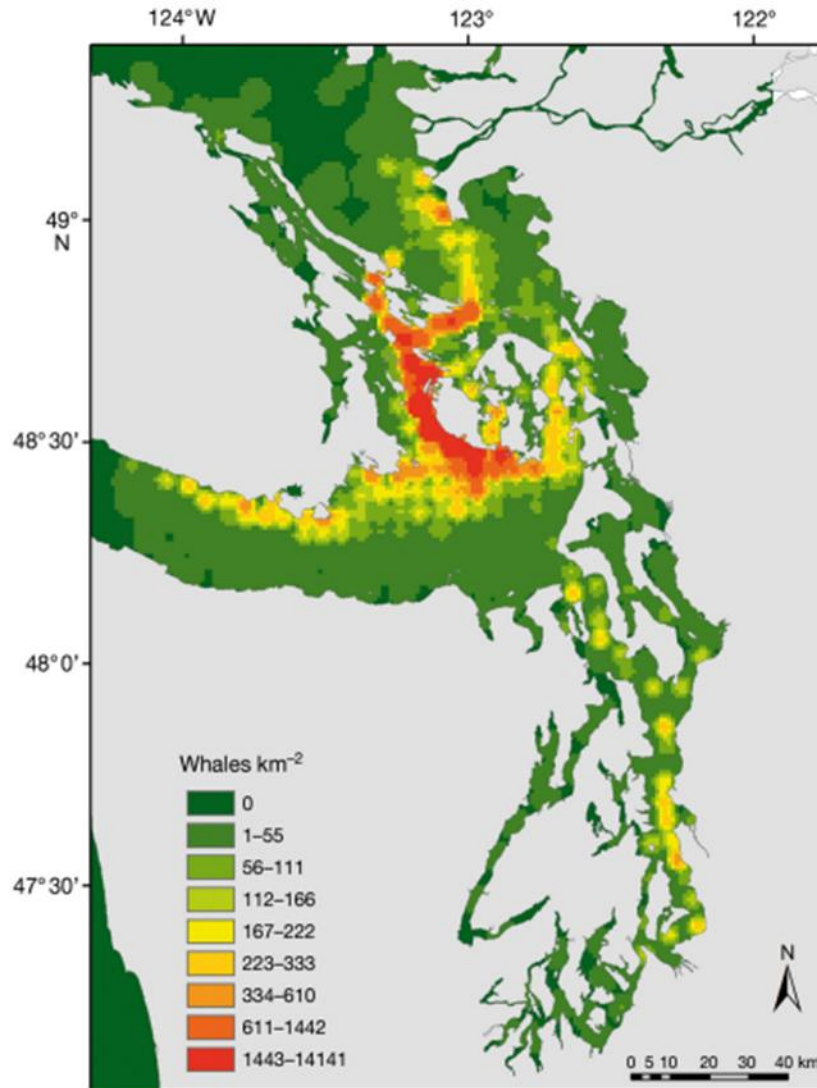
There are few western science records of KELLOLEMEĆEN/killer whales around the ŚNEWIL/ Fraser River estuary and Salish Sea before the 1960s. Prior to the 1900s, based on carrying capacity estimates alone, SRKWs were thought to consist of approximately 200 individuals (Seidler 2020; Osborne 1999). Between 1900 and 1940, an estimated 50 SRKWs died due to the turn of the whaling industry focus to include KELLOLEMEĆEN/killer whales, as well as competition over salmon as food sources with humans (Seidler 2020; Werner 2021; Wilk 2019). By the mid-1900s, the SRKW population was likely under 150 individuals (Wilk 2019:28). Into the 1960s and 1970s, SRKW and other KELLOLEMEĆEN/killer whale populations were reduced by live captures for the entertainment industry (Seidler 2020:56-57; Werner 2021; Wilk 2019). Sixty-seven KELLOLEMEĆEN/killer whales (including 47 SRKWs) were taken into captivity in the late 1960s and early 1970s (Seidler 2020:63; Wilk 2019:28). The first population assessment for SRKWs in 1976 documented 71 individuals, which noted that there was clear decline in the species prior to this date (Seidler 2020:67; Osborne 1999) (Figure 32). Into the 1980s, KELLOLEMEĆEN/killer whales (likely referring to SRKWs) continued to be seen around the ŚNEWIL/ Fraser River estuary: “70 killer whales comprising

four family groups frequently visit the estuary for feeding...they do not ascend the river as do seals although they occasionally do use the shallow areas of the estuary" (DFO 1979:8).

At their population level of the past few decades (i.e. 1970s to 2000s), SRKWs are considered "a remnant population due to killing and capture by European settlers at the turn of the century [1899 to 1900] to the 1970s" (Osborne 1999: ii). A long-term dataset from 1976 to 2014 shows the area off Roberts Bank at the mouth of the ŠNEWIL/Fraser River as frequently used habitat (Olson et al. 2018) (Figure 33), and a more recent dataset from 2008 to 2020 shows that the locations with the highest frequency of occurrence (i.e. how often whales are present) include the ŠNEWIL/Fraser River estuary (as well as Haro Strait and Swiftsure Bank) (Thorton et al. 2022), indicating that the ŠNEWIL/Fraser River habitat is of value to the remaining population.



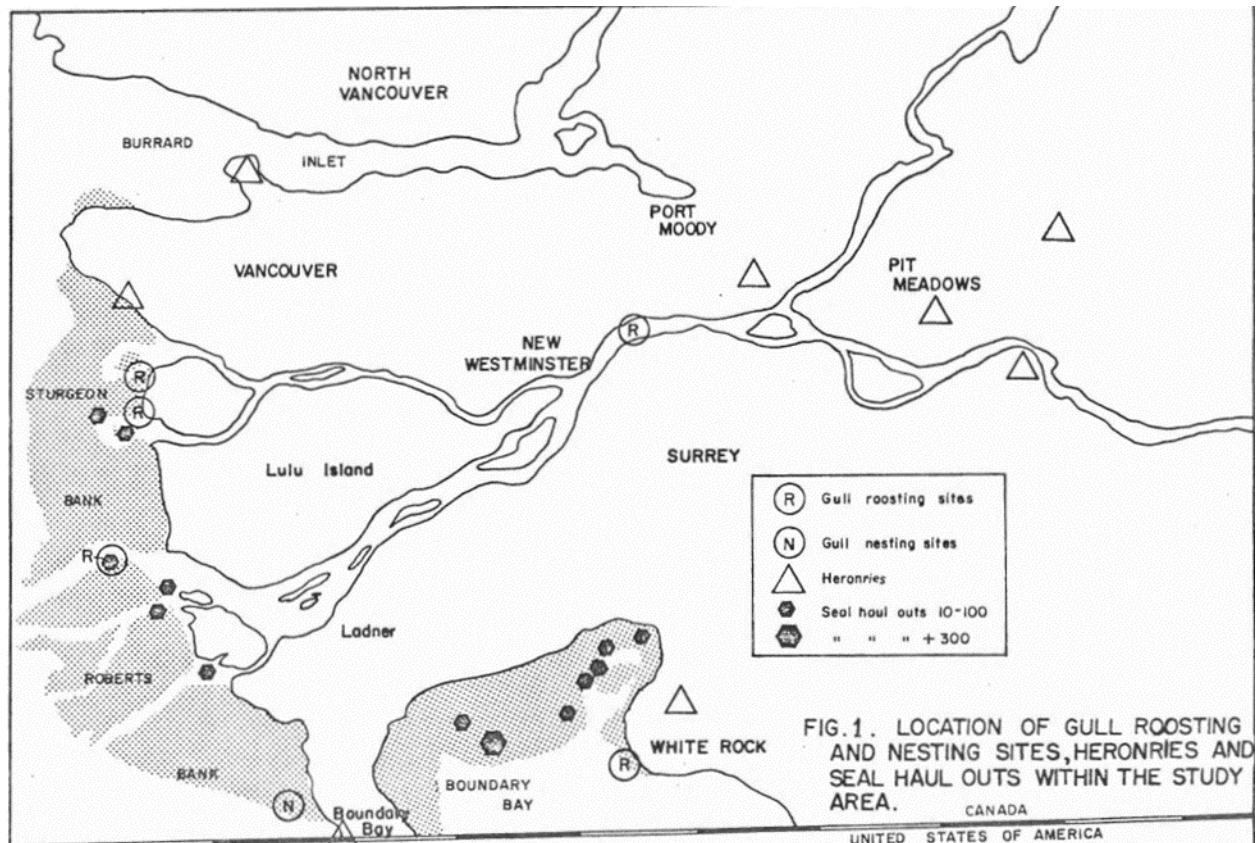
**Figure 32:** SRKW population by century from 100 B.C. to 1900, estimated based on the theoretical carrying capacity before the 1900s. (Osborne 1999)



**Figure 33:** Southern resident killer whale density (number of whales per km<sup>2</sup>) based on effort-corrected data from 1976-2014. (Olson et al. 2018)

,ASW/harbour seal frequent the ŠNEWIL/Fraser River, following their key prey salmon. This species has not faced the same population declines as other species (e.g. salmon, sturgeon, eulachon, herring, SRKWs) in the ŠNEWIL/Fraser River Estuary ecosystem. In 1979, "at least 700 harbour seals occur all year in the estuary...this is the largest concentration of the species in B.C." (DFO 1979:5-6). The ŠNEWIL/Fraser River estuary and surrounding marine areas contain haul out habitat (Figure 34).





**Figure 34:** Seal haul out sites (black hexagons) around the Fraser River Estuary in 1979. (DFO 1979)

## 2.5 Habitation and Access Conditions

A brief history of impacts to the WSÁNEĆ rights of habitation and access is provided in the WSÁNEĆ Traditional Use Study for the Roberts Bank Terminal 2 Project (Evans et al. 2019:13):

*Prior to about 1850, WSÁNEĆ settlements were distributed throughout their traditional territory [...] By the middle of the 19th century, however, and due to a variety of factors -- including population declines brought on by diseases associated with European contact, as well as raids by other northern First Nations, and eventually land pre-emptions by white settlers -- most of the families from the island villages relocated to Saanichton Bay, the largest of the settlement sites on the Saanich Peninsula (Bouchard and Kennedy 1991:18; Claxton and Sam 2010:20; Davis and Simonsen 1995:2; Suttles 1974:76-82). They did not abandon their former home sites though, and continued to return to use and occupy them seasonally during their seasonal rounds (Vanden Berg 1997:1; Suttles 1974:76-82).*

The establishment of "Indian Reserves" through the *Indian Act* is described by Claxton (2015:207) as "undoubtedly one of the most devastating limitations on the ability of STÁUTW people to move freely", but only one of many impacts to STÁUTW freedom of movement.

Many transportation routes once utilized by STÁUTW simply no longer exist. Many waterways in the Lower Mainland are either completely lost or so altered (via diversion, ditching, draining, or other means) that they are no longer suitable for travel. At the same time, the rapid growth of major transportation infrastructure, including roads, highways, bridges, and tunnels has facilitated widespread development and the influx of non-Indigenous settlers from early settlement to the present.

Multiple lines of evidence speak to the rapid increases in vessel traffic over time since 1850.

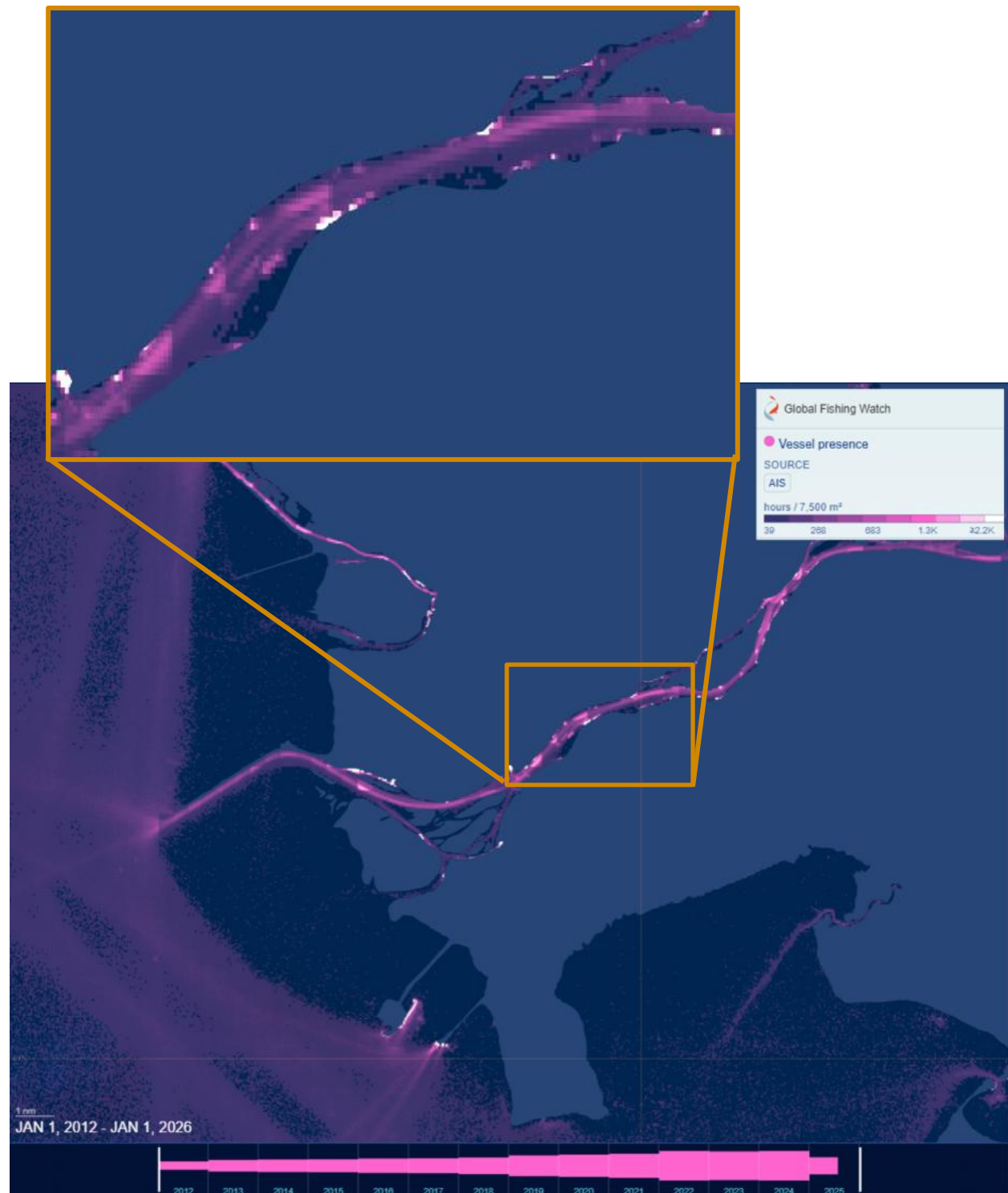
Before contact, First Nations on the South Coast travelled extensively between islands and the mainland, sometimes journeying hundreds of miles and maintaining an ocean trade network that stretched from the Puget Sound to the Aleutian Islands (Mikinaak 2025). Large ocean-going canoes also allowed Nations on the exposed outer coast to remain connected through travel and trade (McMillan and McKechnie 2015).

Post-contact, vessel traffic steadily grew along with new arrivals to the area, and as the Industrial Revolution took off, so too did industrial shipping on the coast with the rise of the steamship. By the mid-19th century, the SṪNEWIL/Fraser River gold rush had brought a slew of steamships to BC (Schuthe 1950). Steamships also provided supplies that aided the construction of the Canadian Pacific Railway; in turn, in 1891, as the railway spread west, Canadian Pacific launched its Pacific fleet of steamships. As the BC population grew in the early 20th century, so too did the province's shipping industry (Sager 1993). By 1928, there were roughly 250 Canadian large merchant vessels (over 200 tons) on the entire BC coast. This number had grown to 283 by 1938, and 368 by 1948 (Schuthe 1950). More recently, roughly 6,000 unique vessels visited Canada's Pacific Region between 2014 and 2016, most undertaking multiple transits in the region and transiting through the busy Fraser Delta region (ClearSeas 2020).

Recreational vessel activity in the 1800s and 1900s is not as well documented as industrial shipping. Canoes, sailboats, and other small recreational vessels would have been present in the SṪNEWIL/Fraser River in the late 1800s and early 1900s, but the number of vessels at any specific time during this period is unknown. Wenstob (2015) documents that into the 1880s, 1890s, and 1900s, "'touring' by dugout canoe was a growing recreational past-time in British Columbia" (220). In 1887, there were 250 boats noted to be fishing in Canoe Pass on the SṪNEWIL/Fraser River (Swenerton 1993:15). In the latter half of the 1900s, recreational (sport) fishing vessels were documented through creel surveys. In 1960, there were about 200,000 boat trips by recreational vessels in the Strait of Georgia (English et al. 2002:1). This peaked at 769,000 boat trips in 1980 to a low of 162,000 boat trips in 1998 (English et al. 2002:1). From 1973 to 1976, the population of resident pleasure craft vessels (one kind of recreational vessel) in the Strait of Georgia increased from 34,000 to 93,000 boats (Cooke 1977: iii). While only an unknown portion of these vessels would have contributed to recreational vessel activity within the SṪNEWIL/Fraser River, the near tripling of recreational vessel ownership in the region speaks to an increase in recreational vessel traffic generally. In addition to the presence of recreational vessels being a barrier to access for SṪÁUTW people, recreational vessel activity may also act as stressors to marine life. For example, wildlife viewing vessels pose a higher risk to harbour seals than other vessel types due to their unpredictable speeds and courses of travel (Olson et al 2021). Some recreational vessel use is not regulated other than proof of competency (e.g., Pleasure Craft Operator Card).

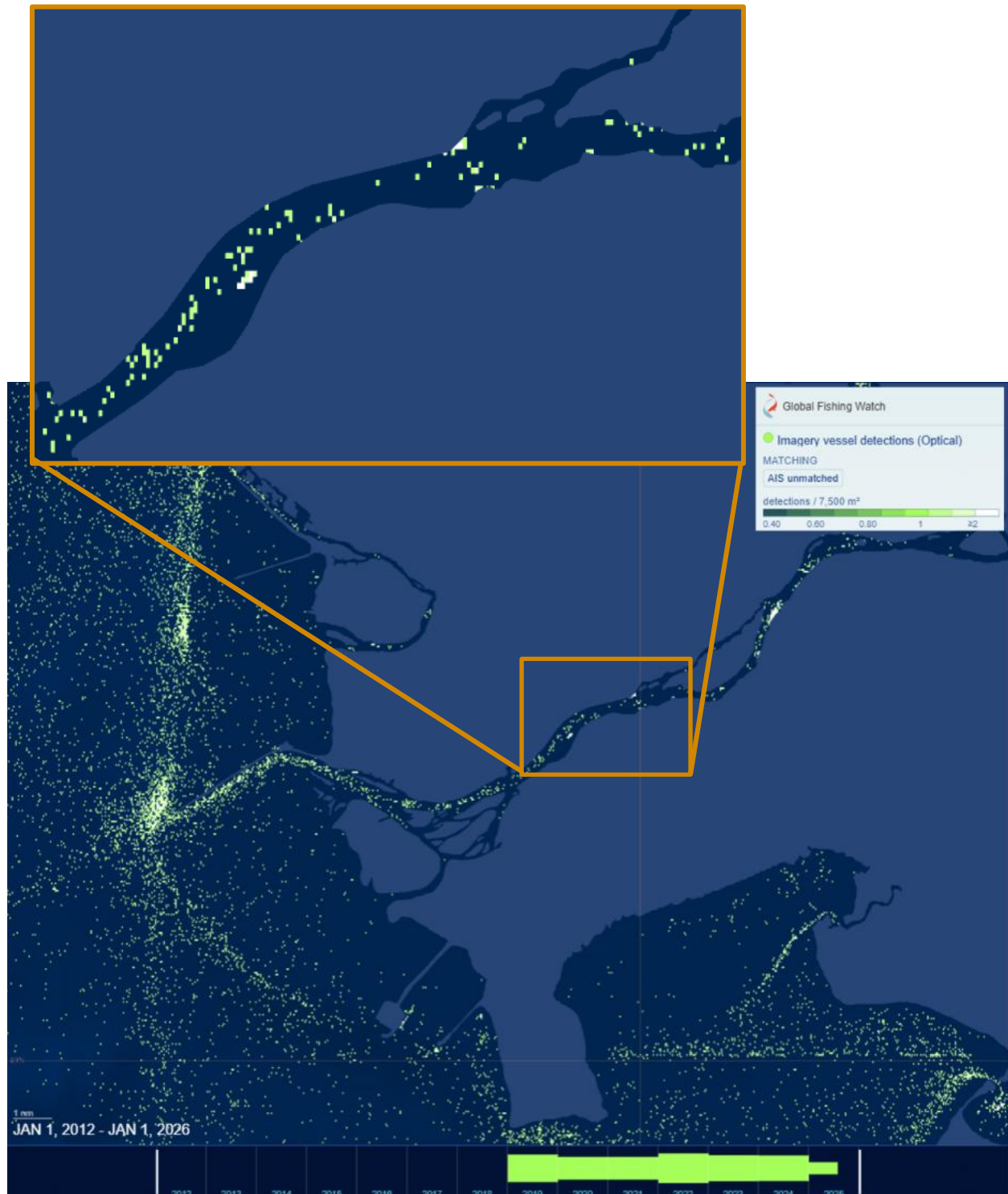
Today, vessel tracking technologies have made it possible to document the cumulative presence and trends of both large commercial vessel traffic and small recreational vessel traffic over time, and have recently been compiled for public access by Global Fishing Watch. Most larger commercial vessels are required to carry Automated Identification System (AIS), which tracks vessel positions. Visualizing cumulative AIS-broadcasted positions over time (Figure 35) highlights hotspots of vessel activity (e.g., adjacent to Tilbury Island) and reveals a trend of steadily increasing hours of vessel presence across the Fraser Delta region (with total hours of vessel presence across the area pictured rising more than threefold from roughly 500,000 hours in 2012 to 1.7 million hours in 2024). Although smaller recreational and fishing vessels are not tracked by AIS, new automated satellite image analysis technology reveals patterns of use for these vessels as well, showing widespread use along the edge of the Delta's mudflats and up into the South Arm of the SṪNEWIL/Fraser River (Figure 36). Many of these smaller vessels will be crabbing boats (Figure 37), as the Fraser Delta sees some of the highest catch per unit effort for crab on the South

Coast (Nephin et al. 2023), and annual catches in the Delta (Pacific Fisheries Management Area 29) have increased significantly since the 1990s (Hemmera 2014).

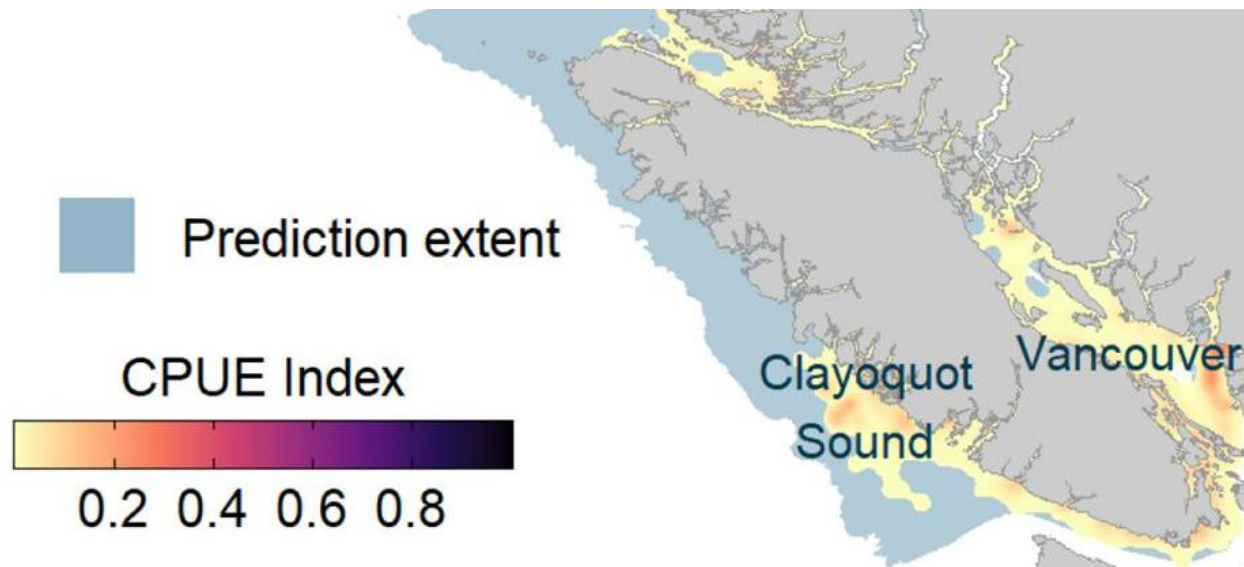


**Figure 35:** Heatmap of cumulative vessel traffic hours in the SNEWIL/Fraser River Delta between 2012 and July 2025 based on Automated Information System (AIS) tracking system transmissions from primarily commercial vessels, with the bar at the bottom of the figure demonstrating the significant ramping up of total hours of traffic per year in the area shown. Inset shows Tilbury Island and surrounding areas. Via Global Fishing Watch [map portal](#).





**Figure 36:** Heatmap of cumulative individual vessel detections from Sentinel-2 optical satellite imagery of the SNEWI/ Fraser River Delta between 2019 (earliest year of data available) and July 2025 for untracked vessels that do not broadcast AIS, typically comprising smaller fishing and recreational vessels stable over time. Inset shows Tilbury Island and surrounding areas. Via Global Fishing Watch [map portal](#).



**Figure 37:** Heatmap of catch per unit effort for Dungeness Crab between 2007-2017 (reproduced from Figure 6 of Nephin et al. 2023).

Legislation and regulation around fishing activities have also presented barriers to access to First Nations across BC, including STÁUTW. The first legislation on fishing activity (Indigenous and colonial) was the expansion of the *Fisheries Act* to include BC in 1879 (Swenerton 1993:12). An amendment to the *Fisheries Act* in 1888 restricted the use of drift nets and spearing while introducing licensing fees (Swenerton 1993:21). Further licensing restrictions on Indigenous fishers were implemented in 1984 and 1910 on fishing gear types, areas and times (Swenerton 1993:21). It was not until the *Constitution Act* of 1982 and common law cases, such as *R v Sparrow* in 1990, that the regulatory control of the Department of Fisheries and Oceans (previously Department of Fisheries) over the Indigenous fishery was “subject to meaningful consultation” with First Nations and “infringement would be limited to valid legislative objectives” (Swenerton 1993:82).

Alongside the regulation of the Indigenous fishery, in the decades following the introduction of the *Fisheries Act*, regulations on the colonial commercial fishery were arguably ineffective (Swenerton 1993:12-19). Until the 1960s, licensing focused on “everything but the numbers of fish and people fishing,” instead being focused on restrictions over gear, timing, and areas (Swenerton 1993:15;49; Sinclair 1978:15-17). License limitations were first successfully implemented in the colonial commercial fishery in 1969. However, recreational fisheries were not regulated until a tidal water sportfishing license was introduced in 1981 (Swenerton 1993:70).

## 2.6 Summary of Cumulative Effects

*The abundance of salmon and all other foods that sustained the Saanich people, the clams, duck, and deer have now been exploited and mismanaged to near extinction. The beautiful clam beaches, lakes, streams and rivers are now fouled with sewage and are polluted so badly that shellfish gathering and swimming in the waters can be hazardous to one's health. The beautiful homeland of the Saanich, the islands, the bays, the inlets, are inhabited with strangers. The hereditary campsites, burial grounds, and old village sites and reef net locations are now forbidden ground (Claxton and Elliott 1994:52).*

Since the arrival of Europeans, environmental conditions in the Lower Mainland have deteriorated severely and rapidly, including those conditions that once supported SṪÁUTW culture and society. Today, SṪÁUTW can no longer meaningfully exercise its inherent and constitutionally protected Aboriginal and Treaty harvesting, governance, and cultural and socio-economic rights in the Lower Mainland. These conditions are not only a symptom of urban and industrial development and settlement on natural resources, but a long history of colonial policies aimed purposely and specifically at dismantling and disempowering Indigenous culture and governance, including through the pass system, residential schools, and the *Indian Act*. Modern-day Crown regulations continue to violate the Nation's autonomy and right to self-governance. This is the context in which FortisBC is proposing the Tilbury Phase 2 LNG Expansion Project, which must be considered to accurately assess the Project's potential effects on SṪÁUTW First Nation.

### 3. SṪÁUTW FIRST NATION EFFECTS ASSESSMENT

#### 3.1 Effects Assessment Methods

SṪÁUTW First Nation has undertaken a systematic assessment of the Project's potential impacts on its rights and interests. The methods used in this assessment differ in some ways from the conventional Valued Component (VC)-based framework adopted by FortisBC in its Application. The following two sections provide commentary on FortisBC's assessment methods (Section 3.1.1) and then an overview of the different approach applied by SṪÁUTW First Nation in this assessment (Section 3.1.2).

##### 3.1.1 *Commentary on FortisBC Effects Assessment Methods*

###### 3.1.1.1 *Aggregation of Effects Assessment*

As part of the overall approach set out in both the Application Information Requirements (AIR; EAO 2022) and in Section 11.1 of the Application, FortisBC has elected to conduct an aggregated effects assessment for the five WSÁNEĆ Nations. Section 11.1.1 of the Application notes that Table 11.1-1 "provides rationales as to whether the assessment of effects of the proposed Project on an Indigenous nation's Indigenous interests is partially aggregated with that of other Indigenous nations". However, the rationale provided in the table simply says that the Malahat, Pauquachin, Tsartlip, SṪÁUTW (Tsawout), and Tseycum First Nations were each identified by the BC EAO and Impact Assessment Agency of Canada (IAAC) in the Joint Summary of Issues and Engagement as Nations whose interests could reasonably be anticipated to be affected by the Project; it does not provide a justification for aggregating the effects assessment for the five Nations.

It is SṪÁUTW First Nation's view that it is more appropriate to assess effects to each WSÁNEĆ Nation's interests separately.

###### 3.1.1.2 *Separate Assessment of the Tilbury Marine Jetty and Tilbury Phase 2 LNG Expansion Projects*

SṪÁUTW First Nation acknowledges EAO and FortisBC's position that the Project is separate and distinct from the Tilbury Marine Jetty (TMJ) Project, and that the TMJ Project has already undergone a separate environmental assessment. However, it is inarguable that the two projects are interlinked as the one will form part of the distribution system for the other. The separate assessment of these two projects has had some unfortunate methodological outcomes.

When the TMJ Project was assessed, the Tilbury Phase 2 LNG Expansion Project was not sufficiently advanced to be included in the list of reasonably foreseeable projects considered in the cumulative effects assessment (CEA). In the Tilbury Phase 2 LNG Expansion Project assessment, the TMJ Project is listed for potential inclusion as an existing project in the CEA. However, since (according to the conventional approach to effects assessment) the consideration of cumulative effects on Valued Components (VCs) and Indigenous interests hinges on the identification of project-specific adverse residual effects to those VCs and interests, the cumulative effects of both projects on SṪÁUTW First Nation interests have never been substantively considered (please see additional commentary on this point in Section 3.1.1.8). Similarly, FortisBC's Application considers as separate the existing Phase 1A Expansion (operational in 2018) and planned Phase 2B Expansion (in service ~2027) despite their physical overlap with the Project Footprint, temporal proximity, and operational interdependence.

In addition, the separation of the ŚNEWIL/Fraser River and marine environments from the terrestrial environment that broadly characterizes these two assessments creates an artificial division that does not align with the interconnected and interdependent nature of SṪÁUTW First Nation's land and marine use or its exercise of rights (as highlighted in the quote below). It is also inconsistent with ecological realities, where organisms (e.g., clams, ducks, bullrushes, salmon) are reliant on both aquatic and terrestrial systems to thrive.

*The ÁLENENEŽ [homeland, village, where one comes from] includes the marine environment as much as it does the terrestrial environment. It was said that our people did not distinguish land from water but, rather, that all of it was our homeland. Elders often say that our territory is well defined by place names in our language, encoding and embodying our relationship to the territory (Claxton and Price 2020:118).*

### 3.1.1.3 Information Sources and Consultation

SṪÁUTW First Nation acknowledges and agrees with FortisBC's comment in Section 11.1.7.6 and Section 11.18.4 of the Application that there are limitations to the assessment that have arisen resulting from a reliance on secondary data. SṪÁUTW First Nation has included additional information sources in this analysis to help support a more robust assessment; see also Section 3.2.

SṪÁUTW First Nation emphasizes that FortisBC's engagement and consultation activities to date have been inadequate, resulting in an incomplete and misrepresentative assessment of potential effects from the Project to SṪÁUTW First Nation's constitutionally protected Treaty and Aboriginal interests.

As communicated to the BC EAO under separate cover, FortisBC has not responded to SṪÁUTW First Nation comments and concerns in a timely manner. Opportunities to provide comment (on the Application) have moreover been unreasonably short. The result is that FortisBC's Section 11.18 of the Application does not adequately capture the potential of impacts of the Project on SṪÁUTW First Nation, nor does it incorporate SṪÁUTW First Nation's provided feedback in a meaningful way, including representation of SṪÁUTW First Nation's rights in the Lower Mainland.

### 3.1.1.4 Selection of Spatial Boundaries

To assess effects on WŚÁNEĆ Nations' interests—in addition to the Project Footprint—in Section 11.18.5.1 of the Application, FortisBC notes that the selected spatial boundaries of assessment (depicted in Figure 11.18-1D of the Application for SṪÁUTW First Nation) are based on the overlap of:

- The traditional territories of each of the WŚÁNEĆ Nations; and
- An LAA comprised of the combined LAAs for VCs identified by FortisBC as being linked to Indigenous interests, and an RAA comprised of the combined RAAs for the same VCs.

Not all SṪÁUTW First Nation interests are fully represented by VCs (in whole or in part), nor by the overlap suggested by Figure 11.18-1D of the Application. With respect to the former, as noted in the EAO's Effects Assessment Policy (EAO 2020), this is only appropriate where Indigenous interests are fully represented by VCs. Not all SṪÁUTW First Nation interests are fully represented by VCs, in whole or in part. Additionally, despite FortisBC updating Figure 11.18-1D with SṪÁUTW's Consultation Area that now overlaps the Project Footprint and a much greater portion of the ŚNEWIL/Fraser River than previously, FortisBC's analysis of potential effects to SṪÁUTW is not reflective of this.



### 3.1.1.5 Existing Conditions

FortisBC notes that the description of existing conditions for SṪÁUTW First Nation (found in Section 11.18.5.2 of the Application) is based on secondary sources, without primary sources from SṪÁUTW First Nation; SṪÁUTW First Nation concurs with FortisBC's statement regarding the limitations of an effects assessment with no primary sources and no feedback on preferred secondary sources. Nonetheless, SṪÁUTW First Nation has provided input to FortisBC through review of Section 11.18 of the Application.

In the first subsection of Section 11.18.5.2 of the Application, FortisBC provides a general overview of the WŚÁNEĆ peoples' historical use of the area around the Project and surrounding region, as well as the changes brought about during European colonization of the BC coast, resulting in a reduction of lands available for harvesting and gathering, loss of territory and access to cultural use areas, reduction in the quantity and quality of important resources, among other impacts. Statements made throughout the remainder of this section suggest that the WŚÁNEĆ peoples (including SṪÁUTW First Nation) do not currently exercise rights within the Project area, despite SṪÁUTW First Nation providing input to the contrary; for example:

- *It is FortisBC's understanding from information available to FortisBC at the time of writing that WŚÁNEĆ Nations do not currently use the south arm of the lower Fraser River adjacent to the proposed Project Footprint to fish, gather plants, hunt, or access cultural sites or areas.*
- *According to the DFO website for Indigenous fisheries on the Fraser River, WŚÁNEĆ Nations are not involved in the lower Fraser salmon fishery (DFO n.d.), and WŚÁNEĆ Nations have not indicated to FortisBC that their members fish within the proposed Project Footprint or the Harvesting and Subsistence Activities LAA.*
- *Potential effects to plant gathering due to the proposed Project have not been expressed as an issue of key concern by WŚÁNEĆ Nations [...]. FortisBC does not have information to indicate that these Nations use publicly accessible areas of the proposed Project Footprint or Harvesting and Subsistence Activities LAA for plant gathering, either by foot or boat access.*
- *Potential effects to hunting due to the proposed Project have not been expressed as an issue of key concern by WŚÁNEĆ Nations (Table 11.18-9). Hunting locations were not identified by WŚÁNEĆ Nations during the EA of the nearby TMJ project (WesPac 2019).*
- *FortisBC does not have information to indicate the presence of specific cultural use sites and areas in the proposed Project Footprint or within the LAA (B.C. EAO 2022). Potential effects to cultural use sites and areas due to the proposed Project have not been expressed as an issue of key concern by WŚÁNEĆ Nations [...].*

These statements do not accurately reflect SṪÁUTW First Nation members' rights and interests in the Project LAAs (as defined in Section 11.18.5.1 of the Application) or current exercise of these rights and interests, and do not speak to how the Nation used the land prior to the changes described in the historical overview (Section 2), nor to its future plans to exercise rights in the Project area (see Section 3.3.2).

### 3.1.1.6 Identification of Relevant SṪÁUTW First Nation Interests

In its discussion of the Indigenous interests identified for the WŚÁNEĆ Nations in Section 11.18.2.19 of the Application, FortisBC states that:

*Potential effects to cultural continuation and opportunities for intergenerational knowledge transmission and spiritual connections represent intangible values, which reflect the beliefs,*

*perceptions, values, and qualitative experience of WSÁNEĆ Nations that cannot be assessed by FortisBC without input from WSÁNEĆ Nations. Similarly, information is needed from WSÁNEĆ Nations regarding conditions related to their ability to meaningfully exercise Indigenous Governance Systems for FortisBC to assess potential effects from the proposed Project. FortisBC has not received knowledge or feedback relating to Cultural Continuation and Indigenous Governance Systems from the WSÁNEĆ Nations. As such, effects to Cultural Continuation and Indigenous Governance Systems are not assessed.*

A lack of information provided by STÁUTW First Nation relating to Cultural Continuation and Indigenous Governance Systems does not indicate the Nation's lack of interest in these topics, nor does it establish an absence of potential effects to STÁUTW Cultural Continuation and Indigenous Governance Systems. This STÁUTW First Nation assessment addresses these shortcomings (see Sections 3.3.2.5, 3.3.2.7, 3.3.3.3, 3.3.3.5, and 3.3.6).

### 3.1.1.7 Characterization of STÁUTW First Nation Rights and Interests

Sections 11.18.2.18 and 11.18.2.19 of the Application are provided to meet the requirements found in section 11.1.2.1 of the AIR (EAO 2022), which states that the Application must provide "an overview of the understanding of Indigenous interests in the area that could be affected by the Project". Within this area, the Application was to:

- Identify the environmental and socio-economic conditions that support the community's meaningful exercise of their rights; and
- [Indicate] How historic, existing, and reasonably foreseeable future activities have cumulatively affected or could affect the conditions that support or limit the Indigenous community's meaningful exercise of their rights.

The same section of the AIR also notes that the Application was to provide a list of the Indigenous interests that may be impacted by the Project within the same area and:

- Summarize how the identified Indigenous interests have been affected by cumulative effects to-date; and
- Summarize past, present, and anticipated future use of the Project Area by Indigenous nations over time and practices in the Project Footprint regarding the Indigenous interests identified. This summary will include Project Footprint-specific use values present in the Project's LAA and RAA, which are areas identified and/or mapped by Indigenous nations as having environmental, cultural, spiritual, transportation, subsistence, and habitation value.<sup>8</sup>

However, Section 11.18.2.18 of the Application simply states that "It is FortisBC's understanding from information available to FortisBC at the time of writing that WSÁNEĆ Nations **do not currently use** the south arm of the lower Fraser River **adjacent to the proposed Project Footprint** to fish, gather plants, hunt, or access cultural sites or areas [...] (WesPac n.d.; B.C. EAO 2022)" (emphasis added). With relevance to the bolded passages in this text, STÁUTW First Nation notes that:

- The statement about WSÁNEĆ Nations' *current* use of an area does not meet the AIR requirement to describe how historic and existing activities have cumulatively affected conditions for the meaningful exercise of rights; and

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<sup>8</sup> It is unclear what the meaning of the last sentence is, as it would be unusual to limit discussion of values present in the LAA and RAA to those that occur only within the Project Footprint.



- The AIR asks for an overview of Indigenous interests in the area that could be affected by the Project, not just in the Fraser River adjacent to the proposed Project Footprint.

This Sᑭᐱᐱᐱ First Nation assessment provides an overview of how cumulative effects have affected the ability of the Nation and its members to meaningfully exercise rights that could be affected by the Project.

### 3.1.1.8 Cumulative Effects Assessment Methodology

As noted in Section 3.1.1.2, FortisBC's approach to CEA generally follows EAO guidance and conventional assessment practice, where if it is found that there are no residual effects to a Valued Component (VC) or Indigenous Interest, no CEA for that VC or interest is undertaken. However, EAO (2020) does note that the approach and level of effort applied to CEA may be modified depending on "the level of past or existing disturbance in the project's zone of influence." In particular, as noted in EAO guidance (EAO 2017), it may be appropriate to modify this approach when assessing effects to Indigenous interests:

*The potential impacts of a proposed project on Aboriginal rights can be characterized by understanding effects of a proposed project on factors that are important for the exercise of a right. This includes the cumulative impacts on biophysical VCs such as impacts on wildlife populations, impacts on specific sites of traditional use, and social, cultural, spiritual, and experiential perspectives of the Aboriginal group. **If the current ability to practice an Aboriginal right is already constrained due to factors such as previous developments, the conclusion on effects from a current project on that right may be more serious** (EAO 2017; emphasis added).*

The current ability of Sᑭᐱᐱᐱ First Nation members to meaningfully exercise inherent and constitutionally protected Aboriginal and Treaty rights in the Lower Mainland are already constrained by factors including considerable historical and existing development. Historical and continuing barriers limiting Sᑭᐱᐱᐱ First Nation from exercising its rights are not just important as background to the assessment. The existing level of cumulative effects loading and resulting rights alienation must be considered when concluding on residual and cumulative effects relating to the Project.

### 3.1.1.9 Note on Malfunctions and Accidents

In Section 9.2.5 of the Application, FortisBC identifies the potential interaction of malfunctions and accidents with Indigenous Interests, listing specific concerns expressed by individual Indigenous Nations during engagement. Neither Wᑭᐱᐱᐱ Nations or Sᑭᐱᐱᐱ First Nation are included in this list, even though Section 11.18.3.2 of FortisBC's Application notes that Wᑭᐱᐱᐱ Nations have expressed concerns about Project spills, and that past industrial accidents have resulted in impacts to Wᑭᐱᐱᐱ Nations ability to exercise Indigenous Interests by adversely affecting "fish and fish habitat, wildlife and wildlife habitat, water quality and quantity, settlements and travel ways, plants, and plant species."

A discussion of potential interactions between malfunction and accident scenarios and Indigenous Interests *in general*, as well as a characterization of associated risks, is provided in Sections 9.4 through 9.9 of the Application. In Section 9.2.5 of the Application, FortisBC acknowledges that "some Indigenous nations may experience effects from malfunctions and accidents more than others" but does not offer any further details.

Sᑭᐱᐱᐱ First Nation has not assessed the potential impacts of Project malfunctions and accidents on its exercise of rights in this report, but provides the following commentary on the analysis provided in FortisBC's Application:

- Sᑭᐱᐱᐱ First Nation confirms its concern about the effects of potential Project malfunctions and accidents on its exercise of rights.

- FortisBC characterizes the likelihood of some malfunction and accident scenarios as “remote”, which it defines as “unheard of in the industry; not expected to occur.” This includes scenarios like (1) loss of containment of liquified natural gas, (2) fire or explosion, and (3) terrestrial vehicle collision, which a cursory literature search indicates are not unheard of in industry.
- FortisBC provides separate ratings of likelihood for the combination of each scenario with VCs and Indigenous Interests. STÁUTW First Nation’s understanding from EAO (2020) guidance and Section 9.0 of the AIR is that likelihood is intended to express the probability of the scenario occurring at all, rather than its probability of interacting with VCs and interests. Therefore, a single characterization of likelihood should be applied across each scenario (with the consequence to VCs and Indigenous interests potentially being variable).
- As noted previously in relation to the effects assessment, FortisBC seems to have assessed effects of malfunctions and accidents mainly based on Indigenous Nations’ *current* use of areas, rather than Nations’ historical or aspirational future use of areas or exercise of Indigenous rights (e.g., in Section 9.6.3.7 of the Application, stating that “Given that there is no harvesting of plants or animals on the proposed Project Site [...] the risk level for the release of hazardous material to the economic well-being or health of Indigenous nation member [sic] is considered low”).

### 3.1.2 STÁUTW First Nation Assessment Methodology

It is STÁUTW First Nation’s perspective that the Application does not adequately, appropriately, or accurately assess the Project’s effects on STÁUTW First Nation for reasons including the methodological deficiencies as described above, and insufficient characterization and description of existing cumulative effects and impacts on STÁUTW First Nation interests.

This assessment conducted by STÁUTW First Nation largely follows the methodology outlined in Section 11.01 of the Application and EAO guidance (EAO 2017; 2020) but reaches different conclusions than FortisBC. This is because:

- STÁUTW First Nation’s inherent and constitutionally protected Aboriginal and Treaty rights and interests are demonstrably more extensive than acknowledged by FortisBC;
- *Current exercise* of STÁUTW First Nation inherent and constitutionally protected Aboriginal and Treaty rights and interests are demonstrably more extensive than acknowledge by FortisBC; and
- The extensive and deleterious cumulative effects in the Project area do not detract from the existence of STÁUTW’s inherent and constitutionally protected Treaty and Aboriginal rights, nor do existing cumulative effects preclude the possibility of further breaching STÁUTW First Nation’s inherent and constitutionally protected Aboriginal and Treaty rights.

In contrast to the assessment and methodology adopted by FortisBC in Section 11.18 of the Application, this assessment:

- Is specific to STÁUTW First Nation (see Section 3.1.1.1);
- Includes an assessment of potential Project cumulative effects that considers interdependent operations (e.g., TMJ Project, Phase 1A and 2B Expansions; see Section 3.1.1.2) and the considerable degree to which STÁUTW First Nation rights are already constrained due to previous developments (see Section 3.1.1.8);
- Includes consideration of STÁUTW First Nation primary sources of information such as interviews and oral histories, and secondary sources, including ethnographic and spatial data, among others (see Sections 3.1.1.3 and Section 3.2);

- Includes consideration of STÁUTW First Nation's Consultation Area defined in its Consultation Protocol and Policy (STÁUTW First Nation 2024), which overlaps the Project Footprint (see Section 3.1.1.4);
- Identifies and emphasizes STÁUTW First Nation rights and interests that may be impacted by the Project, including in the south arm of the lower ŚNEWIL/Fraser River adjacent to the Project Footprint, and the Harvesting and Subsistence Activities and Cultural Use Sites and Areas LAAs, and speaks to past, present, and future exercise of these rights (see Sections 3.1.1.5 and 3.1.1.7); and
- Respecting STÁUTW First Nation's inherent and constitutionally protected Aboriginal and Treaty rights, includes an assessment of Project effects and impacts on Cultural Continuation and STÁUTW First Nation governance (see Section 3.1.1.6), including potential effect pathways identified by FortisBC in Table 11.1-4 of the Application such as "effects on the ability to revitalize, develop, and participate in intergenerational cultural transmission" and "ability to implement Indigenous laws, customs, and protocols".

### 3.2 Information Sources and Limitations

This STÁUTW First Nation assessment relies on a diversity of primary and secondary data sources, many of which were not collected to specifically inform this effects assessment or in the Project context, or collected by STÁUTW First Nation. Key sources information include:

- Interviews conducted with STÁUTW First Nation members and STÁUTW First Nation oral histories;
- FortisBC's Application;
- Ethnographic and ethnohistorical studies and journals;
- Archaeobotanical studies and journals;
- Academic sources, including some produced by STÁUTW First Nation members;
- Grey literature including government and non-government reports;
- Past environmental assessment applications and related materials, including some materials specific to STÁUTW First Nation and others respecting WSÁNEĆ First Nations;
- STÁUTW First Nation policy and governance documents; and
- GIS analyses conducted by STÁUTW First Nation based on public databases (e.g., data layers from Data Catalogue BC and Parcel Map BC).

As noted, many information sources relied on for this assessment are not specific to the Project; STÁUTW First Nation adopts a conservative approach in using and interpreting results from these sources. This assessment uses and applies the terminology of source material where appropriate and applicable and where it cannot accurately or appropriately be replaced by terms defined for the Project's assessment (e.g., Project Footprint, LAA, RAA).<sup>9</sup>

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<sup>9</sup> Where appropriate, geographic terminology like Lower Mainland, ŚNEWIL/Fraser River, and ŚNEWIL/Fraser delta are used. In general, the Lower Mainland encapsulates the lower Fraser valley west of Hope; ŚNEWIL/Fraser River is specific to the aquatic/marine environment of the river and its tributaries, and terrestrial areas immediately adjacent (e.g., riparian areas); and the ŚNEWIL/Fraser delta is distinguished from the Lower Mainland as it only refers to the lowlands west of where the Surrey Highland and the Burrard Highland separate to form the peatland and floodplain, i.e., west of New Westminster bordered by the higher ground of Surrey and Vancouver (La Croix 2024).

Where information is available and specific to the Project Footprint and immediate area, these are presented. However, in the absence of such data, information at higher spatial scales and/or different time periods is often used and relied on to approximate or estimate conditions at the Project Footprint over time. The Project effects and residual effects identified in this assessment are based on the best available information and the cultural perspectives and lived experiences of SṪÁUTW First Nation and its members. However, it is important to note that systematic Western scientific documentation of environmental conditions in the 1800s and early 1900s are rare; where available, multiple lines of evidence are presented for confidence.

Importantly, this assessment is not comprehensive of SṪÁUTW First Nation knowledge or rights and should not be construed to represent the totality of SṪÁUTW First Nation rights and interests in the Lower Mainland or SṪÁUTW First Nation territory. Much of SṪÁUTW First Nations' knowledge—which may be culturally sensitive—is not available or appropriate to share in public processes or for environmental assessments. An abundance of knowledge is also held by the community and not in a form that has been recorded and shared for these purposes.

### **3.3 Assessment of Potential Effects on SṪÁUTW First Nation Interests**

#### **3.3.1 Assessment Boundaries**

The boundaries of this SṪÁUTW First Nation assessment are based on the potential for the Project to interact and impact the inherent and constitutionally protected Aboriginal and Treaty rights of SṪÁUTW First Nation.

##### **3.3.1.1 Spatial Boundaries**

As described in Section 3.1.1.4, in alignment with the EAO Effects Assessment Policy (EAO 2020), to assess the Project's impacts on its rights and interests, including those established under the Douglas Treaties, SṪÁUTW First Nation makes use of the SṪÁUTW Consultation Area as defined in its Consultation Protocol and Policy (SṪÁUTW First Nation 2024). Specifically, this effects assessment focuses on the overlap between the Consultation Area and the LAAs and RAAs identified by FortisBC (i.e., Cultural Use Site and Areas, Harvesting and Subsistence Activities, Indigenous Health and Well-being, and Social and Economic Conditions; see Figure 11.18-1D in the Application).

##### **3.3.1.2 Temporal Boundaries**

The temporal boundaries of the Project's construction, operation, and decommissioning phases are the same as described in the Application in Section 11.18.5.1.

The Project duration is based on the following three phases:

- Construction Phase – Estimated 3- to 6-year duration
- Operation Phase – Estimated 40+-year duration
- Decommissioning Phase – Estimated 2-year duration

The proposed Project in-service date is 2031+. Further to the proposed Project schedule above, SṪÁUTW First Nation also considers the Project environmental assessment process, pre-construction, due to potential interactions and effects on SṪÁUTW First Nation health and well-being (see Section 3.3.3.6). The timespan from around 1850 (the signing of the Douglas Treaties) to today is also considered to contextualize and inform this assessment as cumulative effects trends are highly relevant to

understanding the Project's potential impact on STÁUTW First Nations' inherent and constitutionally protected Aboriginal and Treaty rights.

### **3.3.1.3**    *Administrative and Technical Boundaries*

The Canada-USA border established through the Oregon Treaty beginning in 1846 (and subsequent agreements) is an administrative boundary that has constrained the assessment of potential effects. Contemporary and historical data on social and ecological systems are often falsely constrained by this boundary, rather than following natural boundaries of these systems, limiting the ability to draw complete conclusions. Limitations related to information sources used to inform this assessment are additionally described in Section 3.2.

### 3.3.2 Existing Conditions

#### 3.3.2.1 SṪÁUTW First Nation Use of the Proposed Project Area

SṪÁUTW First Nation is a Coast Salish Nation and one of five Nations that constitute the WŚÁNEĆ peoples. WŚÁNEĆ peoples are unified by their shared use of the SENĆOŦEN language and shared identity as Saltwater Peoples (Elliott and Poth 1990; Suttles 1974:61).

*The ocean waters around our island homes were our fields, rivers, and highways. They fed us, and we travelled on them. The WŚÁNEĆ are called saltwater people because the sea was our home as much as the land. Our homelands and homewaters are one and the same thing. We named most landforms as they're seen from the sea. Our language, SENĆOŦEN, not only describes these places in clear, "picturizing" ways, but actions words-verbs- go first in our sentences. Our livelihood was fisheries-based, working in a very active environment: constantly moving, changing seas and shores. From our waters and seashores, [SṪÁUTW] people harvested a rich varied diet, as well as foods for trade. We say that, "when the tide is out, the table is set". Also the ocean is our "kitchen table". This harvest is the product of a highly dynamic, complex system, of which our NEHIMET (ancestral family lineages) had encyclopaedic knowledge. Understanding traditional [SṪÁUTW] lives and culture begins with understanding the rhythms of our marine environment throughout the season and months of the year. (Claxton and Sam 2010:5)<sup>10</sup>*

SṪÁUTW First Nation territory, or ÁLENENEŹ (homeland, village, where one comes from), spans the San Juan and southern Gulf Islands, from Southern Vancouver Island across the Salish Sea to the Lower Mainland. As discussed in the following sections of this assessment, SMOKEĆ/Point Roberts and Boundary Bay, as well as the ŚNEWIL/Fraser River and other areas of the Lower Mainland, are central to SṪÁUTW's inherent and constitutionally protected Aboriginal and Treaty rights.

With respect to the Project and its potential effects, this includes rights related to, but not limited to:

- Harvesting and subsistence activities;
- Cultural use sites and areas
- Governance systems;
- Social and economic conditions;
- Cultural continuation; and
- Health and well-being.

Each category of interests is described in the remainder of Section 3.3.2, and the potential for the Project to affect SṪÁUTW First Nation's related rights are assessed in Sections 3.3.3 to 3.3.6.

#### 3.3.2.2 Historical Context

Since time immemorial, SṪÁUTW have exercised their rights and responsibilities within the proposed Project area. This included fishing salmon and sturgeon, gathering terrestrial and aquatic/marine plants, and hunting and trapping in the Lower Mainland, including in and along the ŚNEWIL/Fraser River. Prior to colonization, SṪÁUTW First Nation members travelled and accessed the land and waters of the Lower Mainland unimpeded by the barriers of colonial institutions and effects of industrial and urban

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<sup>10</sup> The SENĆOŦEN spelling in brackets is used in place of the English spelling of quoted material throughout this report for consistency.

development. This access allowed SḴÁUTW to utilize a wide variety of natural resources, implement the Nation's laws, and form relationships with other Indigenous peoples through ties based in trade and kinship. SḴÁUTW First Nation members were also able to live by cultural beliefs and practice customs, freely expanding and transmitting SḴÁUTW knowledge, and steward the land for future generations according to cultural laws and principles, securing the health and well-being of the Nation and its members. Before colonization, the territory enabled the Nation to thrive.

Because of the combined effects of colonization, industrialization, urbanization, and settlement, the ability of SḴÁUTW First Nation members to meaningfully exercise inherent and constitutionally protected Aboriginal and Treaty rights in the Lower Mainland is no longer possible (e.g., see Section 2 and Figure 2). It is however beyond the scope of this ILA to comprehensively detail the consequences of these changes over time on SḴÁUTW First Nation rights and rights practice. Instead, the historical context presented in Section 2 provides a backdrop to understand the current condition of selected SḴÁUTW First Nation rights and interests that may be impacted by the Project, which are discussed in further detail below.

### 3.3.2.3 *Harvesting and Subsistence Activities*

#### **Definition**

FortisBC's Application does not define the Indigenous interest of "Harvesting and Subsistence Activities"; however, the potential effect pathways and associated indicators (Table 11.1-4), and topics to consider (Table 11.18-6), are indicative that the focus is on the rights to fish, harvest, and hunt, including associated methods, experiences, and preferences, and the accessibility and availability of the lands and resources.

SḴÁUTW First Nation territory (reflected by the SḴÁUTW Consultation Area) includes the Project Footprint and overlaps the Harvesting and Subsistence Activities and Cultural Use Sites and Areas LAAs. Within SḴÁUTW First Nation territory, the Nation has inherent and constitutionally protected Aboriginal and Treaty rights, including being "at liberty to hunt over the unoccupied lands, and to carry on our fisheries as formerly" as guaranteed by the Douglas Treaties. The Douglas Treaties also included oral promises that SḴÁUTW would be able to hunt over unoccupied lands and carry on fishing and harvesting with the same freedom as when SḴÁUTW were the *sole occupants* of the country.

The ŚNEWIL/Fraser River is central to SḴÁUTW harvesting and subsistence rights, not only fishing, but also picking KEXMIN/wild celery, SḴA,KEN/cattails and SZELEL/tule rushes, SKÁUISELL/wapato tubers and S,ELLTENEN/berries, and hunting for deer, elk and mountain goats. These rights—alongside other SḴÁUTW First Nation rights—must be viewed as interconnected; they cannot be understood separately. For example, resources obtained through fishing and hunting are foundational to relationships between SḴÁUTW and other First Nations. SḴÁUTW First Nation rights in the Lower Mainland are knit together by established travel routes that cross between the water and the land to permanent villages. Resources like clams, SḴA,KEN/cattails, and waterfowl—and even fish—are dependent on terrestrial, marine, and intertidal environments. SḴÁUTW First Nation harvesting and subsistence rights in the Lower Mainland are anchored by villages and fishing stations at SMOKEĆ/Point Roberts and along the ŚNEWIL/Fraser River, which also facilitated access to a diversity of plants and animals.

#### **Current Condition**

##### *Fishing*

*And then, for gillnet, we fished right up into Steveston, and all the way up under the first couple of bridges and some of the sloughs. I remember fishing [...] Yeah. It was a lot of fun back then. We*



*caught everything. It was all the salmon species, we got some big sturgeon- all kinds of stuff. So, yeah, I fished up there for quite a few years. (STÁUTW Respondent ID103)*

STÁUTW First Nation is no longer able to meaningfully exercise the right to fish in the Lower Mainland or in the Harvesting and Subsistence Activities LAA. SMOKEĆ/Point Roberts, CELLTENEM/Boundary Bay, the ŚNEWIL/Fraser River and its tributaries (Serpentine River, Nicomekl River, and Salmon River) are central to STÁUTW fishing and economic rights. STÁUTW First Nation's fishing and economic rights are rooted in the annual pursuit and harvest of the five salmon species and steelhead, including by following migrating salmon into the ŚNEWIL/Fraser River (Claxton 2015:69–70; Suttles 1974:189; Suttles 1987:35–36).<sup>11</sup> After harvesting salmon at the SXOLE/reef net fishery at SMOKEĆ/Point Roberts, many STÁUTW families followed the salmon as they entered the ŚNEWIL/Fraser River delta, fishing on the ŚNEWIL/Fraser River and on smaller tributaries. WSÁNEĆ families are also known to have fished as far up the ŚNEWIL/Fraser River as Yale, processing fish by wind drying along the way.

Permanent villages at SĆEU,OFEN/Tsawwassen and SMOKEĆ/Point Roberts enabled a successful reef net fishery (Claxton and Elliot 1993:15). While in the Lower Mainland, STÁUTW ancestors would pick a variety of plants for food and medicine, and hunt for ungulates and mountain goats (MacLachlan 1998:40; 184; Welsh 2002:34;40; Jenness 1974:7; 12; Suttles 1974:63–64). Plant gathering and the materials they furnished in turn supported fishing activities (STÁUTW First Nation 2024). Fishing gear was made each year with cedar rope, willow bark, and stone (for anchor and net weights); dune grass was used to lure salmon into nets; canoes were fashioned from cedar trees; and balsam branches used to collect herring spawn.

*The lead of the net had dune grass in the twinings of the XETZLEN (floor lines) and the SQÁLEL (upright side lines). The SLEQAI (dune grass) that was used was specially chosen for its quality and length. The dune grass reflected the sunlight in a special way. It is believed that the salmon entering the SXOLE (reef net) felt safely surrounded by dune grass in the running tide. It is also believed that the salmon were fooled into thinking that the lead was the actual bottom as they entered into the SXOLE (the net itself) (Claxton and Elliott 1994:16–17).*

The Fort Langley journals further documented the passage of “Sanch”—or WSÁNEĆ—on the ŚNEWIL/Fraser River in the pursuit of salmon in 1827 (MacLachlan 1998:34). Similarly, James Douglas recorded the presence of 12 WSÁNEĆ heads of families when he took census at Fort Langley in 1840 (Fritz 2016), highlighting the presence of STÁUTW ancestors in the Lower Mainland and the Harvesting and Subsistence Activities LAA.

In addition to salmon, dogfish, sturgeon, crabs, and clams are harvested in or near the Lower Mainland (e.g., at the mouth of the ŚNEWIL/Fraser River) as resource and access conditions allow (Evans et al. 2015; 2019; Figure 38).<sup>12</sup> Claxon and Sam (2010) write of the long tradition of clamming that is evident in the archaeological and oral historical record:

<sup>11</sup> The high ubiquity of flatfishes found in archaeological sites at the mouth of the South Arm and in particular along Roberts Bank to SMOKEĆ/Point Roberts (Figure 7) (McKechnie and Moss 2016) is evidence that flatfishes were also fished for subsistence by STÁUTW near SXOLE/reef net fishery sites at SMOKEĆ/Point Roberts (Claxton and Elliott 1993; 1994).

<sup>12</sup> In Section 11.18.5.2 of the Application, FortisBC notes that the “WSÁNEĆ Nations have not indicated to FortisBC that their members fish within the proposed Project Footprint or the Harvesting and Subsistence Activities LAA”. This is despite FortisBC's reference to *WesPac* (n.d.)—a section of the TMJ Project Marine Shipping Assessment—which summarizes the 2015 STÁUTW (Tsawout) Marine Use Study prepared as part of the assessment of the TransMountain Expansion (specifically the marine shipping component; Evans et al. 2015). The 2015 TransMountain Expansion study cites an earlier study (Aberley 2002) in which interviews of STÁUTW members were conducted, and which confirms the use of the south arm of the ŚNEWIL/Fraser for fishing (e.g. “... respondents indicated long-term and recurring seasonal use of the Fraser for fishing, including use as a commercial fishery. Two boat

*Nearly every bay and beach in our homeland was a clamming site. Many of these were extensive and had been used for thousands of years. We know this from our oral history, and we also know it from the kitchen middens that remain, full of clam shell fragments and other shell and bone remains or our activities. (Claxton and Sam 2010:73)*

SḴÁUTW and WSÁNEĆ use of clam beds in SMOKEĆ/Point Roberts, SĆEU,OFEN/Tsawwassen, and around Boundary Bay, is evident in living memory and analogously in settler accounts (e.g., Clark 1980:86).

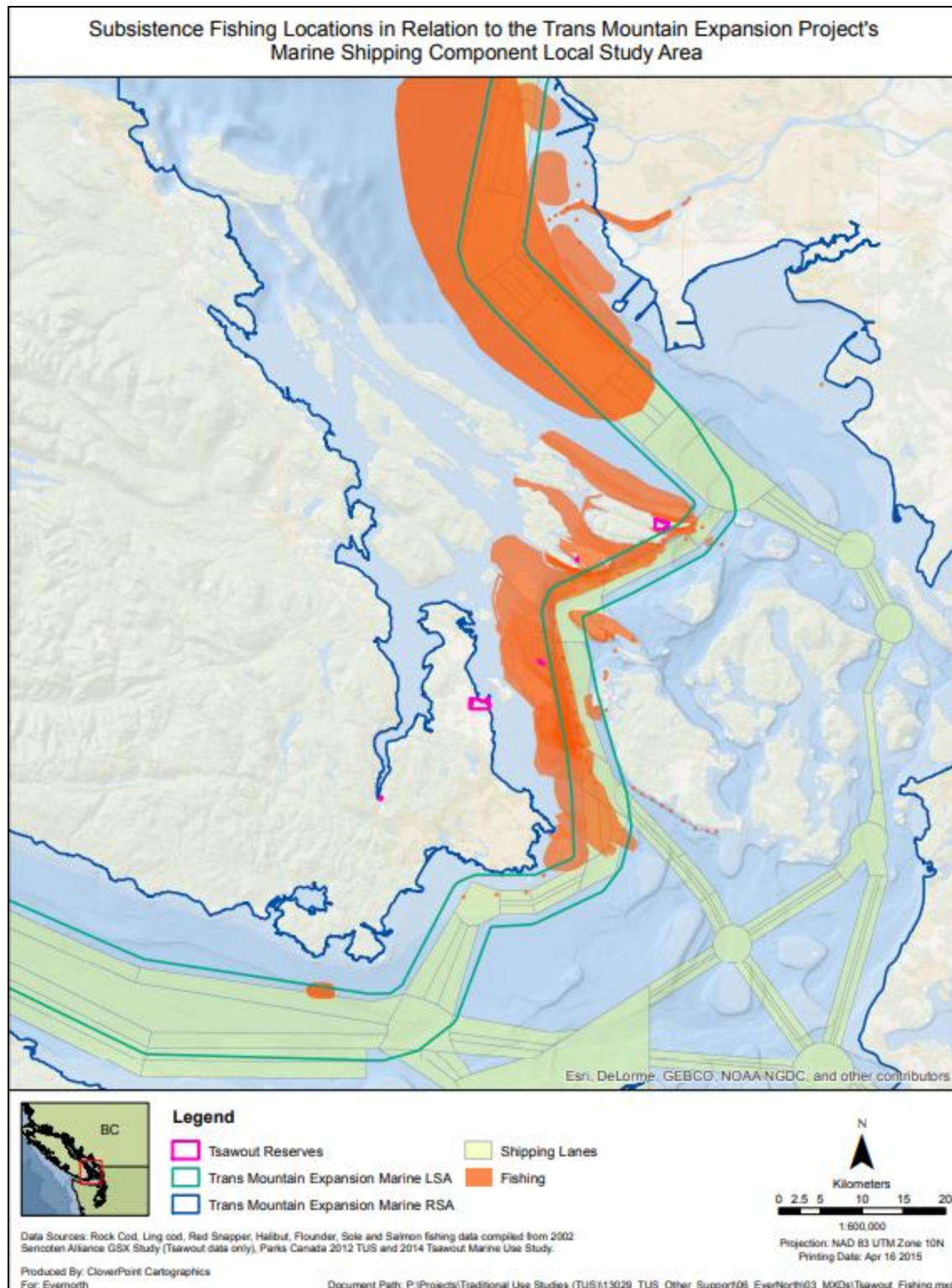
*Traditionally, they would gather right along the boundary, the Blaine side. Right along the front of the village that was there. My [personal relation] said there was really good clams in there... he said there was a really good crab fishery in there, too. (SḴÁUTW Respondent ID100)*

*On the Point [Roberts] there is an old Indian burying ground. And the vast bed of clam shells show that it has been a point used extensively by the Indians for centuries (Clark 1980:86).*

Clams and crab—only two of numerous valued intertidal and nearshore species—continue to be important to SḴÁUTW culture and diets, providing sustenance and serving ceremonial purposes (Evans et al. 2019:51). Bivalves have also traditionally been used to manufacture goods including tools and weaponry (Claxton and Sam 2010).

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*anchorage sites were identified near the mouth of the Fraser and at Steveston." "[SḴÁUTW] harvesters have recently fished for sturgeon nearer the mouth or in the estuary of the Fraser.").* Figure 38 reproduces a map from the Evans et al. (2015) study cited by FortisBC, showing SḴÁUTW fishing locations extending up the south arm of the SNEWIL/ Fraser River, including in the area adjacent to the Project Footprint. This information source thus indicates SḴÁUTW First Nation fishing activity in the area that FortisBC states they understand that no fishing occurs, and within the Project LAA for Harvesting and Subsistence Activities.



**Figure 38:** Map of STÁUTW fishing locations taken from Evans et al. (2015). Note that the information represented in this figure are not representative of STÁUTW “as formerly” and were specifically collected to inform fishing locations impacted by marine tanker traffic associated with the Trans Mountain Expansion Project.

Since the 1800s, the rapid colonization, settlement, and transformation of the Lower Mainland through development have made the meaningful exercise of STÁUTW First Nation fishing rights “as formerly” impossible. Where once the SXOLE/reef net salmon fishery at SMOKEĆ/Point Roberts was so abundant that the catch provided the community with a major portion of its winter salmon supply, now:

- Fishing villages and stations are no longer accessible due the privatization of land and creation of the Canada-USA border beginning in 1846 (and subsequent agreements);
- Pollution, sedimentation, dykes and foreshore armouring, and large-scale infrastructure have reduced fish habitats and populations (see Section 2.1 and Section 2.2);
- Overfishing by colonial commercial fisheries (and historic canneries) has reduced salmon stocks and increased competition; and
- Colonial regulations and laws have restricted how, where, and when Indigenous peoples can fish (e.g., preventing fishing for commercial purposes without a licence or lease, banning the SXOLE/reef net fishery in 1916 in Canada, and 1934 in Washington state).

Although salmon continues to be highly sought after, STÁUTW First Nation members articulated the impacts of these cumulative effects on the exercise of fishing rights in the Lower Mainland, as follows:

*Years ago, there used to be a number of STÁUTW people that fished [on the mainland]. [...] [But] as the salmon declined, so have the people, right? (STÁUTW Respondent ID103)*

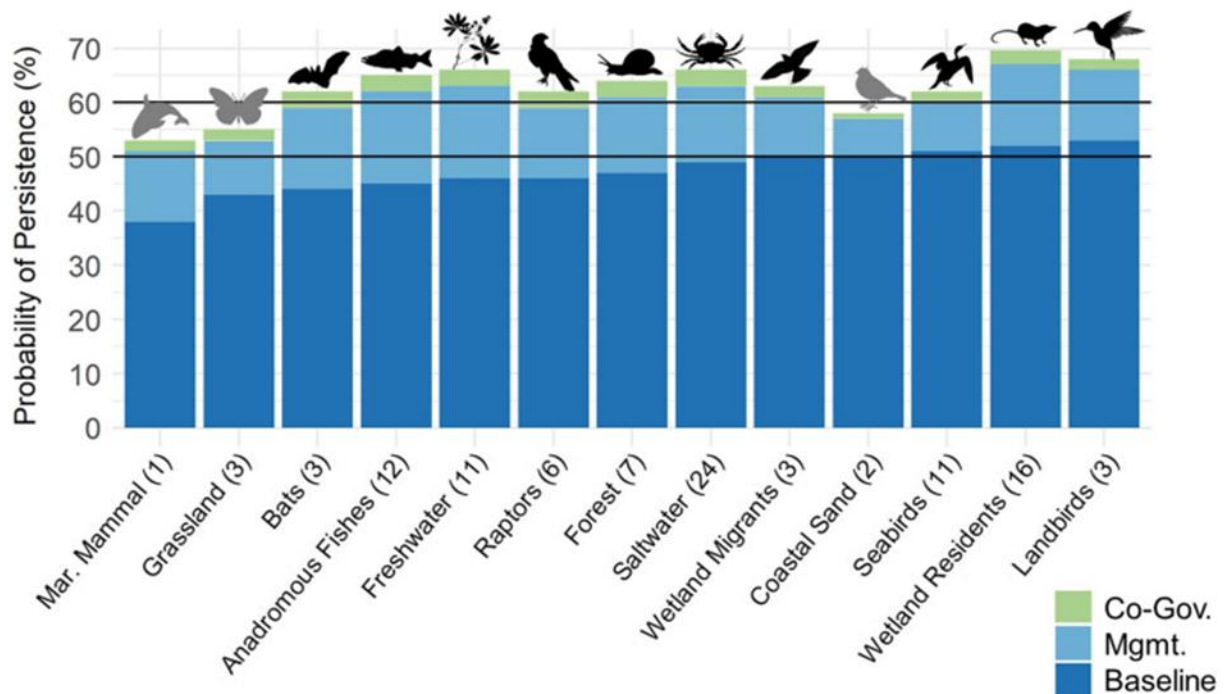
*Well, a lot of the areas that were traditionally available to us now are industrialized. Industrial lands. And they're not really accessible for our people anymore. (STÁUTW Respondent ID100)*

*We had fishing opportunities every year [growing up]. Now it seems like we're reliant on cycle years. So, there's no more fish. Like, they come in fourths – sockeye come in four-year-cycles. And now we're reliant on basically one predominant year that seems to be coming back strong. But it's been slowly declining over the last few cycles, as well. So, to me, that's not right, you know? [...] When I was a kid, we fished Johnstone Strait, San Juan, Pender and mouth of the Fraser, and every year was good. There were tons of fish there. I always remembered that, as a kid. (STÁUTW Respondent ID103)*

*The Fraser River is just becoming non-existent. And that's not only sockeye, it's chinook, it's pink salmon. Pink salmon were huge. I remember fishing there with my late uncle when I was a boy, and pink salmon were massive. And there was just millions of them. Now, you don't even see them anymore. Just declined. (STÁUTW Respondent ID103)*

A recent study by Kehoe et al. (2020) based on expert elicitation analyzed the probability that different species groups will continue to survive in the ŠNEWIL/Fraser River delta under current management conditions (i.e. business as usual, without additional conservation measures) versus with additional management and governance actions. Anadromous fish species (including Pacific salmon and sturgeon) were assessed to have a ~45% probability of persistence under status quo conditions (i.e. ~55% probability of going locally extinct) (Kehoe et al. 2020) (Figure 39).





**Figure 39:** Probability of persistence (i.e. probability of not going locally extinct) of species groups in the Fraser River delta. Baseline (dark blue) represents species persistence probabilities under no additional management (i.e. business as usual, status quo). Mgmt. (light blue) and Co-Gov. (green) represent species persistence probabilities should additional management and/or overarching co-governance strategies be implemented. Under baseline management conditions, only 5 of 13 species groups have a higher than 50% probability of persistence and none have a higher than 60% probability of persistence. Under baseline management conditions, two thirds of species within the Fraser River estuary are predicted to have less than a 50% probability of persistence over the next 25 years (n = 67 of total 102 species; 8 of 13 species groups). (Kehoe et al. 2020)

Another recent (2024) study found that the lower ŚNEWĪL/Fraser River (LFR) is “clearly in a reduced capacity to support fish production and many of the changes that have been caused by industrialization have compound effects that make [the LFR] an increasingly inhospitable place for juvenile salmon through loss of habitat and higher flow rates” (Lozano 2024:6–8). The study noted that even relatively intact habitat patches, such as the South Arm marshes, are still impacted by diking, which prevents salmon from easily reaching this superior habitat (Lozano 2024:22). This extensive fragmentation is directly attributable to the development and privatization of most of the ŚNEWĪL/Fraser River shoreline, the density of which makes restoration efforts particularly challenging (Lozano 2024:14).

Remaining salmon and fish populations that use the waterways of the Lower Mainland are moreover impacted by acute and persistent pollution. Examples include exposure of salmon to contaminants from vessel discharges, dredging, and those commonly contained in tire rubber (6PPD-quinon) and discharges from industrial operations that have been linked to high salmon mortality (see Table 1; Tian et al. 2021; Larsen 2018).

It is not only fish populations that have declined but so has the *size* of certain species of fish, like lingcod. As recounted by one SṪÁUTW First Nation member, lingcod were once so large and voracious that young children were cautioned against putting their hands in the water while traveling by canoe, but that “there is no more cod like that anymore”.

*The cod fish were huge in the day. He said, maybe you better go and spear that cod fish. So they went out there and they speared him and they cut him open. Sure enough that kid was in there. So the cod fish in those days were very much, you knew they were like that. That's why when we used to be travelling in the canoe we were not allowed to have your fingers in the water. Because when we were travelling you like to put your hands in the water. We weren't allowed to do that because of the cod fish being predators like the way they were, like I said, there is no more cod like that anymore. You get cod they are only that big. I don't know how many years it gets for them to go to a full size. But the [SṪÁUTW] people respected the AYET, maybe that's why they call them their SiYEt, their elder brother today, but their sacred name is—getting back again—everything was a human being at one time. But they changed, that's why they became predators. The cod fish will eat anything. The [SṪÁUTW] people enjoyed the cod as their food. Also respected as a predator for small children. (SṪÁUTW Respondent ID111)*

The SṪÁUTW First Nation crab fishery and intertidal/nearshore gathering rights have similarly been impacted (Evans et al. 2015; 2019). Clam and bivalve harvesting generally have been heavily impacted by pollution, including from vessel discharges, and resulting closures in SṪÁUTW First Nation territory, increasing risks of biotoxin and contamination exposure and related health consequences (Evans et al. 2019). Water quality in the SNEWIL/Fraser River specifically has impacted shellfish harvesting where, “despite early improvements F. coliform levels have remained too high to allow shellfish harvesting within the estuary” (Hanna 1998:67), which has been closed since 1962 (Environment Canada 1992).

*We are impacted because we are eating wrong foods now, the foods that we depended on. Now it is all poison. When they first started to come in, like it is the way it is today, Mother was saying, we'll be ok, we can always go down to the beach and dig clams for our food. That's the first thing that went out, contamination of clams and even the crab I think. I don't know how they are justifying the fact that the crab is now also contaminated. The crabs that I was talking about, those big purple crabs, there is no more of them big purple crabs. Just the little brown ones. (SṪÁUTW Respondent ID111)*

The SṪÁUTW practice of “raking” for crabs and sea urchin, has been impacted by decreased water clarity caused by turbidity generated by passing vessels; barriers of regulation; and colonial commercial and recreational competition (including loss of gear), climate change, pollution, and invasive species that have reduced populations.

*When you were talking about people being able to see right into the water to see the octopus, one of the things they bring up here is that with the vessels going by, it stirs up all the sediment, so the water is less clear, so it's harder for people to fish in those ways. (SṪÁUTW Respondent ID110)*

Additionally, the increasing cost of gear and equipment (see Section 3.3.2.6) is affecting nearly all SṪÁUTW First Nation harvesting and subsistence rights—interacting with dwindling and accessible resources—and disrupting cultural knowledge transmission (see Section 3.3.2.7) required for the continuity and success of harvesting traditions. With respect to fishing specifically, vessel traffic, in-water development, and pollution have all impacted accessibility fishing sites and remaining fish stocks, resulting in additional costs in time, effort, and money; safety hazards; and lower success rates (Evans et al. 2015; see also Section 3.3.2.4).

#### *Plant Gathering*

SṪÁUTW First Nation is no longer able to meaningfully exercise rights to gather terrestrial, aquatic, and marine vegetation in the Lower Mainland and the Harvesting and Subsistence Activities LAA. As described by FortisBC in Section 11.18.5.2 of the Application, the WSÁNEĆ Nations relied on numerous plant species for food, medicines, crafting equipment and tools, and for use as building materials, including plants

gathered from the shoreline (e.g., camas bulbs), intertidal, riparian, and marine environments (e.g., seaweeds).

SṪÁUTW First Nation plant gathering, hunting, and fishing together comprised the seasonal round and were complementary activities. WŚÁNEĆ and SṪÁUTW First Nation use of the Lower Mainland is evident in the archaeological record, oral histories, and living memory of members. One example of the former is the archaeological site DgRs-30, located north of the Whalen Farm site and south of Beach Grove. A report on the site references “small gauge, two-strand, twisted cordage...made from inner cedar bark”, which is notable given its location and that SṪÁUTW fishing gear was made from cedar rope and willow bark (Claxton and Elliot 1994:13).

In conjunction with the fishing season, SṪÁUTW gathered a variety of food plants and medicines; KẸXMIN/wild celery, a sacred medicinal plant, was also picked for flavouring, ceremonial and other uses (Jenness 1974:7).

*My [personal relation] said that when they would travel off the Serpentine River, they would pick berries all along that. [...] Yeah, he said that was just rich with berries up there. All the way along the river, so they would enjoy them all the way. (SṪÁUTW Respondent ID100)*

In addition to the Douglas Treaties guaranteeing the “right to village sites and enclosed fields”, SṪÁUTW First Nation also has inherent and constitutionally protected Aboriginal and Treaty rights to harvest plants across SṪÁUTW First Nation territory. In SṪÁUTW First Nation territory, this has included:

- Picking S,ELLTENEN/berries, including soap berries, blackberries, blackcaps, salal berries, salmon berries, wild strawberries, cranberries, thimbleberry, blueberries, and others, which were collected in baskets and sometimes dried or processed for winter consumption (Suttles 1974:63–64; Claxton and Elliot 1993; Welsh 2002);
- Harvesting SKÁUISELL/wapato, and planting and harvesting of camas, for food, and collection hog fennel (Evans et al. 2019; Claxton and Elliot 1993);
- Collection and use of bracken roots and horsetail, as well as nettles, cedar and willow bark, SṪA,KEN/cattails, and SẼLEL/tule rushes for rope, housing, bedding, insulation, mats, utensils, fishing gear, and other goods (Claxton and Elliot 1993; Welsh 2002; Evans et al. 2019);
- Collection and consumption of KẸXMIN/wild celery (a sacred medicinal plant) for flavouring and ceremonial uses (Jenness 1974:7); and
- Collection and use of a variety of seaweeds and kelp, including DE,LOEDC/rockweed, LEKES/red laver/red sea lettuce, O,EN/bull kelp, as well as CELEM/eelgrass, many of which are used for food but also medicines for ailments including wounds and tuberculosis, and sold for income (Claxton and Sam, 2010:85-86).

The collection of seaweeds and kelp show how vegetation gathering is not limited to terrestrial environments. The collection of seaweeds—like most harvesting rights—complemented other harvesting activities. Elliot and Poth (1990) described the collection of LEKES/red laver while clamming and how it was processed for winter, and the past richness of the land and water:

*They would be digging clams, roasting clams, drying clams. They took seaweed or LEKES at that time. It grows on rock between high tide and low tide. When the tide is partly out it comes out of the water, and in some places it grows very thick, and of course our people harvested it. They would pick LEKES and spread it out in the sun to dry. They had to be very careful it didn't get rained on because fresh water would spoil it. It would turn bad. If it looked like it was going to rain they would have to run out and cover it or pick it up and get it out of the rain. That was another nourishing food. After*



*it was dry, it was pressed into blocks; pressed and compacted and put away for the winter. In the winter time it would be take out and used in cooking or just eaten the way it was. There was no way you could starve in this country. We had too much of everything. (47-48)*

Despite SṪÁUTW's inherent and constitutionally protected Aboriginal and Treaty rights to gather plants, and to enclosed fields and village sites, it is evident that these rights can no longer be exercised in a meaningful way in the Lower Mainland (e.g., Figure 2, see also Section 2.3).

The intensive urbanization and industrialization of the Lower Mainland is plain, as is its implication for the meaningful exercise of SṪÁUTW plant gathering and harvesting. This is underscored by FortisBC's description of the Project Footprint in Sections 11.18.5.2 and 11.18.5.3 of the Application (respectively, below):

*"The proposed Project Footprint was previously cleared of natural forest resulting in little to no native soils remaining in place, but is vegetated and has been heavily disturbed, with the majority of the proposed Project Footprint being used for industrial purposes. The existing Tilbury LNG facility consists of gravel (60 percent) and paved (40 percent) areas, existing infrastructure, and equipment laydown areas supporting little plant life with very little to no habitat value for wildlife. The vegetation within the proposed Project Footprint is mostly limited to ditch lines and spoil piles and is dominated by nonnative and invasive plant species."*

*"Over 98 percent of the proposed Project Footprint is industrial land use and is not vegetated."*

The impact of colonial systems can also be subtle. Take modern agriculture; as observed by one SṪÁUTW member, the ability to plant and harvest camas has been disrupted by the expansion of non-traditional crops like potato.

*Whereas before, the only thing that our people used to use for starch was a plant called camas. It was like an onion. And that's what our people used to eat. Before, and then introduction of potatoes into our diet replaced camas because it was so much easier to plant and harvest. And a lot of our fields that were traditionally camas fields around here got plowed up and turned into potato fields. So, it's pretty hard to find a good camas field now. (SṪÁUTW Respondent ID100)*

Similar to terrestrial harvesting, the collection and protection of nearshore/intertidal marine vegetation has also been adversely impacted by industrialization, urbanization, colonization, and settlement (e.g., Baker 2016 documents extensive loss of access to red laver, including along the SNEWIL/Fraser River). For example, the parallel collection and processing of clams and seaweed has been disrupted by the loss of, and access to, clam beds from pollution and urbanization, while kelp beds and eelgrass habitats that are nurseries for many marine species are in decline (Evans et al. 2015:85) and are further threatened by development, including the approved Roberts Bank Terminal 2 Project.

*I'm really concerned about kelp. Kelp is disappearing. People don't think about kelp, right? They found that out—migrating fry out of the Fraser River and the Cowichan River will hang out in the Southern Gulf Islands and stay within the foreshore for their first year of their life because within those kelp patches and seaweed and stuff there is so much food for those little guys to eat. It's disappearing and they don't know why. I remember as a kid, there used to be kelp all along the beach—around James Island and down along the shore all over the place, and now there is not. It's like, there's the big kelp beds, the big bull kelp, but it's that different species, like a smaller bull kelp—it's disappearing. (Tsawout MUS 2015:85)*

Spatial analysis conducted by SṪÁUTW First Nation demonstrates that the level of impact in the Project Footprint is mirrored across the Lower Mainland (Figure 2), which is almost completely unavailable to SṪÁUTW for the exercise of terrestrial rights—with adverse implications for related tangible and intangible

rights. (As noted previously, there is a close relationship between SṪÁUTW First Nation plant harvesting rights and fishing, as well as other rights as will be discussed subsequently.)

*When I think about the Douglas Treaty, it says that we can carry on and hunt and fish as formerly, but the biggest part is the next part, that our village sites and our enclosed fields would be protected forever. That's been broken so many times. (SṪÁUTW Respondent ID102)*

Tilbury Island specifically has seen wholesale changes in vegetation and land uses over time due, transforming from native grassland to agricultural land then industrial use.

- Prior to the 1900s, Tilbury Island was covered in prairie grasses with patches of willow and cedar, with the outer edge being mixed woodland of cottonwood and alder and the inner edge being mixed coniferous forests with cedar and hemlock (Figure 14).
- Tilbury Island lands were privatized by 1876 (Figure 18), and farming was documented as early as 1909 (Szychter 1992:107).
- By 1974 much of the island was agricultural land transitioning into industrial use; the Tilbury Island LNG facility opened in 1971. Tilbury Island was included in the areas proposed for future industrial development under the Lower Mainland Regional Planning Board in 1957 and 1961 (Hoos and Packman 1974), leading to the transition of agricultural land cover to industrial use in the decade following.
- Industrial uses have dominated Tilbury Island since the 1970s, which has been subject to “dredging, in addition to the construction and operation of the Weyerhaeuser marine jetty, sawmill, and lumber yard” (Golder Associates Ltd. 2019:44), as well as FortisBC’s Phase 1A Expansion (and planned Phase 2B Expansion).

### Hunting

Contrary to FortisBC’s interpretation that the Project Footprint and Harvesting and Subsistence Activities LAA are of limited hunting importance due to a lack of available species/habitat; existing firearms restrictions; and an absence of expressed concern, SṪÁUTW First Nation emphasizes the continued existence of SṪÁUTW First Nation’s right to hunt “as formerly” in SṪÁUTW First Nation territory. SṪÁUTW First Nation’s right to hunt is inclusive of the Project Footprint and SṪÁUTW First Nation territory within the Harvesting and Subsistence Activities LAA where FortisBC identifies the presence of culturally important species and habitats.

Species hunted and/or trapped by the SṪÁUTW in the Lower Mainland include deer (particularly black-tailed deer); elk; mountain goats; beaver; and marten. In between intervals of salmon fishing on the mainland, SṪÁUTW men would hunt deer and elk, and at the close of the salmon season they harvested mountain goats, as well as sometimes trapped for beaver and muskrats (MacLachlan 1998:40; Welsh 2002; Jenness 1974:7;12).

SṪÁUTW also pursue a wide variety of waterfowl in habitats such as sloughs, protected inlets, and marshland, traditionally using nets and spears (Claxton and Elliot 1993; Evans et al. 2019). Sought-after waterfowl include surf scoters, pintails, mallards, sea pigeon, sawbill mergansers, murres, buffleheads, widgeons, brant, Canada geese, barrow’s goldeneye, common goldeneye, American black duck, (Evans et al. 2015; Webster 2000); upland game birds were also hunted, including grouse pheasant, and quail (Aberley 2002). Seagull eggs were collected from rocky shorelines, often simultaneously with camas bulbs (Elliot 1983; Claxton and Elliot 1993; SṪÁUTW Respondent ID130; Welsh 2002).

As with fish and vegetation, land animals are not only important as sustenance but valued for many other purposes including utilitarian, economic, artistic, and ceremonial. For instance, crabs and urchin were

traditionally collected using rakes crafted from deer antlers—a method that continues to be preferred by some SṪÁUTW today (Evans et al. 2015:73).

Trade involving meat and pelts was a central part of the traditional economy. The Fort Langley journals recorded the passage of WŚÁNEĆ in October 1827, from whom venison was purchased (they are documented as having been encamped nearby on the Salmon River [Little Portage River]).<sup>13</sup> The WŚÁNEĆ are also documented visiting in the winter of 1829, carrying beaver skins (some of which were recorded as being obtained through trade and to be used for blankets) (McDonald in The Fort Langley Journals, 1827-30:94). The SṪÁUTW are also known to have traded surplus fish to obtain goat's wool, deer and elk meat, and dry goods (see Section 2.3.2.6 for more details).

*October 12th, 1827: We are occasionally visited by straggling Indians, who still bring us fresh fish and a little venison. There are a few of the Sanch [WŚÁNEĆ] Village Indians encamped not far from us upon the Little Portage River, where they take a quantity of Salmon on Wears [Weirs] by barring up part of the River. They also kill a few Beaver in wooden Traps constructed in the same manner as those for Martens, and contrive to secure a Red Deer now and then in Pitfall (MacLachlan 1998:41).*

Mountain goats—which could only be obtained on the mainland—and their wool were a key resource used for making blankets, a medium of exchange and a main gift at potlatch ceremonies, and their horns were used to make spoons and bracelets (Welsh 2002:34). The quotes below highlight the importance of wool as a SṪÁUTW ceremonial and economic resource linked to the ŚNEWIL/Fraser River, and how access to mountain goat wool has changed.

*Well, the biggest items that I knew of [that was traded for] was mountain goat wool. Mountain goat wool was a really prized possession, and I have a SWE, KO, Ł that was made for me that's made out of wool, but my great-grandfather had one that was made of mountain goat wool. (SṪÁUTW Respondent ID100)*

*Indians long ago used goat and sheep wool to make blankets; the weaving method was used. Blankets were used for trading and selling. The areas mainly camped at were the Fraser River and Sechelt area. These short journeys were always enjoyed by the people because travelling was a life-long work and pleasure. The main trail the Indian people followed through was called the "Eulachon Trail" because eulachon oil was dropped all along the trail. During the travel back home, the people gathered wool which was snagged on the bushes and branches. Good quantities were found. The wool was used for clothing, blankets, hats, and belts, etc. Present times, sheep wool is used for knitting and other costumes. The disadvantage now is that it must be bought for a good sum of money. (SṪÁUTW First Nation 2019:23)*

Ducks, too, have important roles in ceremony in SṪÁUTW culture; they are staple food in feasts, funerals, and community events. Feathers from the pileated woodpecker are "valued for its prettiness and regalia use. Also medicinal use for men" SṪÁUTW Respondent ID111). The surf scoter—or "black duck"—especially has a key place in the SṪÁUTW smokehouse and ceremonies;<sup>14</sup> its meat is used in duck soup, and its feathers are lain on the floor to protect and initiate dancers (Evans et al. 2015:111). Being a duck hunter for the SṪÁUTW community is therefore an important role suffused with spiritual and ceremonial purpose.

<sup>13</sup> It should be noted that numerous interactions with WŚÁNEĆ individuals and families are documented between 1827 to 1830 in the Fort Langley Journals, including passage of the WŚÁNEĆ up and down the ŚNEWIL/Fraser River and its tributaries, to and from fishing grounds and village sites (MacLachlan 1998). Interactions between the WŚÁNEĆ and occupants of the Fort include trade in food and goods including venison, elk meat, beaver skins, and blankets. WŚÁNEĆ were also sometimes hosted at Fort Langley.

<sup>14</sup> Smokehouse, bighouse, and longhouse are used interchangeably in this report.

*With people they mainly relied on Black Ducks because it had a lot to do with their culture, for the smokehouse and stuff of that nature. They used them for the feathers on the floors. Other bands, say for instance the Penelakut band, they depended on what they called a murre. They also ate loons. Nanaimo, and that they eat same thing, and I even heard them shooting shags, mergansers and stuff, and depending on that. But Saanich people was mainly black ducks. (Tsawout MUS 2015:111)*

The historical record and SṪÁUTW oral histories and experiences make clear that hunting cannot be understood as simply a land-based right, it is also connected to the ocean and rivers: hunting grounds were reached by travel over water, animals like beaver rely on watercourses and terrestrial ecosystems, and traditional hunting methods were, at times, amphibious.

While deer can be caught by many traditional and contemporary methods, including netting, pit traps, bows, snares, and rifle, the practice of “pit lamping” underscores the socially-fabricated boundary between the land and water. Hunting at night using illumination is a Treaty-protected right of the W̱SÁNEĆ (R. v. Morris [2006] SCC 59), which traditionally entailed hunting “at night with a fire built on clay on a board in a canoe. The shadows cast by the fire tricked the deer into entering the water to escape the motion of the shadows. They were killed from canoes.” (Welsh 2002:32 in Section 11.18.5.2 of the Application). Indeed, the SṪÁUTW prefer to hunt deer in areas accessible by boats to facilitate transport of the kill (Evans et al. 2015:114).

SṪÁUTW First Nation is no longer able to meaningfully exercise their right to hunt and trap in the Lower Mainland. The same forces of colonization, settlement, and urbanization that have alienated SṪÁUTW First Nation from fishing and plant harvesting rights have simultaneously reduced the presence and habitat of traditionally-hunted species and access to them.

With the loss of wetlands (see Section 2.3) that are important habitat for waterfowl and migratory birds, many native bird populations have decreased since the 1850s (Boyle et al. 1997; Leach 1979; Province of British Columbia 1971; Butler et al. 2021).

Spatial analysis conducted by SṪÁUTW First Nation (Figure 2 and 31) categorically show the absence of accessible habitats that would support an abundance of animals such as waterfowl, beaver, and elk in the Lower Mainland. Moreover, access to remaining hunted species is highly restricted due to the presence of residential and industrial infrastructure and human populations. SṪÁUTW First Nation members identified private property, residential and commercial development, and harvesting regulations as barriers, and that the presence of people creates safety concerns that prevent them from hunting.

*[In response to being asked whether he hunts in the Study Area]: In the lower Fraser, no. It's too populated. I mean, I've always got rifles and guns on board, but it's for, you know [...] less populated areas [...]. (SṪÁUTW Respondent ID103)*

*And there's too many houses in this area [in SṪÁUTW ÁLENENEZ]. Everywhere, surrounding, so there's no chance of getting back that hunting territory for that reason. Unless you're using a bow, and you're sure about your shot. Other than that, no, no hunting for deer in our territory, because of surrounding houses. You've just got to be careful, mindful of where it's gonna travel and stuff. (SṪÁUTW Respondent ID300)*

Public safety concerns while hunting are ever-present, including outside of the Lower Mainland in SṪÁUTW First Nation territory. For example, SṪÁUTW hunters expressed the need to be vigilant about hikers, even during designated hunting seasons in non-residential areas where hunting is permitted (Evans et al. 2015:114; Evans et al. 2019:40). Perversely, deer—which have atypically increased in numbers (Table 6)—can sometimes be easy to find in urban areas, but accessing places where deer are available

and safety risks are reduced—including on the mainland—can mean incurring significant expenses in time and money with no guarantee of success.

*If was to go hunt up in Duncan and those areas there, I could spend hundreds of dollars and never see one deer, and get back to Victoria and see a hundred” (Tsawout MUS 2015:114)*

Similarly, the availability and accessibility of the sacred surf scoter has declined with time, and the expense to pursue them has risen. As a result, some SṪÁUTW hunters have turned to alternative species of waterfowl which are not seen as adequate substitutes.

Despite the magnitude of these changes in wildlife populations and their accessibility in the Lower Mainland over time, FortisBC’s Application (Section 11.18.5.2 of the Application) indicates that species of importance to the W̱SÁNEĆ Nations and supporting habitats can still be found in and around the Project Footprint, specifically Tilbury Slough. This includes the presence of rabbits, beaver, and waterfowl (“green-winged teal, lesser scaup, Canada goose, mallard”), bald eagle, and beaver, suggesting that while these animals may not be accessible or plentiful, there continues to be an opportunity for recovery.

### Conclusion

SṪÁUTW First Nation has inherent and constitutionally protected Aboriginal and Treaty rights to fish, harvest, and hunt in SṪÁUTW First Nation territory, including in the Lower Mainland. These rights have not been extinguished and continue to be protected despite the considerable level of cumulative effects and access barriers that effectively prevent the meaningful exercise of these rights “as formerly”. SṪÁUTW stresses the interlinked nature of rights and rights practice, which should be understood holistically—tangible and intangible rights are complementary and interdependent; marine, aquatic, and terrestrial ecosystems are connected. The actions of developers and the Crown today have the potential to improve conditions that support SṪÁUTW First Nation rights or alternatively contribute further to the continuation and increasing degradation of these conditions.

### 3.3.2.4 Cultural Use Sites and Areas

#### Definition

FortisBC’s Application does not define the Indigenous interest of “Cultural Use Sites and Areas”; however, the potential effect pathways and associated indicators (Table 11.1-4 of the Application), and topics to consider (Table 11.18-6 of the Application), are indicative that the focus is on:

- Physical resources, sites and locations of cultural (including habitation sites and place names), historical, archaeological, paleontological or architectural value;
- Cultural and spiritual practices, including customs and beliefs; and
- Loss of access to, and disenfranchisement from these sites (including through sensory experiences).

SṪÁUTW First Nation also considers areas in which it has rights to harvest, transmit knowledge, and govern to be cultural use sites and areas, these are discussed in Sections 3.3.2.3, 3.3.2.5, and 3.3.2.7, respectively.

#### Current Condition

##### *Habitation, Access*

FortisBC’s Application concludes in Section 11.18.5.2 that the W̱SÁNEĆ Nations do not “access cultural sites or areas” in or near the Project Footprint, and that no cultural sites or areas have been identified by



the WSÁNEĆ Nations “in or adjacent to the proposed Project Footprint, LAA, or RAA”. SṪÁUTW First Nation disagrees and identifies cultural use rights throughout its territory, including the lower arm of the ŚNEWIL/Fraser River and the Project Footprint.

SṪÁUTW First Nation has exercised rights to access the Lower Mainland, including the ŚNEWIL/Fraser River to fish, hunt, and trade as described in Section 3.3.2.3 and Section 3.3.2.6. The SṪÁUTW seasonal round, as it applies to the Lower Mainland, was anchored by permanent villages at SMOKEĆ/Point Roberts and Boundary Bay, and along established access routes following the ŚNEWIL/Fraser River, Serpentine, Salmon, and Nicomekl Rivers (MacLachlan 1998:173; Fritz, 2016; Vandenberg 1998:19). (SṪÁUTW First Nation emphasizes that access to use sites, facilitated by streams and creeks, would have been much more extensive prior to diking.) Contemporary WSÁNEĆ research has furthermore identified multiple habitation sites in the Lower Mainland in SĆEU, OFEN/Tsawwassen, in addition to those on SMOKEĆ/Point Roberts (Evans et al. 2019:28).

In 1841, Charles Wilkes, the leader of the “1838-1842 US Exploring Expedition,” identified the area around the mouth of the ŚNEWIL/Fraser and around SMOKEĆ/Point Roberts as being inhabited by WSÁNEĆ:

*“The 4th of July was spent near Point Roberts; and on the 5th, the brig reached the mouth of Fraser’s river, ...It is inhabited by the Nanitch [Saanich] tribe, who accompanied the brig thither from Birch Bay” (Wilkes 1845:483).“*

Historical records from Fort Langley between 1827 to 1830 (MacLachlan 1998:34) documented the passage of WSÁNEĆ families up and down the ŚNEWIL/Fraser River, including the transport of wooden planks used in the construction of housing. (Traditional housing was purposely made to be easily assembled and disassembled.)

*Saturday [August of 1927] 25th. [...] Families from the Sanch Village at Point Roberts have been passing in continued succession during the day all bound for the Salmon fishery. Their Luggage as well as that of the other tribes is transported up and down the River on Rafts, which are formed by laying Boards across two or more Canoes Kept 8, 10 or 12 feet asunder. They have also among them large War canoes procured from Indians to the northward, which are used by them as Luggage Boats, and which contain a great Bulk of Furniture & Baggage. The Size of some of these craft is fully 50 feet in length and 6 to 7 ft. across the middle.*

And, in his ethnographic analysis of “The Fort Langley Journals” Suttles notes that “During the fall a group of Saanich camped up the Salmon River, just above the Fort” (Suttles in MacLachlan 1998:173).

One SṪÁUTW First Nation member recalled how families would access the ŚNEWIL/Fraser River and its tributaries—in this case the Serpentine River—to harvest and reach village sites, highlighting both continued use since before the Douglas Treaties and the importance of knowledge transmission to the exercise of rights.

*That’s the one [access point to the Fraser River] that our family used. [...] Our family used that one, and that’s as much as my father told me. But a lot of them went up the Fraser, paddled up the Fraser to the village site there. [...] I think a lot of it had to do with family knowledge. A lot of it was the family knowledge knew of this area, so our family traditionally used that Serpentine River as a good way to access the river and access the resources along the Serpentine River, ‘til they got to the Fraser River, and then go down to the village. (SṪÁUTW Respondent ID100)*

*They would fish from where the Serpentine River met the Fraser. They would fish there all the way down to the traditional fishing village that was on the right side of the entrance to the Fraser River. There was a WSÁNEĆ fishing village on the right side of the mouth of the Fraser. So, they- my [personal relation] said they used to go up there to the Serpentine River till it got to the Fraser, and*

*then they'd come down. They'd fish on the way down to the village that was there that was recognized as a WSÁNEĆ fishing station. So that was on the right side of the mouth of the Fraser. (SṪÁUTW Respondent ID100)*

The historical exercise of rights by SṪÁUTW ancestors and relations in the Lower Mainland is also evinced by numerous place names in the region. Some are associated with geographic features like river mouths and bluffs, as well as fishing and fish processing locations, and sacred sites. One SṪÁUTW First Nation member notes how SĆEU,ŌFEN/Tsawwassen itself is a WSÁNEĆ name and location of a village.

*Tsawwassen is actually a WSÁNEĆ name. And it referenced their fish camp. But the original village was Tsawwassen, was a WSÁNEĆ village. [...] A lot of the people that went over there to participate in the reef net site, a lot of the families stayed there. So it was a continuous village. [...] Some of them just stayed there during the height of the fish season, and then came home, but then certain families stayed there year-round. (SṪÁUTW Respondent ID100)*

The SṪÁUTW have therefore resided on the Lower Mainland and used and relied on the ŚNEWIL/Fraser River and its tributaries for travel, trade, and harvesting for generations, and continue to hold protected rights to do so today.

It is however no longer possible for SṪÁUTW First Nation to exercise rights related to village sites or to carry on fishing and hunting as formerly in SṪÁUTW First Nation territory in the Lower Mainland. (As previously noted, access over the water is also an important component of SṪÁUTW harvesting and subsistence rights.) This is predominantly due to rapid and intensive urbanization, industrialization, and settlement of the region as discussed in Section 2 and 3.3.2.3.

Colonization and settlement also disrupted permanent SṪÁUTW village sites, temporary habitations sites, and access in the Lower Mainland, including in SMOKEĆ/Point Roberts where squatters displaced reef net fishers, forcing them to relocate to Goodfellows Point (Evans et al. 2019:20).

*This is our homeland. I can still hear my Mother saying, where shall we camp tonight. Oh, this is a good place here, we'll camp here. Now it doesn't matter which beach you go to, you'll be asked to leave. Because it's all private beach. (SṪÁUTW Respondent ID111)*

SṪÁUTW First Nation villages in the Lower Mainland are now surrounded or taken over by urban populations, industry, agricultural operations, parklands, and more, precluding the ability to live, hunt, and harvest in these locations and in preferred ways.

Burns Bog, for example, is a relatively large green space near the Project. While it is an example of a relatively intact habitat that supports a variety of wildlife and plant life, it is mostly closed to the public for conservation reasons. Consumptive activities are prohibited in the areas that are accessible to the public. This means that the entire Burns Bog, although likely one of the more suitable areas for harvesting, is inaccessible to harvesters. Other areas, like the South Arm Marshes, have mixed regulations: it is possible to hunt in some parts of the Marshes, but not permissible to camp overnight.

A pointed example of how colonial structures and governance has impacted rights to habitation and access is the creation of the international border beginning in 1846 (and refined through subsequent agreements), which divided the WSÁNEĆ and alienated Canadian WSÁNEĆ from villages in the modern-day United States.

*ID100: In Blaine. There was, practically right where the city is and continue down to where the border is there [points at map]. And see where the Peace Arch border [crossing] is, then it ran down and right along the beach, through Blaine. Practically to the end of the town area. That was all WSÁNEĆ village. And some of our people stayed on there. And we still relate to them, because they*



*were actually moved off of the village when the border was created. And most of them ended up in Semiahmoo on the other side of the border. And some of them went to Lummi.*

*Interviewer: Did you say the name of that village site?*

*ID100: Let's see... SENȚE, EŁEŁ and there was two, well there was a couple of names there that, SWÍNEM, SENȚE, EŁEŁ, and ĆIWOK. All three were kind of parts of the same village. So those were the ones that our people stayed in. And most of those people that were living there were involved in the reef net site. But everyone knew, clearly, that that was a WSÁNEĆ village. They spoke our language and still do, yeah. But they were removed from their land, and most of them went over to Semiahmoo First Nation on the Canadian side, and some of them went to Lummi.*

*Interviewer: So, this happened when the border was—*

*ID100: Created [nods]. Yeah. And the Americans don't recognize the Nation there.*

Moreover, the ability to travel the Lower Mainland in the absence of colonial restrictions and/or barriers created through development has disappeared. This includes seemingly quotidian boating regulations to large-scale engineered changes to watercourses and waterbodies.

In terms of landscape-level changes impacting access, a SṪÁUTW First Nation member identified a canoe route along the SNEWIL/Fraser River as far as what was formerly Sumas Lake before it was drained in the 1920s to create farmland. They recalled hearing stories about WSÁNEĆ ancestors camping on an island in the middle of the lake and bringing items to trade with other Nations:

*Through some of the stories, they've been as far as Sumas, the Kilgard reserve. There used to be a lake that they drained. They have a pump station on the State side, and they have a pump station on the Fraser Valley side. They used that to drain the lake, but the Saanich people used to go and spend time with the people there in the summertime. They had an island in the middle of the lake that they used to spend time on. These are stories that I've just heard from over the last five to ten years. It was a big, big lake, and the flooding that happened in Abbotsford was a result of the pump station being overwhelmed, and then the dikes breaking. So, they talked about refilling the lake. It could be an option yet. But that's how far the Saanich people used to travel. Historically, I've talked to some of the Elders there, and they would always talk about our people coming up there, camping, spending time with them. [...] I think it might have been the barter system at that time. They'd bring things from the [Vancouver] island over to that part [of the mainland]. (SṪÁUTW Respondent ID101)*

Among the greatest source of impacts to SṪÁUTW First Nation members' right to travel in the Lower Mainland by water comes from the presence and activities of commercial and recreational users/vessels (see Section 2.5). One SṪÁUTW member remarked, for example, on the impact of colonial commercial crabbing on navigation in SṪÁUTW First Nation territory, saying, "I can't steer my boat in a straight line for 100 feet without having to swerve to avoid tangling my prop in a commercial crab fisherman's buoy."

Large vessels are also an omnipresent safety risk in and near the shipping lanes that transit SṪÁUTW First Nation territory, affecting the exercise of fishing rights and experiences on the water. These risks have affected the ability of SṪÁUTW to travel and harvest on the waters of SṪÁUTW First Nation territory directly and indirectly, not only to fish but also hunt waterfowl.

*Our fishermen showed how the shipping through our territory has created damaged areas as a result of the passage of huge ships through our territory. I guess the poor quality of sea life through the shipping lanes compared to other areas. Also, the danger that it created to our fishermen when they're out in the water and these huge ships go by. They curtail their fishing, sometimes on short notice. (SṪÁUTW Respondent ID110)*

Importantly, even where limited physical access and resources may exist, sensory disturbances have disrupted access and use of resources and sites in preferred ways (Evans et al. 2015). This includes the cumulative effects of reduced air quality, and more noise and visual disturbances development and urbanization in the Lower Mainland. Among the consequences are the loss of privacy necessary for the exercise of spiritual and ceremonial practices, lost sense of safety, and disturbed soundscapes that interrupt or disrupt cultural teachings on the land and water, and adverse effects to sense of place and identity.

#### *Beliefs, Place Names, and Ceremony*

The exercise of SṪÁUTW First Nation rights in the Lower Mainland is governed by SṪÁUTW laws (which are discussed in greater depth in Section 2.3.2.5). Concepts and beliefs around kinship with nature (Claxton 2015:69–70; Turner 2005) and responsibilities to community and family are foundational to SṪÁUTW First Nation governance, crosscutting harvesting practices and customs; trade and inter/intracommunity relations; responsibilities and means of stewardship; and more.

*Traditionally in WSÁNEĆ it was taught that all living things were once people, and shared with us a special knowledge about how to live. (Claxton 2015:37)*

The origin story of “how the mountains were created” (SṪÁUTW First Nation 2024) is provided below to illustrate the concepts of responsibility, kinship with the natural world, and equivalence between belief and law (emphasis added in bold).

*The Creator paddled over to the east side of the [SṪÁUTW] village and found some shiny black stones on the beach. He threw one inland, and a mountain grew out of the stone. He filled his basket with more shiny black stones and went to the top of this mountain. And, then people followed him up to that mountain and there's a rock face cliff on the mountain where they went. Once there, he threw more shiny stones around him and that's how the other mountains came to be. And, then when he was finished with that work, and then he grabbed some of our people, one by one, our ancestors, and he threw them out into the straits. And, as he tossed them out into the straits he said “QENT E TFEN SCÁLEĆE, QENT E TFEN SCÁLEĆE, QENT E TFEN SCÁLEĆE, QENT E TFEN SCÁLEĆE”: “Look after your relatives, look after your relatives, look after your relatives.” And, as he threw them out into the straits, and as they landed into the straits, and then they became those islands that are still there today. What they call the Gulf and San Juan Islands. Those were our original ancestors that got changed by the Creator. **These directions to look after our relatives are our laws. These are the kinds of things we speak about with respect to the Natural Laws. For us, a belief and a law are the same.** The names we have for different parts of the natural world are in relative terms. For instance, the SENĆOFEN word for Salmon is older cousin, while the SENĆOFEN word for deer is grandson. The word for Island means “Relative of The Deep.” Our word for Rock, Boulder and Mountain means “My gift”. Our word for Earth means “Wish for the People.*

Care for human kin and community similarly permeates SṪÁUTW culture and ways of being, including in spiritual and ceremonial practices. One example is the act of providing for the longhouse and the specialized and specific roles that are passed from generation to generation (see also Section 2.3.2.3 and Section 2.3.2.7).

*Certain things are things that are passed down in the longhouse where there's only certain people that make the fire, certain people that gather the wood. We all know which families belong to the ones that look after the fire, and those are the people that we look to when something like that happens... But it's something that's been passed down to them. There's a lot of things that are involved in the longhouse that are only allowed to be done by certain families. You have to have that right to carry out that work in the longhouse. There's a lot of different ceremonies that belong*

*to a lot of different families, and amongst their line are the only ones that are allowed to do that. It's something that's just passed down from generation to generation, and carries on the tradition. The basis of the longhouse really reflects the culture of helping one another. And then teaching a person how to help themselves. (Eric Pelkey Interview 2014).*

Like stories, place names embody cultural knowledge, history, beliefs and customs, and practices associated with place. For example, as explained by a SṪÁUTW First Nation member, ŚÁWOM is a place name attached to a sacred and ceremonial place on SMOKEĆ/Point Roberts and linked with the start of the reef net fishing season:

*I think that one of the [sacred ceremony] sites that they always went to when they went over there to the reef net sites was right on the point of Point Roberts. A little area that they went in, they said they did their ceremony there before the reef net season began. [...] ŚÁWOM, it was called. [...] ŚÁWOM was a sacred place where they used to conduct their ceremonies, in relation to the reef net site. So, whenever the people went over there, they always went in there. And did their ceremonies first, before the reef net setting began. So that there was considered a sacred area right there. (SṪÁUTW Respondent ID100)*

SEŃCOFEN place names frequently identify key resources and contain descriptive features for orienting the land that have assisted SṪÁUTW First Nation's stewardship and use of ancestral homelands for millennia. As described by SṪÁUTW scholar Nicholas XEMFOLTW Claxton:

*There are many, many names and stories connected to the WSÁNEĆ territory in the SEŃCOFEN language. My uncle would tell me that our place names defined our territory. The extent of our place names was the extent of our territory. I think that you could also say that this was the extent of our relationship to the territory. There is a vast knowledge contained and encoded in the SEŃCOFEN language and in our place names (2015:78).*

SEŃCOFEN place names in the Lower Mainland no longer reflect the conditions of their genesis. This is illustrated by the SṪÁUTW member quoted above, who goes on to say of the sacred reef net site:

*[Personal Name] was the last one I knew that conducted the ceremony. And before him, it was his [personal relation], Chief [Personal Name]. And they were the last ones that I knew that carried out the ceremony there. [...] That would've been around 1910, 1915 when he was saying that he went over and did the ceremony. (SṪÁUTW Respondent ID100)*

Additionally, ceremonies like the potlatch (which was banned in 1884 through the *Indian Act*) and Salmon Ceremony that are dependent on successful harvesting and trade systems (e.g., to obtain mountain goat wool and craft blankets) have been impacted directly and indirectly by the cumulative effects of colonization, industrialization, and urbanization. Ceremonies and spiritual practices in general should be understood to be dependent and connected to healthy natural resources, including water, plants, and animals.<sup>15</sup>

*The material is all a part that makes us who we are, the fishing the medicines, the water. [...] when we lost my dad, she told us to be ready at day break and then she took us into the salt water and bathed us, to wash away the death spirit from our bodies. See, that's a component that makes us [SṪÁUTW]. (SṪÁUTW Respondent ID111)*

*There's definitely a disconnect. I mean – no salmon, and certain species, it's... You don't have your traditional foods [...]and we've brought back the Salmon Ceremony, right? [...] Everything is tied*

<sup>15</sup> It should be noted that many ceremonial rites and practices are considered sacred and confidential and therefore inappropriate for public venues such as this report.

*together, right? It's all connected. So, when you affect one, it's going to have an effect on the other. (SṪÁUTW Respondent ID103)*

*We are the ones that is suffering because there is no more ducks for us. The longhouse people, when they have an initiation, they gotta go into Victoria and buy feathers. (SṪÁUTW Respondent ID111)*

*Like I said, I spoke to [name redacted] about black ducks and all those edible things that we used to use for our ceremonies, our food, everything. He said it is the same thing over there. No more ducks, no more of anything. Now we all know that, anyways, [names redacted], the delicacy of the soup that we used to eat, duck soup. I couldn't wait to eat duck soup. Now, we can't enjoy that. It doesn't matter what we are going to get, whether we get one dollar, two dollars or a hundred dollars, or a thousand dollars, for these impacts. This is the impact, that's what happens since the occupation of the WENITUM. The very thing that we depended on for our food, our ceremonies, now endangered to below average. It gives us a pretty bleak look of what has happened in our territory. (SṪÁUTW Respondent ID111)*

Today, as explored in Section 3.3.2.3, SṪÁUTW First Nation members cannot exercise rights to hunt and trap in the Lower Mainland due to land use changes and changes in land cover, access and hunting restrictions, and loss of animal populations. In turn, social and trade relationships have been impacted, such as those established through potlatching, which is a complexly integrated part of traditional exchange, politics, and governance.

## Conclusion

SṪÁUTW First Nation has inherent and constitutionally protected Aboriginal and Treaty rights to occupy and travel SṪÁUTW First Nation territory in the Lower Mainland, and to engage in ceremonial and spiritual practices and live by the Nation's laws. The cumulative effects of 150+ years of colonization, settlement, and development have effectively alienated SṪÁUTW First Nation members from the Lower Mainland and made it impossible to meaningfully exercise these rights. Areas of SṪÁUTW First Nation territory have been made inaccessible and there are numerous barriers to free travel as formerly. Beliefs and ceremonies rooted in the principles of kinship and respect are more difficult than ever to apply especially due to—but not limited to—the absence of sufficient resources (e.g., that are essential or the basis of many ceremonies) and existing levels of sensory disturbance. SṪÁUTW First Nation aspires to the recovery and revitalization of these rights across the territory.

### 3.3.2.5 SṪÁUTW First Nation Governance Systems

#### Definition

FortisBC's Application does not define the Indigenous interest of "Indigenous Governance Systems"; however, the potential effect pathways and associated indicators (Table 11.1-4 of the Application) are indicative that the focus is on:

- Changes and effects to Indigenous Nation laws, customs, and protocols and their implementation;
- The ability to use, develop, and control traditional land, territories, and resources; and
- Ability to steward lands and resources.

#### Current Condition

FortisBC did not assess for potential Project impacts to SṪÁUTW First Nation governance. SṪÁUTW First Nation clarifies for certainty that the Nation has governance rights in the Lower Mainland that are relevant

to the Project, including implementation of laws, customs, and protocols related to stewardship and the well-being of future generations.

*The WŚÁNEĆ people's relationship to the land is governed by laws, teachings, and beliefs that come from XÁLS, the Creator. These laws were put in place so that we could live with one another and with the land in a good way. This is what is known as SKÁLS (our laws and beliefs). [...] For the WŚÁNEĆ, the laws, beliefs, the SÉNCOFEN language, and the land were all part of our ČELÁNEN, our birthright. WŚÁNEĆ Elders maintain that our ČELÁNEN, as a concept, cannot be ceded, sold, given away, or, most of all, forgotten (Claxton and Price 2020:119)*

SṪÁUTW First Nation territory spans the San Juan and southern Gulf Islands, from Southern Vancouver Island across the Salish Sea to the Lower Mainland, as well as other areas further north on Vancouver Island. Since time immemorial, SṪÁUTW and SṪÁUTW ancestors stewarded and benefited from the resources in the territory.

As one of the five Nations who constitute the WŚÁNEĆ peoples, SṪÁUTW First Nation and other WŚÁNEĆ Nations have a shared identity as Saltwater People who relied more on saltwater resources than their Salish neighbours (Elliott and Poth 1990; Suttles 1974:61). To control access to important fisheries the WŚÁNEĆ would occasionally go to war, including on the mainland:

*Well, right there on Point Roberts, you can see there's- off to the right at the point there, there's a reef net site there that our people felt was really historically important to us, and part of the rights that we held in that area. And it was called ČEL,ŁTENEM. And that was right off the point there... It was probably 300 yards off to the south of Lily Point Beach. So that area there was one of our people's most productive reef net sites. A lot of our families used to go there. And we actually went to war over that reef net site because the northern tribes knew about that reef net site, and they wanted to come and take it over. So, our people had a bit of a war out there with them. We were told that some of them were K'ómoks people, and some of them were Haida. Yeah, they came there, and they tried to raid the site and take it over. But our people fought them off. And many of our people died there at that site but kept it for the WŚÁNEĆ people. That would've been probably early 1850s. Somewhere around there. (SṪÁUTW Respondent ID100)*

Access and control of fisheries also involved negotiation and fostering of agreements rather than force, including in areas of the ŚNEWIL/Fraser River.

*There was also a fishing village up there. [...] It was just south of Chilliwack along the Fraser River [...] [W]here the Chilliwack people had an agreement with the WŚÁNEĆ people that they were allowed to have a fishing station there. In that area. And that's kind of easy for us to find now, cause it's an industrial area. So, my [personal relation] in Chilliwack took us down there, and he said this is the area that we had an agreement with the WŚÁNEĆ people that when you came here to fish, you wouldn't be bothered by the Chilliwack people. [...] (SṪÁUTW Respondent ID100)*

Given the sacred relationship between SṪÁUTW and salmon— SṪÁUTW relatives who sustain both body and spirit—many SṪÁUTW laws are rooted in the principles of respect, reciprocity, and balance embodied in fishing and the cycles of the 13 moons (of the WŚÁNEĆ calendar). These principles extend beyond the waters, guiding conduct in all domains of life. For example, the "Origin of the SXOLE" (reef net fishery) story, as told by Earl Claxton Sr. and John Elliott Sr (1994:6–8) features the law to uphold reciprocal and respectful relationships with all living things.

*It is the belief of the Saanich people that all living things are our relatives and that long ago, the birds, animals, trees, and fish too were people just like ourselves and must be respected.*



*The Saanich people have fished this ancient fishery for a long time and have been taught as young people to respect all life as if they were our very own relatives.*

Consideration of how decisions today will affect current and future generations is a related and central tenet of SṪÁUTW law. Stewardship of the territory ensures the continued abundance of resources like salmon, clams, and eelgrass for the community, and for generations to come (Claxton and Sam 2010). An example of how these laws—care for both human and non-human kin—manifests in the day-to-day and ceremonial activities and decisions of the SṪÁUTW is expressed below:

*Our sacred knowledge, we would only take what they needed. Even when I fished with dad, out here, there was one day that we caught 70 sockeye in 2 hours, and I was trawling, but he would separate them, he would sell some of that to buy things that he needed like sugar and flour and then he would keep enough to feed the family for the season. So, they already did that, they traded. They would also help out ones in the community that weren't able to do that. (SṪÁUTW Respondent ID102)*

*All WSÁNEĆ honoured the king of salmon by pulling up their reef nets and ceasing to fish for a period of up to ten days after the first FEK̓I was caught. (Evans et al. 2019)*

SṪÁUTW also take care to steward land animals, and for this reason, “Elk were only hunted after the first snowfall as it was easier to track an elk if it was wounded. This way no meat would be wasted” (Claxton and Elliot 1993:23).

These foundational beliefs and principles of kincentric relations, stewardship, and responsibility to community and future generations permeate many aspects of SṪÁUTW lifeways, from the design of fishing equipment,<sup>16</sup> to resource sharing protocols (see Section 3.3.2.6), to the Nation’s future governance objectives and goals.

Despite the level of cumulative effects and impacts to SṪÁUTW First Nation rights already experienced in the Lower Mainland, SṪÁUTW First Nation governance includes a desire to steward and revitalize the land, waters, and resources of the region to allow for the meaningful exercise of land and harvesting rights as protected by the constitution and described in Treaty, now and into the future.

In the context of intensive development that is easily observed in the Lower Mainland, SṪÁUTW First Nation cannot meaningfully govern and steward the territory and its resources in ways that uphold SṪÁUTW First Nation rights. This has the additional consequence of preventing the Nation from carrying out its laws, customs, and protocols that are embedded in the exercise of land and harvesting rights and other rights (e.g., sharing of surplus resources or trading from a successful hunt or harvest).

A SṪÁUTW member notes how these disruptions to SṪÁUTW governance are obvious and in breach of the Douglas Treaties:

*The Douglas treaties explicitly state that those indigenous groups signatory to the treaties have the “liberty to carry on their fisheries as formerly.” If taken literally, those indigenous peoples had a system in place, a system of governance over their fisheries, which indeed formed the core of their traditional societies. These traditional fisheries and their subsequent structures of governance and management should conceivably be still intact today, which is overwhelmingly not the case. To the*

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<sup>16</sup> As explained by Nicholas XEMFOLTW Claxton (2015:74), the escapement hole in the reef net—called “SHELIS,” which means “life”—not only ensured that salmon populations remained stable and healthy but also embodied SṪÁUTW teachings and principles of governance: “inherent in the technology was a system of governance over the salmon fishery and salmon resources. Because of the WSÁNEĆ Reef Net fishery, the WSÁNEĆ had the ability to live according to the teachings of our creator, XÁLS. The Reef Net fishery was a way of life, providing the Saanich the ability to live in such a way to be strongly connected in a healthy manner to the local marine and terrestrial environments. This was the way we lived for thousands of years, if not more”.

*contrary, indigenous fisheries were not protected as promised. (Nick Claxton as quoted in Evans et al. 2019:8-9)*

Evans et al. (2015:70–71) further describe how fishing, fish resources, and sharing are intertwined and embody roles, customs, protocols, traditions, values, and a way of life passed down through generations.

*It is a part of SḴÁUTW's self-actualization, enactment of identity and kinship, and celebration of the good life. It enables access to cherished food from familiar places, given and received by equally cherished family members, who in turn enact traditional roles and values by sharing. In this way SḴÁUTW's fishery is both the expression and the backbone of members' ȚEX TÁLEN, or the sum of the traditions inherited from their ancestors. [...] [As a SḴÁUTW member explains], traditional foods deserve special treatment, and do not fall into the same category of meaning as food from the grocery store, which are not subject to the same system of sharing and reciprocity.*

The current level and trend of cumulative effects and impacts in the Lower Mainland on SḴÁUTW First Nation rights is inconsistent with the Nation's governance principles and ideals, including care for future generations and stewardship of all living relatives in nature.

*Just looking at the map, and remembering how fishing was...You know, the Fraser River was so abundant, and it was so healthy, you know? [...] But there was an abundance of salmon back then. And it's slowly gotten worse over the years. (SḴÁUTW Respondent ID103)*

The depleted state of salmon in the ŚNEWIL/Fraser River is emblematic of resource losses experienced by the SḴÁUTW First Nation across marine and terrestrial environments. And, as articulated by the SḴÁUTW First Nation member quoted above, "the sad thing is, they're not being enhanced, or they're not being helped"—highlighting how current and reasonably foreseeable future cumulative effects contravene the Nation's governance objectives and laws.

Much of SḴÁUTW First Nation territory has been taken up by private property and other land uses that are incompatible with the SḴÁUTW way of life and the exercise of rights. The degree of settlement and taking up of lands in SḴÁUTW First Nation territory has far exceeded what the Douglas Treaties contemplated and left few viable sites for hunting, fishing, and cultural practices. Pollution and other impacts of development have also reduced the capacity of SḴÁUTW First Nation territory to support adequate populations of fish and wildlife that are suitable for harvest and consumption (SḴÁUTW First Nation 2024:11).

In sum, cumulative effects and colonial governance have disrupted community and intercommunity social conditions (see Section 2.3.2.6 and 2.3.2.8 for additional details). As well as the impacts of the Canada-USA border, SḴÁUTW First Nation members have expressed that modern-day governance (treaty) processes have adversely impacted traditional protocols and relationships between the WSÁNEĆ and other First Nations:

*The treaty process, the BC treaty process, [has] really divided our families and our Nations. Because it's undermined the traditional protocols that we had between each other. And undermined our relations that we had with each other. Because prior to the BC treaty process, we had good relationship and understanding between each other. [...] And as a result of the BC treaty process that's undermined all of those historical protocols that we had, resulted in a kind of lack of respect for each other. Respect for what our Elders had attained. (SḴÁUTW Respondent ID100)*

## Conclusion

SḴÁUTW First Nation has inherent and constitutionally protected Aboriginal and Treaty rights to self-determination and self-government. SḴÁUTW First Nation governance is founded in principles of kinship,



respect, and stewardship, as well as responsibility to future generations. These governance principles are part and parcel of land and harvesting rights and rights practice. Colonization and colonial institutions, and settlement and development across SṪÁUTW First Nation territory, including the Lower Mainland, have directly obstructed SṪÁUTW First Nation from implementing and applying its laws. Large-scale losses of natural resources have also impacted the ability of SṪÁUTW First Nation to implement these governance principles and cultural beliefs manifest in customs and protocols of resource harvesting and use. SṪÁUTW First Nation continues to have strong interest and rights to revitalize SṪÁUTW governance. The actions of developers and the Crown today have the potential to support SṪÁUTW First Nation governance or alternatively further contribute to their disruption.

### 3.3.2.6 Social and Economic Conditions

#### Definition

FortisBC's Application does not define the Indigenous interest of "Social and Economic Conditions"; however, the potential effect pathways and associated indicators (Table 11.1-4 of the Application), and topics to consider (Table 11.18-6 of the Application) are indicative that the focus is on:

- Employment and job opportunities;
- Intercommunity and trade relationships; and
- Includes the ability of Nations to improve social and economic conditions and future aspirations for the area surrounding the Project.

Topics related to harvesting rights and intracommunity relations are also listed but for the purposes of this assessment are detailed in Sections 2.3.2.3 and 2.3.2.8 respectively.

#### Current Condition

This Section (3.3.2.6) adds new information and context to FortisBC's summary of SṪÁUTW First Nation demographics, health and wellness, emergency services, housing, education, infrastructure, economic and employment data, and plans, agreements, and land use plans (currently found in Sections 11.18.2.5 to 11.18.2.16 of the Application).<sup>17</sup>

SṪÁUTW First Nation has protected rights to self-determination and self-government from which stem rights and interests to maintain, improve, and develop the Nation's social and economic institutions and conditions. As elaborated in preceding sections of this assessment, harvesting and subsistence rights and governance rights are intertwined, including with the Nation's social and economic outcomes.

The traditional economy of SṪÁUTW First Nation—and many important relationships with other Nations—centred on the harvest and subsequent disbursement and trade of marine and terrestrial resources. This predominantly involved salmon, but also clams, herring, deer, elk, beaver, wool, and more.

*The WSÁNEĆ people would trade with the inland tribes. Because we caught salmon in the Straits we were the first people each year (about a month ahead of other tribes) to have salmon; others had to wait for the river runs. (SṪÁUTW Respondent ID111)*

*[M]y grandfather and his brothers and sisters were saying that they used to travel ... all the way to Yakama and they'd trade people, cause the Yakama people used to love the smoked herrings. They used to make necklaces out of them, and also necklaces out of dried clams. Smoked clams. Make*

<sup>17</sup> Due to constraints of time and budget, SṪÁUTW First Nation has not verified the accuracy and veracity of Sections 11.18.2.5 to 11.18.2.16 of the Application.

*them, and they'd dry them up, and when they'd go to places like Yakama, the people would just swarm over them, and buy them up, or trade with them. (SṪÁUTW Respondent ID100)*

The WŚÁNEĆ economy was also elaborated on in the WŚÁNEĆ Traditional Use Study for RBT2 (Evans et al. 2019), which described how different WŚÁNEĆ families support one another through complementary harvest and exchange. Indeed, SṪÁUTW social and exchange networks continue to increase food security—especially for those who do not have the means to harvest—and support social bonds and well-being (Evans et al. 2019:37,74).

*WŚÁNEĆ families — sharing language, cultural order, kinship ties, and participating in close networks of reciprocity — exploited different ecological niches within the WŚÁNEĆ world, tailoring their seasonal movements according to the timing of local events. This pattern meant that one family knot could acquire through trade with another family knot what could not be procured locally, an arrangement that [...] continues to this day. (Evans et al. 2019:6)*

The once abundant salmon runs at SMOKEĆ/Point Roberts and along the ŚNEWIL/Fraser River and its tributaries provided the WŚÁNEĆ/SṪÁUTW peoples with a surplus that could be traded for mountain goat wool and other prized items. Game, S,ELLTENEN/,berries, and medicinal plants harvested along the waterways also supported the SṪÁUTW economy, prosperity, community well-being, and food security. However, the cumulative influences of settlement, development, and colonization have disrupted the SṪÁUTW First Nation's traditional economy and trade relationships.

*In the old days we had our traditional blankets. In the old days we had SWOKOL [traditional weaved blankets out of mountain goats and dog wool]. That was our money for trade and barter...We use those blankets to honour the individual. That was trade for us...That kind of trade is gone. (SṪÁUTW Respondent ID120)*

Resource abundances and access to the Lower Mainland are now inadequate to generate reliable surpluses that would support trade and often even household and internal community needs (see Section 3.3.2.8).

*It [referring to fishing regulations] really undermined the way of life for our people, and the economy of our people, the trade that we used to have. That we used to enjoy. That gave us a moderate living. Kind of drove a lot of our families into poverty, and some of them even into starvation. Because they couldn't get what they needed anymore. Everything was being deemed illegal. And they were allowed sustenance fishing, but even that was limited. (SṪÁUTW Respondent ID100)*

*And as I get older now, it's just – like, this summer is gonna be pretty much non-existent, and a lot of the nations that rely on sockeye for smoking or for canning, or whatever, now we're starting to rely on [Port] Alberni sockeye, because it's still healthy. And, you know, thankful for Nuu-chah-nulth family out there, we can still get that, right? (SṪÁUTW Respondent ID103)*

Among the myriad colonial regulations and restrictions against Indigenous peoples that severely impacted social and cultural well-being—including enfranchisement, the pass system, and the creation of reservations—some also directly targeted “economic” activities including the Indigenous pre-emption of land from 1866-1953; the potlatch ban of 1884 under the *Indian Act*; and regulations and legislation (including the *Fisheries Act* in 1888) preventing “Indians” from selling fish and fishing commercially. Harvesting and economic rights have moreover been dislocated by the imposition of the Canada-USA border, which “alienated Coast Salish communities in both countries from their extensive kin networks and large portions of their territories” (Fritz 2016).

The wage economy is today a dominant force in the lives of SṪÁUTW First Nation members, a consequence of colonization and assimilative Crown policies. To advance the modern economic well-

being of members and the community, SṪÁUTW First Nation is engaged in diverse economic ventures including through Ȳetcéle ICC Construction Corporation, Sidney Whale Watching, Cascadia Seaweed, Sidney Spit Ferry, Salish Straits Seafoods (a commercial fishery part owned by SṪÁUTW), K'ENES Transportation, and CWT City West Cable Corporation.

Although there are benefits to participation in the modern economy, such as access to modern conveniences and a wider range of goods and services, it is not a substitute or replacement for the traditional economy and relationships. Benefits of the wage economy moreover are not guaranteed or equitably distributed, as observed by one SṪÁUTW First Nation member, below:

*Yeah, that's the WENITEMS culture that's invading our own people. And it's literally taking over and I thought about it, I talked about it yesterday with some of our members walking down from the convenience store up there, packing alcohol and I kind of thought about it and I think, well, what else can they do? They have applied for jobs, they have done everything that they could possibly do and they can't find a job. So they do what they are doing now, and that's what's happening, that's us being impacted by the WENITEMS way. (SṪÁUTW Respondent ID111)*

Given the interconnected nature of SṪÁUTW First Nation rights with environmental conditions, an objective of SṪÁUTW First Nation governance is to seek the improvement and revitalization of the Lower Mainland's ecosystems that support the SṪÁUTW First Nation's exercise of harvesting and access rights, with associated improvement in cultural, social, economic, and health conditions (see also Section 2.3.2.8). Improvement in ecosystem health and resource abundances would have the added benefit of mitigating against the rising cost of access to resources (including time, licensing, fuel, price of and dependence on storebought food). This objective applies to conditions at and near the Project Footprint, where industrial and urban development have a noted multi-decadal history that has led to the alienation of SṪÁUTW First Nation from the use of these lands; see Section 1.3.3 of the Application, from which a passage is excerpted below.

*The entire proposed Project Footprint is located within the existing Tilbury LNG facility, which was previously used for agricultural purposes in the early part of the 20th century. In the 1970s, the agricultural fields were converted to a sawmill on the western half of the Tilbury LNG facility, and the eastern half was converted for use as natural gas processing and storage. Currently, the existing Tilbury LNG facility and proposed Project Footprint are covered by concrete surfaces, gravelled and paved areas, existing infrastructure, and equipment laydown areas, with very little to no habitat value for wildlife.*

Rather than revitalizing Tilbury Island and regenerate native ecosystems,<sup>18</sup> FortisBC's recent and ongoing development at the site, including through Phase 1A and 1B expansions, are in direct conflict with SṪÁUTW First Nation's governance aspirations and linked improvements in economic and social conditions. It is in this impacted context that the Project is being proposed.

## Conclusion

SṪÁUTW First Nation economic and social conditions and rights are closely related to SṪÁUTW self-determination, as well as the ability to exercise harvest and land rights that in turn depend on healthy ecosystems. The traditional economy of SṪÁUTW First Nation that centres on the harvest, sharing, and trade of marine and terrestrial resources can no longer be exercised in a meaningful way in the Lower Mainland, disrupting food security and intercommunity relationships. The actions of developers and the

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<sup>18</sup> As noted by FortisBC in Section 11.18.5.3 of the Application, "vegetation within the existing facility site will be removed by construction activities associated with the existing Tilbury facility and the T1B project".

Crown today have the potential to support SṪÁUTW First Nation social and economic aspirations and outcomes, or alternatively continue their disruption.

### 3.3.2.7 Cultural Continuation

#### Definition

FortisBC's Application does not define the Indigenous interest of "Cultural Continuation"; however, the potential effect pathways and associated indicators (Table 11.1-4 of the Application) are indicative that the focus is on:

- Opportunities for intergenerational knowledge transmission as linked to experiences on the land and availability of country foods, including the revitalization and development of these opportunities; and
- Integrity of sense of place and identity.

#### Current Condition

SṪÁUTW cultural persistence is underpinned by the ability to transmit learned and accumulated knowledge across generations. Transmission can take many forms. For SṪÁUTW First Nation, oral (histories, language, place names) and experiential transmission are important to cultural continuance. Therefore, impacts to conditions that support the activity and direct experience of gathering and using medicines, for example, such as abundant and accessible medicinal plants, are also impacts to knowledge transmission. And because knowledge transmission is applicable to the whole body of cultural knowledge, it cuts across all SṪÁUTW First Nation rights and interests.

SṪÁUTW and WSÁNEĆ members have previously conveyed—in the context of other developments—experiences learning from knowledge holders or teaching while on the land and water and through stories. These accounts, some of which are shared below, pertain to hunting, fishing, navigation, and knowledge about ways of being; they also communicate the desire to perpetuate, preserve, and use cultural knowledge into the future.

*To successfully catch salmon using the reef net, the Saanich fishermen had to be keenly aware of tidal flow and the location and habits of the salmon...Reef net fishing locations, called SWALET in the Saanich language, were the birthright of the Saanich people and fishermen ...The elders of the family was usually the captain of the fishing crew, and held the knowledge and history that connected the family to that fishing location, and it was their responsibility to transfer that knowledge on (Claxton 2003:25–26).*

*I'm also trying to influence the younger community to become hunters. I'm always trying to teach them [...] I'm always bringing people over, even if it's just to pluck ducks or something like that, I'm always trying to show them something. (Tsawout MUS 2015:112)*

*Back and forth, back and forth, from Sturgeon Bank down to Roberts Bank. (TUS2, as quoted in Evans et al. 2019:27)*

*I still go to all these places; my grandpa taught me how to utilize [them]. (TUS331, as quoted in Evans et al. 2019:27)*

For SṪÁUTW First Nation members, opportunities to transmit cultural knowledge are highly correlated with opportunities to exercise rights. In the context of the Lower Mainland, this has meant a 150+ year decline in such opportunities. This trend in WSÁNEĆ territory and its implications for cultural practice and transmission was already documented by the BC provincial government 30 years ago in a study of the Saanich Inlet—a far less densely developed and populated area than the Lower Mainland.

*The traditional structure of Saanich culture is threatened due to the loss of cultural traditions associated with natural resource use, spiritual activities and lost opportunities for aboriginal youths to experience traditional practices (Simonsen et al. 1995:49).*

SṪÁUTW First Nation members recall participating in cultural teaching and learning, both in the Lower Mainland or from resources procured from the area—often recalling simultaneously how these opportunities have been taken away.

*My [personal relation] used to get these great big chubbies, from the Fraser River, it was so fat, you know it had a lot of fat in it, and he salted it up with brine, a lot of brine and he said we would just take it out when we need it, he says. And he dug a big hole in the yard, dug it way down then he put this brine fish, spring salmon down into the hole and covered it, just like you could walk over it and everything and you wouldn't know it was there. But that was his style. That part of our culture. He taught people to do that, and they taught other people. (SṪÁUTW Respondent ID326)*

*Like I said, I primarily fished the south arm [of the Fraser River]. That's kind of where I was taught to fish. Yeah. Unfortunately [we're] not able to fish in the US side, when you know, that's a big portion, and that's our Traditional Territory, right? (SṪÁUTW Respondent ID103)*

*As a result of all the occupation of the European people, all these birds that's there is endangered. We enjoyed all those things. We enjoyed telling the young ones about the birds telling the berries to ripen, the red ones, the yellow ones and the black ones [referencing the coinciding of birds arriving in summer with the ripening of berries]. Not long ago we could go and enjoy all these birds, as soon as you see those little sea gull or coho gulls you knew there was probably fish there. That's what they did, they showed us where the fish was. (SṪÁUTW Respondent ID111)*

The SENĆOŦEN language is also an important part of SṪÁUTW knowledge transmission. As explained by one SṪÁUTW First Nation member, cultural knowledge and the SENĆOŦEN language are inseparable, with the latter being essential for understanding the beliefs behind cultural practice; the protection and perpetuation of language is intimately tied with the continuation of knowledge and culture.

*The other thing is, here is, the language and the knowledge of everything in our Territory without the language they don't understand everything. We can't get the knowledge, we can't get everything that we can't understand the things that need to be understood. All the things that we have been talking about, all these different things like the fish and the animals, the birds, ducks, all those things are tied together with the land, in order for everybody to really understand everything in our Territory of how our beliefs come. A lot of our young people don't understand where our beliefs come from, because they don't understand the language. So even though they are practicing their culture, they don't know why they are practicing their culture, what the reasons are. Same thing with what they were taught, they never knew all those things. You know, my [personal relation], [name redacted] was talking about it yesterday. He was talking about this and he said I don't understand a few things and where it comes from. And he is already a man, thirty years old, so you know, those are all things that have to be built in, we lose the language then we are going to lose a lot of this stuff. A lot of things are really important as how the people, [name redacted] was just asking I think last week, are we going to get into language. But our language in an on going program, we need money. Just about everybody in the band wants to learn. But we need the funding. (SṪÁUTW Respondent ID112)*

A SṪÁUTW Elder and scholar, Mavis Underwood, explains how knowledge and identity are conveyed not only by harvesting, but also by the tools used and how they are deployed in situ:

*The reef-net used by Saltwater People to capture salmon is also a suitable metaphor for the learning process. The reef-net was a distinctive tool of the WSÁNEĆ Peoples and is distinct as it enhanced the*



*mastery of the salmon fishery which was part of the identity of the Saltwater Peoples. The reef-net technology was condemned by settlers and was viewed as a fish trap however this technology allows the People to sustainably capture fish and to pick and choose those fish they wanted to harvest. The technology illustrates the process of circling resources so that there can be observation and selection of what is needed. (Underwood 2018:3).*

Another SṪÁUTW member articulated a similar sentiment, writing of the reef net fishery that it encapsulated “what it meant in large part to be a Saanich person” (Claxton 2003:9).

Of the reef net fishery that was banned in Canada and the United States in the early and mid-20th century respectively, Evans et al. (2019:21) write, citing Fritz 2016, “reef net fishing was criminalized and curtailed, and fewer and fewer members of the WSÁNEĆ Nation were able to share its practice and associated knowledge with their descendants”. And with it went opportunities to learn navigation on the water, to form intergenerational bonds, for exchange and trade, and more.

The preceding narratives capture critical but subtle aspects of SṪÁUTW First Nation knowledge transmission:

- How it extends beyond the harvest of resources to include the use and processing of primary resources, away from where initially procured;
- How teaching begets further teaching and learning—a feedback loop of transmission;
- How knowledge transmission is experiential (consider a case of teaching river navigation without access to a river, or fishing without fish) and often social and place-based;
- The importance of SENĆOŦEN in knowledge transmission; and
- How knowledge can be impacted indirectly, e.g., through changes in access or in language.

Ceremonies, celebrations, and social gatherings are also important opportunities for knowledge transmission and indeed are core to SṪÁUTW First Nation oral traditions. Below, one member describes how the seasonal round, community celebration, and the sharing of knowledge come together in the bighouse (or longhouse).

*Well, that’s a part of the culture that they had the bighouse, and when they had their hunting and gathering season, then they would share their stories with their family members in that bighouse and that would be passing on the knowledge, you know, how to celebrate in certain ways, big celebrations. (SṪÁUTW Respondent ID102)*

The bighouse is a specific and sacred place for the community to gather, learn, heal, and strengthen cultural connection and identity, but it is only one node in a network of experiential teaching/learning opportunities needed to support SṪÁUTW First Nation cultural continuity and wellness. Everyday learning opportunities provided by a combination of healthy and accessible resources and intergenerational interaction in SṪÁUTW First Nation lands and waters are also vital.

SṪÁUTW First Nation has the right to revitalize, develop, and participate in intergenerational cultural transmission, including in SṪÁUTW First Nation territory in the Lower Mainland. However, as documented in preceding sections of this assessment, SṪÁUTW First Nation has been alienated from the Lower Mainland, while the region’s resource base has effectively disappeared due to residential and industrial development and land privatization. SṪÁUTW First Nation remains resilient in the face of these impacts combined with the generational impacts of Canadian colonial and assimilative policies, but are no longer able to meaningfully engage in cultural teaching and learning in the Lower Mainland.

Loss of opportunities to transmit cultural knowledge in the Lower Mainland has contributed to generational disconnection with SṪÁUTW First Nation identity and cultural heritage, both broadly and in specific places. A SṪÁUTW First Nation member explains the cumulative impact of development on knowledge transmission and cultural disconnection in the Lower Mainland as follows:

*People don't even know how to clean fish anymore. So, when you have more projects and more things like the coal port and other things that are a detriment to our resources and to the environment, that just puts us further away, and further disconnected from those things. I remember years ago, I brought some halibut and red snapper and other – ling cod, and stuff – to some of the Elders in the community. And some of the kids coming out – and they weren't young kids, they were your age – they were looking at it, going: "Ew! What is that?!" Right? They were that disconnected, where they didn't even know what that stuff was anymore. A lot of these youth don't even know how to cut fish or process it anymore. (SṪÁUTW Respondent ID103)*

## Conclusion

SṪÁUTW First Nation retains a strong desire to revitalize, develop, and participate in knowledge transmission, which is vital to the Nation's cultural persistence. Opportunities to engage in the transfer of cultural knowledge have been rapidly lost since the signing of the Douglas Treaties, including through impacts to the resource base and access to resources in SṪÁUTW First Nation territory and the Lower Mainland, severely limiting opportunities for experiential learning. Because these changes have persisted and spanned multiple generations, young members of SṪÁUTW First Nation are especially susceptible to cultural disconnection and have simultaneously increasing generational gaps in knowledge. The actions of developers and the Crown today have the potential to support SṪÁUTW First Nation efforts to revitalize cultural knowledge transmission and cultural resilience or alternatively continue their disruption.

### 3.3.2.8 SṪÁUTW First Nation Health and Well-being

#### Definition

FortisBC's Application does not define the Indigenous interest of "Indigenous Health and Well-being"; however, the potential effect pathways and associated indicators (Table 11.1-4), and topics to consider (Table 11.18-6), are indicative that the focus is on:

- Country foods;
- Ambient and sensory environments;
- Traditional ways of life; and
- Social determinants of health.

SṪÁUTW First Nation has rights to the "highest attainable standard of physical and mental health" (UNDRIP Article 24(2)). SṪÁUTW First Nation health and well-being is connected to all other SṪÁUTW First Nation rights.

#### Current Condition

Prior to colonization, SṪÁUTW could procure from the land and water what was needed to thrive.

*Our people were the richest people on earth. That's quite a statement to make. There's a lot of people in this world. I say: here lived the richest people on earth. (WŚÁNEĆ Elder Dave Elliot Sr.)*

SṪÁUTW also travelled extensively throughout the territory and on the ŚNEWIL/Fraser River and its tributaries, as well as the Salmon, Nicomekl, and Serpentine Rivers and other rivers or streams. Harvesting



and trading as they travelled, SṪÁUTW picked KEXMIN (wild celery, a sacred medicinal plant), SṪA,ḲEN/cattails, SZELEL/tule rushes, SKÁUISELL/wapato tubers, and S,ELLTENEN/,berries; hunted for deer, elk and mountain goats; and exchanged their ocean-caught fish for goat's wool and other highly valued trade items. These activities and the prosperous economy they supported were anchored by villages and fishing stations at SMOKEĆ/Point Roberts, SĆEU,OFEN/Tsawwassen, and along the ŚNEWIL/Fraser River, as well as by the SENCOFEN place names, travel routes, and ceremonial places that tied—and continue to tie—SṪÁUTW First Nation members to their lands and waters.

Today, the ability of SṪÁUTW First Nation members to harvest, travel, and benefit from the Lower Mainland's natural resources is highly limited due to cumulative effects and impacts. Although colonization and the impacts of settlement and development on SṪÁUTW lands and waters have changed SṪÁUTW First Nation diets and livelihoods, country foods continue to be preferred and are seen as healthier than "colonial" foods. Previous research conducted by SṪÁUTW reveals the community's continued reliance on, and preference for, wild foods (Evans et al. 2015:65–71), which are perceived "as much medicine as they are food" (Evans et al. 2015:71), despite uncertainty about the safety of wild foods.

*There's no telling nowadays what is edible and what isn't, what's affected by the population growth and the sea traffic. (SṪÁUTW Respondent ID101)*

These preferences are reflected in the words of a SṪÁUTW First Nation member as follows:

*We used to eat pretty healthy before, where- mostly seafoods and when we did have meat, it was deer. It wasn't fat meat like we get today. So, it's pretty healthy besides all of the berries and traditional vegetables we used to eat. So, you know, the introduction of colonial food has had a real detrimental effect on our people's health. [...] So those are things our people live with, as a result of not having the food that we're historically used to having. And for our health. So, it's really a detrimental effect there. Happening mostly to our women. (SṪÁUTW Respondent ID100)*

*So, it's really missing now, and our people and our traditional diets. I remember growing up and in March and the herring start coming. And we'd get herring... and we'd eat fried herring, or smoked herring. That was a real delicacy to our people. But that doesn't happen anymore. That's not there. So, it was all those things that are missing from our diets, that's what really helped our people to live a better life. And now that's gone, we're reliant on colonial foods to survive. And food that's affordable. And everything is so expensive these days that, to me, it looks like vegetables are getting more expensive than meat these days. [...] Yeah, I grew up with that smell, smoked fish in our house and that. I went away to residential school, and I came back and there were no more sacks up there. Fish started dying out. (SṪÁUTW Respondent ID100)*

Several SṪÁUTW First Nation members observed that diabetes, anemia, cancer, and other health issues within the Nation are related to the absence of traditional foods, including wild meat like deer, traditional vegetables like camas, and S,ELLTENEN/,wild berries, as well as medicines, including knowledge of how they should be used and administered. Similarly, WŚÁNEĆ members have previously indicated being unsatisfied with the amount of wild marine foods available, with adverse consequences for health (Evans et al. 2019:26).

*I became Type 2 diabetic, you know? Not having proper access to eating our traditional foods and stuff I think is a big one that's contributed to the health and well-being of our people. (SṪÁUTW Respondent ID103)*

*It's terrible, honestly. So, so many people are afflicted with diabetes. I got mine because both my parents had it, so it was inevitable. [...] But diabetes is the most, and now cancer is starting to take over as well, too. A lot of people there are cancer-stricken. It's challenging. There used to be people that know how to prepare medicines to be able to take care of that kind of stuff as well, too. Late*

*[Personal Name] was good at it. There are a few other people that still know how to do it, just kind of hard to find. (SṪÁUTW Respondent ID101)*

*It's through the occupation of the WENITEM that we are having that problem with industrial waste, human waste, today [referencing the contamination clams and crabs]. So we are being affected causing different kinds of illnesses amongst our people. Lots of our people at the early ages and things like that, so we are being impacted by that kind of thing. Because now the doctors are saying that the reason why so many of us are sick today because we are not eating our original food that we used to enjoy. So we are getting hit both ways, we are getting hit because we don't eat it, then we get the food that we buy in town, which doesn't agree with our system. (SṪÁUTW Respondent ID111)*

While the links between physical health and diets are relatively easy to discern, Indigenous health also includes the balancing of physical with “mental, spiritual, and emotional factors” (Salerno et al. 2021:8). It is also important to recognize that health and well-being are influenced by a wide range of determinants (First Nations Health Council 2015) that includes—among other things—physical environments, access to doctors and medicines, genetics, socio-economic conditions, and even individuals’ “relationships with the land, culture, and community” (Salerno et al. 2021:15). The preceding quotes highlight some of these nuanced linkages, including with economic conditions (e.g., cost of food), and access to knowledge holders with an understanding of traditional medicines, emphasizing the importance of cultural continuity, education, and social networks to health and wellness.

The loss of suitable access to the SṪÁUTW/ Fraser River and Lower Mainland—and its former richness—has also been detrimental to the mental health of the SṪÁUTW First Nation community and its members. Federal guidance (Salerno et al. 2021) on the assessment of impacts on mental wellness notes that:

*Alienation of land and resources constitutes a fundamental impact pathway for Indigenous mental well-being. Access to the land is essential to support the myriad activities and experiences that sustain physical health, social interaction, spirituality and ceremonial practices, etc., all of which connect to mental wellness. (2021:24)*

As articulated by one SṪÁUTW First Nation member, the loss of access to sockeye resulted in changes to community and household dynamics and cohesion, with effects to mental and physical health—a pattern repeated with the loss of hunted and harvestable resources.

*When you lose access, when you lose connectivity towards certain things – let's say sockeye, for instance. Like, when I was a kid growing up – and I'm pretty sure it was like that with all the families growing up on the village. I remember, like I said, it was a big family thing. We'd get sockeye, and my late mom would have the whole family, so all of her sons, and all of her daughters, all the kids and the grandkids – we all pulled together, and it pulled our families together. And we all contributed and helped in processing and getting those foods and those certain resources ready for the winter, right? And we were healthier for it. Not only physically, but mentally – as a family, and as a community, as a whole. Like, all the families did that. It wasn't just us. I remember the family next to us, you know? It was throughout the whole village. So, that made – it made people tighter as families, and as a whole community, right? We don't have that anymore. (SṪÁUTW Respondent ID103)*

Where there used to be sufficient resources to share and trade, which facilitated the building of social bonds, surplus harvests from the Lower Mainland are now inconceivable. This has had an effect beyond household and family dynamics to affect intercommunity relationships. For instance, this assessment has elaborated on resource-dependent trade relationships, and additionally, divisions created by the reserve system, BC Treaty process, and the creation of the Canada-USA border (see Sections 2.3.2.5 and 2.3.2.6).

The cumulative impacts of development in the Lower Mainland have furthermore impacted STÁUTW First Nation collective and place-based identities. STÁUTW First Nation has deep cultural ties to the Lower Mainland, which can be considered a “cultural landscape” (one manifestation of which are place names; see Section 2.3.2.4). Cultural landscapes carry individual and collective memories and experiences that have symbolic, emotional, and psychological potency. And, as described in Sections 2.3.2.5 and 2.3.2.7, STÁUTW First Nation has an obligation to steward the environment, based in foundational beliefs of reciprocal and respectful relationships with all living things. The loss of cultural landscapes and impacts to STÁUTW First Nation’s deeply felt responsibilities of stewardship can affect “how Indigenous peoples understand themselves and create intense psychological distress” and create feelings of powerlessness (Salerno et al. 2021:26).

Similarly, there has been a loss of opportunities to transmit knowledge. As previously discussed, STÁUTW cultural knowledge transmission is often in situ and experiential, and therefore highly dependent on the integrity of the land. Culturally valued species are also important components to STÁUTW celebrations and ceremonies that double as occasions for teaching and learning, and occasions for healing and strengthening social and cultural bonds. Whether in the home, community, bighouse, or out on the land and water, cumulative impacts in the Lower Mainland have contributed to the alienation of younger generations of STÁUTW from cultural teachings and therefore cultural identity, which research has shown to be a health-protective factor (Chandler and Lalonde 2008).

The persistent advance of development in the Lower Mainland and in STÁUTW lands and waters has consistently and inadequately considered STÁUTW First Nation rights and interests. As recognized in federal guidance on the assessment of impacts to Indigenous mental wellness (Salerno et al. 2021), experience with and being subject to colonial regulatory institutions and processes can have negative impacts on Indigenous well-being, including engendering uncertainty, anxiety, stress, a lack of agency and control, fatigue, and frustration.

STÁUTW First Nation has the basic human right to a high standard of physical and mental health and intends to pursue all avenues to improve conditions in STÁUTW First Nation territory to achieve this end.

## Conclusion

STÁUTW First Nation reiterates its right to the “highest attainable standard of physical and mental health” (UNDRIP Article 24(2)). The health and well-being of STÁUTW First Nation members must be viewed holistically, encompassing physical, mental, and spiritual dimensions, and consider the full range of determinants of health, including relationships with land, culture, and community. The STÁUTW First Nation perspective is that community health and well-being is tied to the exercise of rights, including those described in this assessment. Cumulative effects and impacts in STÁUTW First Nation territory and the Lower Mainland have been compromised and continue to affect STÁUTW health and well-being by adversely affecting:

- Resource base and diets;
- Economic conditions;
- Social cohesion and bonds;
- Governance responsibilities;
- Sense of place;
- Knowledge transmission and ceremonies; and
- Self-determination and governance, including in environmental assessment.

The actions of developers and the Crown today have the potential to positively support SṪÁUTW First Nation health and well-being or alternatively continue their disruption.

### **3.3.3      *Potential Effects on SṪÁUTW First Nation Interests***

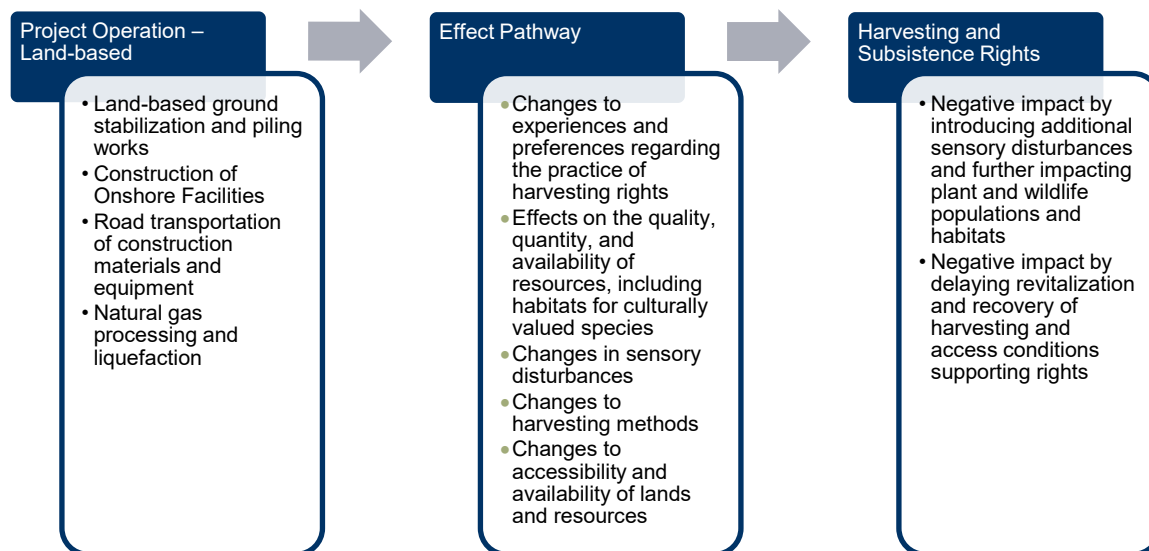
This and subsequent sections provide SṪÁUTW First Nation's assessment of the Project's likely interactions with SṪÁUTW First Nation rights in the Lower Mainland; the potential effects on rights; and evaluation of FortisBC's proposed mitigations; and the identification of residual effects and cumulative effects on SṪÁUTW First Nation rights.

FortisBC's Application notes no interaction or negligible interactions with SṪÁUTW First Nation interests through the normal course of Project construction and operations. As described in Section 2.1.1 and throughout preceding sections of this report, FortisBC frequently appeals to the highly-developed nature of the Project Footprint and lack of access as rationales for an absence of interaction. SṪÁUTW First Nation's ILA reiterates that existing levels of cumulative effects in the highly-developed context of the Lower Mainland do not abrogate the Nation's protected rights and interests, and indeed, that the Project will have an effect in many instances by continuing and contributing, directly and indirectly, to impacts to SṪÁUTW First Nation rights. This SṪÁUTW assessment emphasizes to a greater degree the Nation's future experiences and aspirations—as guaranteed by Treaty and the constitution, and holistic linkages between SṪÁUTW interests as well as between SṪÁUTW interests and linked VCs.

**Table 9:** Summary of Project phases, Sᑭᐱᐅᐅᐅ First Nation and proponent’s ratings of likely interactions, and description of the nature of interaction, effect pathways, and rating rationales.

| Proposed Project Phase and Activities                                                                                                                                                                           | Sᑭᐱᐅᐅᐅ Interaction Rating<br>(Proponent Rating)      | Nature of Interaction, Relevant Project Effect Pathways, and Rationale for Interaction Rating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction – Water-based                                                                                                                                                                                      |                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Construction of MOF<br>Waterborne deliveries                                                                                                                                                                    | No interaction<br>(No interaction)                   | <ul style="list-style-type: none"><li>Sᑭᐱᐅᐅᐅ First Nation acknowledges that the Project will not include waterborne delivery of construction materials and modular Project components, and that no MOF will be constructed. Sᑭᐱᐅᐅᐅ First Nation considers interrelated projects (e.g., TMJ Project, Phase 1A Expansion, Phase 2B Expansion) in its cumulative effects analysis in Section 3.3.6; see Section 3.1.1.8 for the rationale for this analytical approach.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Operation – Land-based                                                                                                                                                                                          |                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"><li>Land-based ground stabilization and piling works</li><li>Construction of Onshore Facilities</li><li>Road transportation of construction materials and equipment</li></ul> | Interaction is likely<br>(Negligible interaction)    | <i>Harvest and Subsistence Rights</i> <ul style="list-style-type: none"><li>Changes to the experience and preferences regarding the practice of harvesting rights and effects on the quality, quantity, and availability of resources, including habitats for culturally valued species; sensory disturbances; harvesting methods; and accessibility and availability of lands and resources.</li></ul> <i>Cultural Use Sites and Areas</i> <ul style="list-style-type: none"><li>Changes to the accessibility of Sᑭᐱᐅᐅᐅ First Nation cultural sites</li><li>Effects on Sᑭᐱᐅᐅᐅ First Nation’s ability to revitalize Sᑭᐱᐅᐅᐅ First Nation cultural sites and associated cultural and spiritual practices</li></ul> <i>Sᑭᐱᐅᐅᐅ First Nation Governance</i> <ul style="list-style-type: none"><li>Effects on Sᑭᐱᐅᐅᐅ First Nation’s ability to use, develop, and control traditional land, territories, and resources</li><li>Effects on Sᑭᐱᐅᐅᐅ First Nation’s ability to implement Indigenous laws, customs, and protocols</li><li>Effects on Sᑭᐱᐅᐅᐅ First Nation’s ability to engage in stewardship of Sᑭᐱᐅᐅᐅ lands and waters</li></ul> <i>Social and Economic Conditions</i> <ul style="list-style-type: none"><li>Changes to employment opportunities, Sᑭᐱᐅᐅᐅ First Nation businesses, procurement opportunities, and Indigenous nation revenue</li><li>Effects on Sᑭᐱᐅᐅᐅ First Nation’s ability to improve social and economic conditions and future aspirations for sites and areas surrounding the Project</li><li>Effects on Sᑭᐱᐅᐅᐅ First Nation’s intercommunity relations and trade</li></ul> <i>Cultural Continuation</i> <ul style="list-style-type: none"><li>Effects on Sᑭᐱᐅᐅᐅ First Nation’s ability to revitalize, develop, and participate in intergenerational cultural transmission</li><li>Effects on Sᑭᐱᐅᐅᐅ First Nation’s ability to revitalize sense of place and identity</li></ul> <i>Sᑭᐱᐅᐅᐅ First Nation Health and Well-being</i> <ul style="list-style-type: none"><li>Effects on the quality, quantity, and availability of harvested resources</li><li>Effects on the value and perceived quality of country foods</li><li>Effects on air quality, noise, water quality, and visual landscapes</li><li>Effects on health and well-being from the effects to cultural sites and ways of life, including practices, governance, experiences, communal activities, etc.</li></ul> |
| <ul style="list-style-type: none"><li>Natural gas processing and liquefaction</li></ul>                                                                                                                         | Interaction is likely<br>(Negligible interaction)    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Decommissioning – Land-based                                                                                                                                                                                    |                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"><li>Removal of onshore facilities</li></ul>                                                                                                                                   | Insufficient information<br>(Negligible interaction) | <ul style="list-style-type: none"><li>Sᑭᐱᐅᐅᐅ First Nation notes that there is insufficient detail to assess the potential effects of decommissioning activities as they are dependent on “regulations applicable at that time” and “the preferred land uses at that time”, and that the anticipated condition of the Project Footprint after decommissioning is that the land “will continue to be used for industrial purposes in the future” (Section 1.5.4 of the Application).</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

### 3.3.3.1 Harvesting and Subsistence Activities



#### Summary of Current Conditions

As detailed in Section 3.3.2.3, SṪÁUTW First Nation continues to hold inherent and constitutionally protected Aboriginal and Treaty rights to fish and gather marine resources, gather plants, and hunt in the Lower Mainland. Members continue to exercise these rights as conditions allow. However, the meaningful exercise of these rights in the Lower Mainland—“as formerly”—is no longer possible due to the combined effects of colonization, settlement, and development. This includes:

- Fishing for salmon, sturgeon, and crabs, and harvesting clams and urchin, as well as other interwoven and related marine, terrestrial and intangible rights (i.e., access and occupancy, ceremonial, social and economic, knowledge transmission, governance, and health);
- Gathering plants such as S,ELLTENEN/berries, nettles, cedar, willow, horsetail, SṪA,KEN/cattails, SṪELEL/tule rushes, and seaweeds and kelp for food, medicine, and materials, as well as other interwoven and related marine, terrestrial, and intangible rights; and
- Hunting and/or trapping, particularly for deer, elk, mountain goats, beaver, muskrat, marten, waterfowl, and upland game birds, as well as other interwoven and related marine, terrestrial, and intangible rights.

#### Project Effects and Conclusion

Despite the existing level of cumulative effects that have prevented SṪÁUTW First Nation from harvesting as formerly in the Harvesting and Subsistence Activities LAA, including on and adjacent to Tilbury Island, SṪÁUTW First Nation strongly prefers the return of conditions that would enable the meaningful exercise of harvesting and subsistence rights as protected by the constitution and the Douglas Treaties. Contrary to FortisBC’s prediction that changes in the quality, quantity, and availability of resources due to the Project are “not expected to change the experience and preferences for WṢÁNEĆ Nations members around the practice of harvesting rights” (Section 11.18.5.3 of the Application, *Changes to the Experience*

and Preferences around the Practice of Harvesting Rights and Effects on the Quality, Quantity, and Availability of Resources), SṪÁUTW First Nation concludes that the Project will further breach SṪÁUTW First Nation's Douglas Treaty and Aboriginal harvesting and subsistence rights.

SṪÁUTW First Nation prefers—and has the right to expect—the revitalization and recovery of constitutionally protected harvesting and subsistence rights, and the conditions that would permit the exercise of these rights as formerly. FortisBC concludes that the Project will have numerous deleterious effects (see Table 10) but incorrectly finds no impact on WSÁNEĆ Nations Indigenous Interests; these effects will delay and prevent revitalization and recovery. With respect to SṪÁUTW First Nation harvesting and subsistence rights, this includes:

- Introducing additional air contaminants (including odours and dust) and noise disturbances where SṪÁUTW First Nation seeks a reduction in air contaminants and noise disturbances;
- Changing the visual quality of the landscape with new industrial facilities where SṪÁUTW First Nation prefers the return of landscapes without industrial human disturbance;
- Introducing and/or spreading invasive plant species where SṪÁUTW First Nation prefers and seeks the recovery of native and culturally valued species;
- Further reducing and/or altering wildlife habitats and increasing wildlife mortality risk where SṪÁUTW First Nation prefers and seeks the recovery of native and culturally valued species; and
- Continuing to limit the accessibility and availability of lands and resources for the exercise of harvesting and subsistence rights,<sup>19</sup> delaying the return and recovery of lands and resources to a condition that would enable harvesting as formerly as preferred by SṪÁUTW First Nation and as protected by the constitution and Treaty.

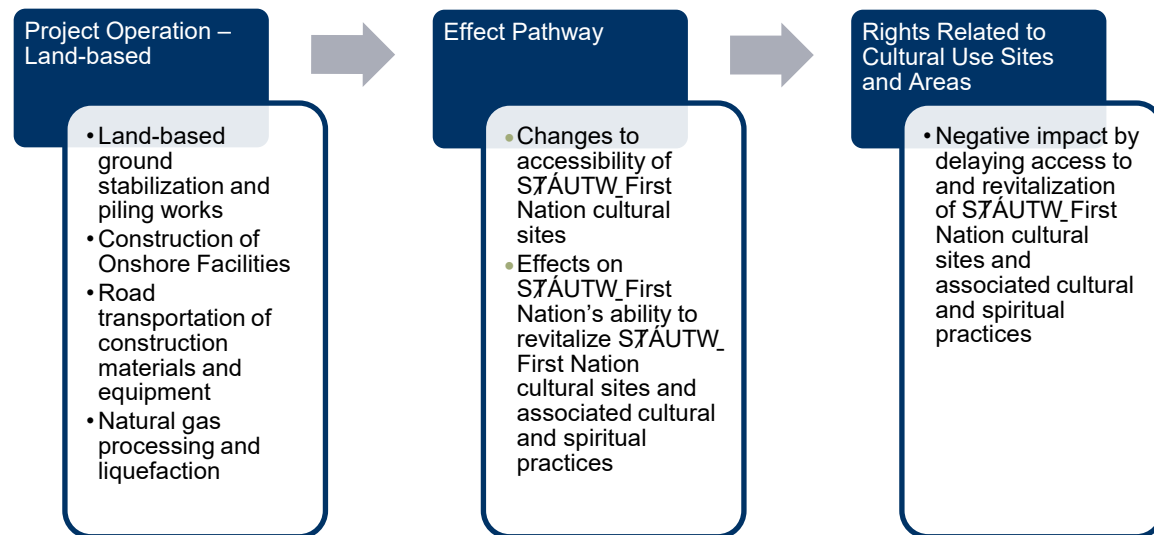
FortisBC's Application fails to consider that a continuation (and worsening) of current baseline conditions is nonetheless a *temporal* change—one of delay—conflicting with the harvesting and subsistence rights of SṪÁUTW First Nation and a barrier to recovery.

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<sup>19</sup> E.g., "The proposed Project Footprint is not currently accessible for harvesting and will remain restricted for the life of the proposed Project" (Section 11.18.5.3 of the Application, *Plant Gathering*) and "The proposed Project Footprint is predominately located on the Property within an existing Tilbury LNG facility on Tilbury Island, in the Tilbury Industrial Park adjacent to the Fraser River in Delta, B.C. The proposed Project Footprint is not accessible on foot." (Section 11.18.5.3 of the Application, *Effects on Accessibility and Availability of Traditional Lands and Resources*).



### 3.3.3.2 Cultural Use Sites and Areas



#### Summary of Current Conditions

As detailed in Section 3.3.2.4, STÁUTW First Nation identifies cultural use and rights throughout its territory, including the Lower Mainland, the lower arm of the ŚNEWIL/Fraser River, and the Project Footprint. This includes:

- Permanent villages at SMOKEĆ/Point Roberts and Boundary Bay, and along established access routes following the ŚNEWIL/Fraser River and its tributaries;
- Travel and access along coastal routes and the ŚNEWIL/Fraser River and its tributaries, and on land;
- Place names in the LAA and RAA, including those associated with geographic features, fishing and fish processing locations, and ceremonial and sacred sites; and
- Cultural and spiritual practices and customs and beliefs embedded in and related to harvesting practices and yields, trade, governance, knowledge transfer, etc. exercised in the Lower Mainland.

Because of the combined effects of colonialism, urbanization, industrialization, and linked institutional and landscape changes, it is no longer possible for STÁUTW First Nation to meaningfully exercise rights related to village sites in the Lower Mainland; travel in the absence of barriers; or engage in cultural and spiritual practices, customs, and beliefs as formerly. Place names in the Lower Mainland no longer reflect the conditions of their genesis. Nonetheless, WSÁNEĆ villages and place names continue to be of great value to STÁUTW First Nation; members also continue to travel the Lower Mainland and its waters, engaging in cultural and spiritual practices, adhering to cultural customs and beliefs as able.

#### Project Effects and Conclusion

FortisBC determines that the Project will not interact with WSÁNEĆ cultural use sites and areas, including loss of access to and disenfranchisement from cultural sites. FortisBC's rationale for this conclusion is largely based on the inaccurate understanding that (see Section 11.18.5.3 of the Application, *Effects on the Quality, Quantity, and Availability of Harvested Country Foods*):

- There are no WSÁNEĆ or SṪÁUTW First Nation cultural sites and areas in the Project Footprint or LAA,
- WSÁNEĆ or SṪÁUTW First Nation members do not use the lower ŚNEWIL/Fraser River near the Project Footprint or within the LAA to fish, gather plants, or hunt, and
- The Project's effects will not be material because of the existing level of disturbance.

Conversely, SṪÁUTW First Nation has demonstrated in Section 3.3.2 the existence of traditional, historical, and contemporary cultural use sites and areas and rights to these sites and areas within the Cultural Sites and Areas LAA.<sup>20</sup> SṪÁUTW First Nation has further demonstrated that members have fished, gathered plants, and hunted in and around the ŚNEWIL/Fraser River and the Cultural Sites and Areas LAA, and aspire to the continued exercise and recovery of these protected rights. And finally, SṪÁUTW First Nation has clarified above (in Section 3.3.3.1) that massive cumulative effects and contributions to these effects—no matter their magnitude—does not abrogate the existence of these protected rights and furthermore are material temporal impacts preventing the revitalization of these cultural sites and areas and their potential use.

Because cultural sites and areas encompass harvesting and subsistence locations, the same Project effects noted in Section 3.3.3.1 apply here, including:

- Introducing additional air contaminants (including odours and dust) and noise disturbances where SṪÁUTW First Nation seeks a reduction in air contaminants and noise disturbances;
- Changing the visual quality of the landscape with new industrial facilities where SṪÁUTW First Nation prefers the return of landscapes without industrial human disturbance;
- Introducing and/or spreading invasive plant species where SṪÁUTW First Nation prefers and seeks the recovery of native and culturally valued species;
- Further reducing and/or altering wildlife habitats and increasing wildlife mortality risk where SṪÁUTW First Nation prefers and seeks the recovery of native and culturally valued species; and
- Continuing to limit the accessibility and availability of lands and resources for the exercise of harvesting and subsistence rights, delaying the return and recovery of lands and resources to a condition that would enable harvesting as formerly as preferred by SṪÁUTW First Nation.

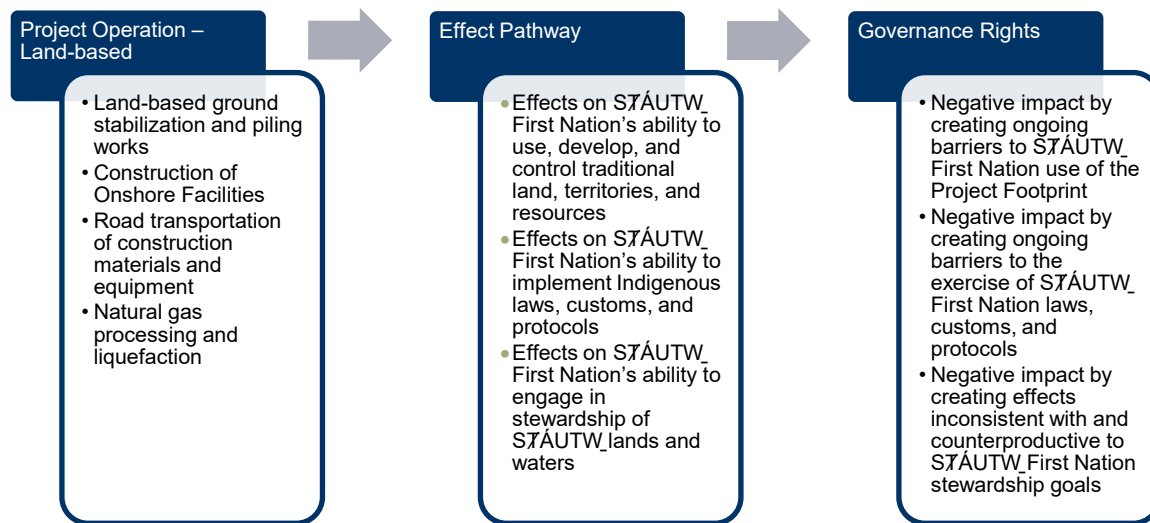
Through these effects, the Project will impact SṪÁUTW First Nation's ability to revitalize SṪÁUTW First Nation cultural sites and associated cultural and spiritual practices, including customs and beliefs embedded in and related to harvesting practices, governance, knowledge transfer, etc.

SṪÁUTW First Nation therefore concludes that the Project will materially extend the duration of alienation from the Project Footprint, precluding its potential use for cultural purposes and the exercise of rights. The Project will additionally intensify sensory disturbances in and around the Footprint. Together these effects will delay the revitalization of SṪÁUTW First Nation access to and revitalization of SṪÁUTW First Nation cultural sites and associated cultural and spiritual practices (both in an outside of the Lower Mainland, e.g., in the bighouse).

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<sup>20</sup> As noted in Section 3.3.2.4, SṪÁUTW First Nation considers areas in which it has rights to harvest, transmit knowledge, and govern to be cultural use sites and areas—this is in addition to physical sites and locations of cultural, historical, archaeological, paleontological or architectural value. This broader definition of cultural use sites and areas is implicitly adopted by FortisBC through the applied rationale that interactions are not expected due to the absence of fishing, gathering, or hunting. Table 11.18-12 of FortisBC's Application further includes as indicators "Cultural practices, customs, beliefs, and values associated with cultural sites" and "Participation in harvesting and subsistence activities practices and cultural and spiritual practices".

### 3.3.3.3 STÁUTW First Nation Governance Systems



#### Summary of Current Conditions

The Project is in STÁUTW First Nation territory where the Nation has governance rights, including those related to stewardship and the well-being of future generations. FortisBC did not assess for potential Project impacts to STÁUTW First Nation governance.<sup>21</sup>

In Section 3.3.2.5, STÁUTW First Nation summarizes a history of STÁUTW/WSÁNEĆ access to fisheries and villages in the Lower Mainland, in some cases forged through conflicts, negotiations, agreements, and kinship ties. The section also elaborates on the STÁUTW First Nation law to uphold reciprocal and respectful relationships with all living things, e.g., through stewardship and care for current and future generations. The existing level of cumulative effects and alienation of STÁUTW First Nation from the Lower Mainland has effectively prevented the meaningful exercise of these governance rights, including related customs and protocols embedded in the practice of harvesting, and social and economic rights.

The current trajectory of cumulative effects in the Lower Mainland conflicts with STÁUTW First Nation governance objectives and laws. The Project will contribute to and continue these effects and impacts.

#### Project Effects and Conclusion

Specifically, the Project will negatively impact STÁUTW First Nation governance by (see Table 9):

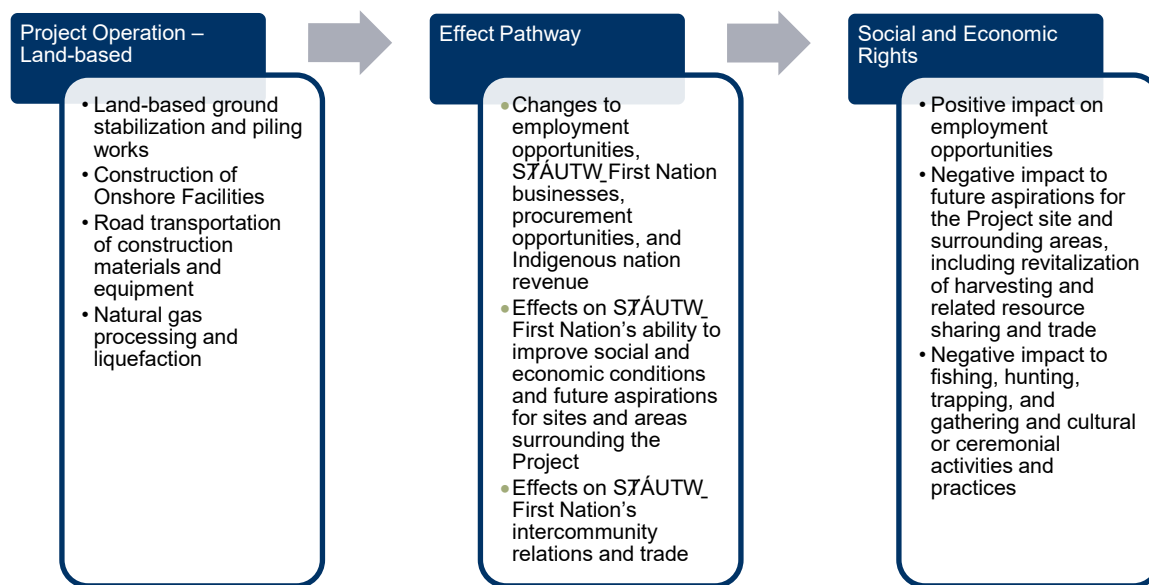
- Creating ongoing barriers to STÁUTW First Nation use of the Project Footprint through the development and occupancy of the site, and associated impacts to accessibility and loss of plant and animal populations and habitats;

<sup>21</sup> STÁUTW First Nation notes that while governance was assessed as part of the Culture VC, this was not specific to STÁUTW First Nation and was limited to governance regarding greenhouse gases.

- Creating ongoing barriers to the exercise of Sᑭᐱᐱᐱ First Nation laws, customs, and protocols, including through resource sharing, and as expressed in harvesting methods and techniques, ceremony, knowledge transmission, stewardship, etc.; and
- Creating effects inconsistent with and counterproductive to Sᑭᐱᐱᐱ First Nation stewardship goals, including by introducing disturbances to air quality, noise, riverine views, plant and animal populations and habitats, and human health.

Sᑭᐱᐱᐱ First Nation is committed to the implementation of its laws and exercise of its governance rights in Sᑭᐱᐱᐱ First Nation territory that includes the Lower Mainland and seeks the revitalization of environmental conditions that would allow for the meaningful exercise of the Nation's inherent and constitutionally protected Aboriginal and Treaty rights. Sᑭᐱᐱᐱ First Nation concludes that the Project will materially and negatively impact Sᑭᐱᐱᐱ First Nation governance rights by contributing to the further deterioration of environmental conditions counter to the Nation's laws and extending through time the Nation's alienation from the Lower Mainland, preventing implementation and exercise of laws, customs, and protocols.

### 3.3.3.4 Social and Economic Conditions



#### Summary of Current Conditions

Sᑭᐱᐱᐱ First Nation has protected rights to self-determination and self-government from which stem rights and interests to maintain, improve, and develop the Nation's social and economic institutions and conditions.

Sᑭᐱᐱᐱ First Nation harvesting and subsistence and governance rights are intertwined with the Nation's social and economic outcomes. For example, the trade and sharing of harvested resources was and remains an important part of the Sᑭᐱᐱᐱ First Nation economy and is a foundation of relationships inside and outside the community. However, the combined effects of colonization, urbanization, and industrialization have disrupted resource-based economies and social bonds and limited the scope of the Nation's potential economic activities, and therefore have constrained and impacted the Nation's

economic, social, and health outcomes. SᑭÁUTW First Nation seeks to improve economic and social conditions for its members through participation in the contemporary wage economy and revitalization of ecosystems that sustain cultural relationships and trade.

### Project Effects and Conclusion

FortisBC's assessment concludes only a positive residual effect of increased employment and economic opportunity for the W̱SÁNEĆ Nations, especially for trades-certificate holders who may support Project construction. SᑭÁUTW First Nation similarly concludes that the Project has the potential to create positive economic and social effects for its members but will depend on whether direct/indirect employment is secured.

FortisBC does not identify interactions with:

- Future aspirations for sites or areas surround the proposed Project;
- Commercial and non-commercial fishing, hunting, trapping, and gathering and cultural or ceremonial activities and practices;
- Intercommunity relations and trade; and
- Infrastructure and services.

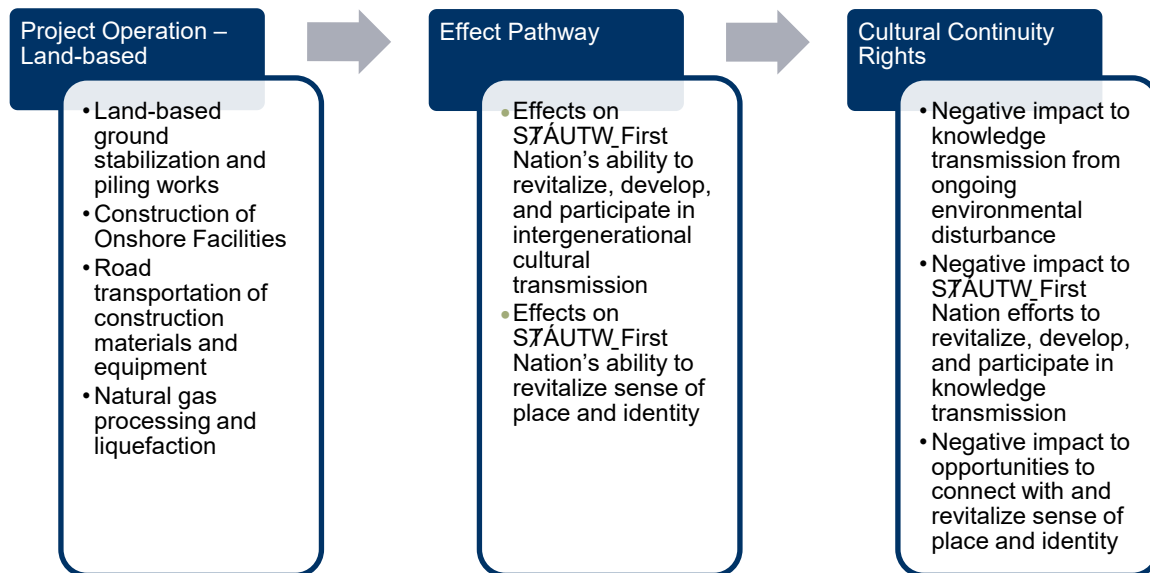
SᑭÁUTW First Nation reiterates—as established in Section 3.3.2—that the health of the environment and SᑭÁUTW First Nation access to sufficient resources is of fundamental importance culturally, economically, socially, and in terms of human health. As discussed, SᑭÁUTW First Nation aspires for the Project Footprint and all areas of SᑭÁUTW First Nation territory to be revitalized to a condition that would enable the meaningful exercise of its protected rights, including but not limited to harvesting and improvements in the Nation's social and economic outcomes. As already established, the Project would continue the trajectory of deleterious cumulative effects and impacts on SᑭÁUTW First Nation's exercise of rights by adding new disturbance (see Table 10), and critically, contribute to the continuation of this highly disturbed state in the Lower Mainland. This is counter to SᑭÁUTW First Nation's aspiration for the Project Footprint and surrounding areas and therefore finds the potential for a negative effect.

SᑭÁUTW First Nation further finds the potential for a negative effect from the Project on the Nation's harvesting, cultural, and ceremonial rights and activities (see Sections 3.3.3.1, 3.3.3.2, 3.3.3.3, 3.3.3.5, and 3.3.3.6 for rationale). SᑭÁUTW First Nation reiterates strong disagreement that there are no W̱SÁNEĆ "cultural sites and areas within the proposed Project Footprint or Cultural Use Sites and Areas LAA".

The effects of colonization, industrialization, urbanization, and settlement, have already severely disrupted SᑭÁUTW First Nation resource-based trade and social relationships, as established in Section 3.3.2. Reenabling and revitalizing the potential for traditional trade activities and resource sharing is part of SᑭÁUTW First Nation's goal to improve the Nation's social and economic conditions. The Project will contribute to the continuation of disturbance in opposition of SᑭÁUTW First Nation's aspirations, which would instead require the improvement of environmental conditions and access.

SᑭÁUTW First Nation agrees with FortisBC that the Project is unlikely to affect the Nation's infrastructure and services.

### 3.3.3.5 Cultural Continuation



#### Summary of Current Conditions

Section 3.3.2.7 stresses knowledge transmission as the basis of cultural persistence, and that SṪÁUTW First Nation knowledge transfer is rooted in places, direct experiences, and oral traditions, and applies to the whole of SṪÁUTW First Nation cultural knowledge. Today there are few opportunities to transmit knowledge directly and in situ in the Lower Mainland due to colonization and the cumulative effects of development and settlement. The loss of access to and abundance of resources in the Lower Mainland have furthermore contributed to the decline in sense of place and identity, and learning/teaching opportunities in other parts of SṪÁUTW First Nation territory (e.g., the bighouse). Notwithstanding, SṪÁUTW First Nation has a right to revitalize, develop, and participate in intergenerational cultural transmission, and similarly the revitalization of cultural connections to place, heritage, and identity.

#### Project Effects and Conclusion

FortisBC does not assess for effects to Cultural Continuation in Section 11.18 of the Application but does assess for changes to intergenerational knowledge transfer in Section 7.14 of the Application, in which FortisBC finds (in Section 7.14.4, *Changes to Intergenerational Knowledge Transfer*):

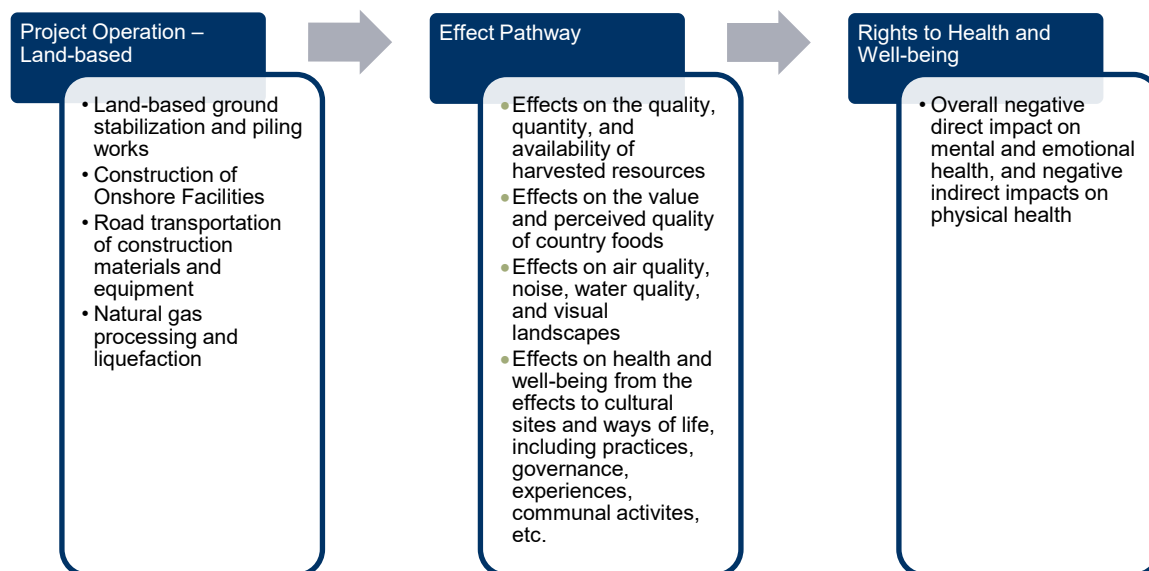
*The proposed Project may affect changes to intergenerational knowledge transfer for Indigenous Peoples through changes in the ability to engage in cultural practices and to access areas and resources that are important for intergenerational knowledge transfer. Indigenous nations use lands, waters, and resources to pass on language, cultural laws, stories, environmental knowledge, and spiritual beliefs. The ability of Indigenous nations to engage in cultural practices that may be critical for intergenerational knowledge transfer may be affected by sensory disturbances from the proposed Project activities in all phases of the proposed Project. [...] Sensory disturbances (such as increased noise, air emissions, nighttime light pollution, and alterations to the landscape) may lead to avoidance of lands, waters, and resources in the LAA required for intergenerational cultural transmission [...]. The ability to or experience of [sic] conduct cultural practices is an important part*

*of maintaining and passing on intangible values and activities (for example, oral traditions related to use of lands and waters are important in maintaining a sense of cultural continuity [...]).*

Sᑭᐱᐱᐱ First Nation similarly concludes that the Project has the potential to negatively affect intergenerational knowledge transfer through ongoing contributions to environmental disturbance that preclude the ability of its members to engage in the exercise of harvesting and other rights. As noted by FortisBC above and by Sᑭᐱᐱᐱ First Nation in Section 3.3.2.7, the land, waters, and resources of the Lower Mainland are important venues/means for passing on cultural knowledge, including laws, language, customs, and beliefs, and that these can furthermore be disrupted by sensory disturbances, leading to, among other things, avoidance. Because the Project will add to disturbances and the continuation of cumulative effects in the Project Footprint and surrounding area, Sᑭᐱᐱᐱ First Nation efforts to revitalize, develop, and participate in intergenerational cultural transmission will be impacted.

These Project effects and ongoing absence of accessibility will concurrently lead to the continuation of lost opportunities for Sᑭᐱᐱᐱ First Nation to connect with the land and waters of the Lower Mainland. Without the ability and opportunities to use and access the land and resources in place, Sᑭᐱᐱᐱ First Nation is less able to connect to, understand, experience, and internalize connections to place names, and cultural histories and practice, which are foundational to Sᑭᐱᐱᐱ sense of place and identity. The Project will therefore affect the Nation's ability to revitalize sense of place and identity.

### 3.3.3.6 Sᑭᐱᐱᐱ First Nation Health and Well-being



### Summary of Current Conditions

Sᑭᐱᐱᐱ First Nation has a right to the “highest attainable standard of physical and mental health” (UNDRIP Article 24(2)). The health and well-being of Sᑭᐱᐱᐱ First Nation members is tied to and encompasses physical, mental, and spiritual dimensions, including relationships with land, culture, and community. The Sᑭᐱᐱᐱ First Nation perspective is that community health and well-being is tied to the exercise of rights, including those described in this assessment. Cumulative effects and impacts in



SṪÁUTW First Nation territory and the Lower Mainland have compromised and continue to affect SṪÁUTW health and well-being by adversely affecting:

- Resource base and diets;
- Economic conditions;
- Social cohesion and bonds;
- Governance responsibilities;
- Sense of place;
- Knowledge transmission and ceremonies; and
- Self-determination and governance, including in environmental assessment.

### Project Effects and Conclusion

FortisBC finds a lack of interaction between the Project and the health and well-being of the WŚÁNEĆ Nations. This is based on the rationales that:

- Despite statements in the Application to the contrary and input from SṪÁUTW First Nation, "FortisBC does not have information to indicate that WŚÁNEĆ Nations fish, hunt, or gather plants the south arm of the lower Fraser River near the proposed Project Footprint or within the Harvesting and Subsistence Activities LAA" (Section 11.18.5.3 of the Application, *Effects to Aboriginal Rights of WŚÁNEĆ Nations to Fish, Harvest, and Hunt for Food, Social, and Ceremonial Purposes*) and therefore would not interact with "Harvesting and Subsistence Activities and Cultural Use Areas and Sites, including traditional ways of life" (Section 11.18.5.3 of the Application, *Effects on Health and Well-being from Traditional Ways of Life and Cultural Sites*);
- Residual effects predicted for wildlife, vegetation, and their habitats is of "negligible to low magnitude" (Section 11.18.5.3 of the Application, *Effects on the Quality, Quantity, and Availability of Harvested Country Foods*);
- As a corollary to the above and in consideration that perceptions of adverse effects can impact the value of country foods, there are no expected adverse effects to the quality of country foods because of the level of existing industrialization and (perceived) effects to the quality of country foods (Section 11.18.5.3 of the Application, *Effects on the Value and Perceived Quality of Country Foods*); and
- Despite expected residual effects (Table 10), Project contributions to noise and air quality will be similar to existing levels or below thresholds, and exposures would be short-term and localized (Section 11.18.5.3 of the Application, *Effects on the Air Quality, Noise, and Water Quality*).

As in preceding sections of SṪÁUTW First Nation's assessment where FortisBC has relied on similar rationales, SṪÁUTW First Nation stresses that existing levels of disturbance is not a justification for finding a lack of interaction to SṪÁUTW First Nation's Treaty and Aboriginal rights. Indeed, in the context of existing cumulative effects and impacts to SṪÁUTW inherent and constitutionally protected Aboriginal and Treaty rights, adding to and contributing to the trajectory of extensive effects with impacts to rights would at minimum be an interaction with potential significance. SṪÁUTW First Nation has furthermore demonstrated (see Section 3.3.2) and disputes the lack of SṪÁUTW use or value in the lower ŚNEWIL/ Fraser River and Lower Mainland generally.

SṪÁUTW First Nation's assessment is that the health and well-being of its members and community are directly tied to the exercise of rights summarized Sections 3.3.3.1 to 3.3.3.5. In these preceding sections, SṪÁUTW First Nation has identified how the Project will add to and continue the current trajectory of

cumulative effects that has alienated the Nation and its members from the Lower Mainland, including through effects on the availability and quality and quantity of harvestable resources; effects to air quality, soundscapes, and views; and impacts to cultural sites and access, and SᑭÁUTW First Nation lifeways. The Project's continuation of these effects is a clear interaction with SᑭÁUTW First Nation health and well-being that have the potential to exacerbate adverse effects on SᑭÁUTW First Nation (see Section 3.3.2.8):

- Diets and food security;
- Prevalence of disease and chronic conditions;
- Access and use of traditional medicines and knowledge;
- Social cohesion and bonds;
- Cultural and spiritual connections to land and identity, and practice of culture and language (that can be health-protective); and
- Enactment of stewardship responsibilities.

The proposal of the Project and the environmental assessment process also need to be recognized as pathways of effect. As noted in Section 3.3.2.8, experience with and being subject to colonial regulatory institutions and processes can have negative impacts on Indigenous well-being.

SᑭÁUTW First Nation recognizes the potential for the Project to contribute positively to health and well-being via economic and employment opportunities but also notes that economic and employment changes can result in negative interactions in terms of family dynamics and individual and household stress, and limiting time to participate in culture.

### **3.3.4 Effects Management**

#### **3.3.4.1 Evaluation of FortisBC Mitigation Measures**

##### **Positive Effects**

Section 11.18.5.3 of FortisBC's Application finds that the only potential interactions between the Project and WSÁNEĆ Nations Indigenous Interests are positive interactions with Social and Economic Conditions along the following effect pathways:

- Changes to employment opportunities, Indigenous businesses, procurement opportunities, and Indigenous nation revenue; and
- Effects on Indigenous nations' ability to improve social and economic conditions.

As these are the only potential effects pathways identified, Table 11.18-14 of FortisBC's effects assessment does not propose any specific additional mitigations for potential effects to SᑭÁUTW First Nation rights and interests beyond the generic enhancement measures for effects to the Employment and Economy, Land and Resource Use, and Culture VCs found in sections 7.10, 7.11, and 7.14 of the Application, respectively. All but two of these enhancement measures are found in section 7.10 (Employment and Economy).

Section 3.4 of EAO's Effects Assessment Policy (EAO 2020) states:

*Mitigation measures should be specific, achievable, measurable and verifiable and described in a manner that avoids ambiguity in intent, interpretation and implementation. Mitigation must be described in enough detail to support the*

*assessment, including conclusions regarding the likely effectiveness of mitigation to reduce or manage effects.*

Further, section 6.5 of the AIR (EAO 2022), echoing the EAO's policy guidance, requires that "Proposed mitigation measures are to be specific, achievable, measurable and verifiable, and described in a manner that avoids ambiguity in intent, interpretation and implementation."

In contrast, many of FortisBC's descriptions of the enhancement measures for positive effects to Employment and Economy found in section 7.10 of the Application are ambiguous in their language. For example:

- *Develop fair, accessible employment practices that ensure Indigenous Peoples are considered fairly for employment opportunities during construction and operation;*
- *Encourage the use of local and regional human resources in design, planning, construction, restoration, and operation, to the extent practical;*
- *Promote awareness of local and regional business opportunities through the timely dissemination of information regarding project service and supply requirements;*
- *Continue communications with community stakeholders; and*
- *Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums.*

FortisBC assesses the effectiveness of all these mitigations, including the examples listed above, as Moderate (for the Employment and Economy VC). STÁUTW First Nation appreciates that full details of mitigation measures are not developed at this stage of Project planning; however, this level of information is not sufficient for STÁUTW First Nation to concur with FortisBC's findings, and does not align with the EAO's guidance or with the AIR in terms of the level of detail required to support assessment of mitigation measure effectiveness.

### **Negative Effects**

As noted by IAAC, Environment and Climate Change Canada, and others as part of the Application Review process (EAO 2025), many of the mitigation measures proposed by FortisBC to mitigate negative effects to VCs (with links to STÁUTW First Nation interests) have some of the same issues of ambiguity as discussed in the preceding section of this report. Again, echoing the EAO's guidance and the AIR (2025), IAAC states that the Application's proposed mitigation should be "described in specific, achievable, measurable and verifiable terms and written as a specific commitment that clearly describes how the Proponents [sic] intends to implement it." Many mitigations are not described at all in the Application other than to generally state their end goal and/or that they will be part of the Project's Construction Environmental Management Plan (CEMP). Examples include:

- *Air Quality:*
  - *Develop dust-control measures to be described in the CEMP to limit particulate matter emission during the construction phase;*
  - *Implement the construction-related air emission mitigations listed in the CEMP;*
- *Acoustic:*
  - *During construction and operation of the project, develop mitigation and contingency measures through engagement with a QP to manage acoustic disturbance to human and wildlife receptors and incorporate these measures into the CEMP and EMS;*

- *Surface Water:*
  - *Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a QP and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers;*
- *Groundwater:*
  - *Incorporate best management practices into the CEMP to manage groundwater;*
- *Vegetation:*
  - *Develop and implement soil-management and soil-handling practices that are effective at managing the introduction and spread of invasive noxious plant species as required under Provincial regulations and Municipal bylaws. These measures will be incorporated into the CEMP;*
- *Wildlife and Wildlife Habitat:*
  - *Develop mitigation and contingency measures in consultation with Indigenous nations and a QP to reduce the potential for adverse interactions with wildlife and wildlife habitat (such as human-wildlife conflict, vehicle collisions, and sensory disturbance), and incorporate these measures into the CEMP;*
- *Fish and Fish Habitat:*
  - *Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a QP and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers;*
  - *Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP;*
- *Land and Resource Use:*
  - *Traffic management mitigation measures will be developed and incorporated into the CEMP.*

It should be noted that the foregoing is not an exhaustive list, and that many of these statements are repeated as the mitigations proposed for multiple VCs, including for Culture and Human Health. In the above examples and in other similarly constructed statements, there is no actual mitigation measure being proposed: the only information provided is that FortisBC will develop and implement such a measure at a future date. As with the enhancement measures discussed in the previous section, while it is acknowledged that full information on mitigation planning may not be available at this time, it seems challenging to meaningfully assess mitigation effectiveness with the level of detail presented; however, FortisBC again assesses the effectiveness of these mitigations as Moderate or High. STĀUTW First Nation agrees with the provincial and federal reviewers that more information is needed to draw this conclusion, and that the mechanism by which these mitigations should be expected to interact with potential effect pathways should be more clearly expressed.

Temporarily setting questions of mitigation effectiveness aside, as summarized in Table 10, FortisBC's Application states that, assuming proposed mitigations function as expected, the Project is anticipated to have eleven residual effects (and thus contribute to cumulative residual effects) to six VCs. The spatial extent of all residual and cumulative effects listed in Table 10 overlap with the LAA and/or CEA boundary (see Section 3.3.6). Most of these residual effects are characterized as having a non-negligible magnitude (highlighted in yellow in Table 10) and are anticipated to be, at minimum, detectable; several will contribute to high magnitude cumulative effects (i.e., defined as effects that exceed environmental and/or regulatory standards).

**Table 10:** Residual and Cumulative Residual Effects on Valued Components Linked with One or More of WSÁNEĆ Nations Indigenous Interests (as assessed by FortisBC)

| Valued Component <sup>1</sup> | Effect <sup>1</sup>                                                                     | Residual Effect Magnitude <sup>1,2</sup> | Cumulative Effect Magnitude <sup>1,2</sup> | Spatial Overlap with LAA or CEA boundary? |
|-------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------|--------------------------------------------|-------------------------------------------|
| Air Quality                   | Elevated ambient CAC concentrations during construction                                 | Negligible to Low                        | Low to Medium                              | Yes                                       |
|                               | Increase in ambient concentrations of NO <sub>2</sub> during operation                  | Negligible                               | High                                       | Yes                                       |
|                               | Increase in ambient concentrations of SO <sub>2</sub> during operation                  | Low                                      | Medium                                     | Yes                                       |
|                               | Increase in ambient concentrations of CO, PM, and VOCs during operation                 | Negligible                               | Low                                        | Yes                                       |
| Acoustic                      | Increase in noise levels during construction                                            | Negligible                               | Negligible                                 | Yes                                       |
|                               | Increase in vibration levels during construction                                        | Negligible to Low                        | n/a                                        | Yes                                       |
|                               | Increase in noise levels during operation                                               | Negligible to Low                        | Negligible to Low                          | Yes                                       |
| Vegetation                    | Introduction or spread of invasive plant species                                        | Negligible to Low                        | High                                       | Yes                                       |
| Wildlife                      | Loss or alteration of wildlife habitat                                                  | Negligible to Low                        | High                                       | Yes                                       |
|                               | Increased wildlife health and mortality risk                                            | Negligible to Low                        | High                                       | Yes                                       |
| Land and Resource Use         | Change to use of tenure and licensed resource use                                       | Low                                      | Low                                        | Yes                                       |
|                               | Change to visual quality of the landscape                                               | Low                                      | Medium                                     | Yes                                       |
| Human Health                  | Health and well-being effects from elevated ambient CAC concentrations during operation | Low                                      | Medium                                     | Yes                                       |
|                               | Health and well-being effects from shift work                                           | Negligible to Low                        | Low                                        | Yes                                       |

<sup>1</sup> Contents of these columns are taken from sections 7.2 to 7.15 of FortisBC's Application.

<sup>2</sup> Non-negligible magnitude residual effects are highlighted in yellow.

However, while identifying the linkages between these VCs and Indigenous Interests, FortisBC does not find that these residual effects are sufficient to consider the potential for interactions with linked Indigenous Interests further. Table 11.18-12 of FortisBC's Application identifies no potential negative interactions between the Project and the remaining three assessed WSÁNEĆ Nations Indigenous Interests (Harvesting and Subsistence Activities, Cultural Use Sites and Areas, and Indigenous Health and Well-

being), and subsequent sections of the effects assessment do not assess any related potential effects or propose any specific management measures. The general rationale provided by FortisBC for identifying no potential for interactions is that:

1. FortisBC does not have information to indicate that the ᑭᐱᐱᐱ Nations currently fish, hunt, gather plants, or carry out cultural/ceremonial practices in or near the proposed Project Footprint, which is largely on private property, and where the Project's residual effects are expected to be concentrated; and
2. Project-related residual effects to VCs linked with ᑭᐱᐱᐱ Nations' Indigenous Interests are expected to be negligible or low in magnitude.

Sᑭᐱᐱᐱ First Nation is providing additional information on Sᑭᐱᐱᐱ uses of this area as part of this report, and notes that current use is not a barometer for past use or aspirational future use. In Sᑭᐱᐱᐱ First Nation's view, the presence of non-negligible residual effects and contribution of low to high magnitude cumulative effects to VCs linked with Sᑭᐱᐱᐱ First Nation rights and interests within Sᑭᐱᐱᐱ First Nation territory are sufficient grounds to, at minimum, identify the potential for an interaction. Furthermore, as noted previously, FortisBC has not assessed the Project's potential to interact with Cultural Continuation and Indigenous Governance Systems as Indigenous Interests of the ᑭᐱᐱᐱ Nations in general, or of Sᑭᐱᐱᐱ First Nation in particular, which Sᑭᐱᐱᐱ considers important to the assessment.

### 3.3.4.2 Determination of Residual Effects

Sᑭᐱᐱᐱ First Nation's assessment of potential interactions and effects is largely based on the residual effects anticipated for linked VCs determined by FortisBC, which accounts for and considers proposed effects management. Notwithstanding Sᑭᐱᐱᐱ First Nation's lack of ability to judge the effectiveness of FortisBC's proposed mitigations due to an absence of detail, as noted above in Section 3.3.4.1, Sᑭᐱᐱᐱ First Nation identifies Project residual effects to the Nation's rights and interests listed in Table 11. Similarly, Sᑭᐱᐱᐱ First Nation notes that there is insufficient detail to assess the potential effects of decommissioning activities as they are dependent on "regulations applicable at that time" and "the preferred land uses at that time", and that the anticipated condition of the Project Footprint after decommissioning is that the land "will continue to be used for industrial purposes in the future" (Section 1.5.4 of FortisBC's Application). The determination and characterization of residual effects found in Section 3.3.5 can therefore be considered conservative (i.e., with actual effects likely greater in magnitude).

**Table 11:** Residual effects to Sᑭᐱᐱᐱ First Nation rights and interests.

| Category of Indigenous Interest   | Project Phase <sup>1</sup> | Mitigation Effectiveness <sup>2</sup> | Residual Effect                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------|----------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Harvesting and Subsistence Rights | Operation – Land-based     | Unknown                               | <ul style="list-style-type: none"> <li>Negative residual effect - by introducing additional sensory disturbances and further impacting plant and wildlife populations and habitats</li> <li>Negative residual effect - by delaying revitalization and recovery of harvesting and access conditions supporting rights</li> </ul> |
| Cultural Use Sites and Areas      | Operation – Land-based     | Unknown                               | <ul style="list-style-type: none"> <li>Negative residual effect - by delaying access to and revitalization of Sᑭᐱᐱᐱ First Nation cultural sites and associated cultural and spiritual practices</li> </ul>                                                                                                                      |

| Category of Indigenous Interest           | Project Phase <sup>1</sup> | Mitigation Effectiveness <sup>2</sup> | Residual Effect                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------|----------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SṪÁUTW First Nation Governance            | Operation – Land-based     | Unknown                               | <ul style="list-style-type: none"> <li>Negative residual effect – creation of ongoing barriers to SṪÁUTW First Nation use of the Project Footprint</li> <li>Negative residual effect – creation of ongoing barriers to the exercise of SṪÁUTW First Nation laws, customs, and protocols</li> <li>Negative residual effect – creation of effects inconsistent with and counterproductive to SṪÁUTW First Nation stewardship goals</li> </ul>                                                                    |
| Social and Economic Conditions            | Operation – Land-based     | Unknown                               | <ul style="list-style-type: none"> <li>Positive residual effect - increased employment opportunities</li> <li>Negative residual effect - to future aspirations for the Project site and surrounding areas, including revitalization of harvesting and related resource sharing and trade</li> <li>Negative residual effect - to fishing, hunting, trapping, and gathering and cultural or ceremonial activities and practices</li> <li>Negative residual effect - to trade and social relationships</li> </ul> |
| Cultural Continuation                     | Operation – Land-based     | Unknown                               | <ul style="list-style-type: none"> <li>Negative residual effect - to knowledge transmission from ongoing environmental disturbance</li> <li>Negative residual effect - to SṪÁUTW First Nation efforts to revitalize, develop, and participate in knowledge transmission</li> <li>Negative residual effect - to opportunities to connect with and revitalize sense of place and identity</li> </ul>                                                                                                             |
| SṪÁUTW First Nation Health and Well-being | Operation – Land-based     | Unknown                               | <ul style="list-style-type: none"> <li>Negative residual effect - on mental and emotional health, and negative indirect impacts on physical health</li> </ul>                                                                                                                                                                                                                                                                                                                                                  |

<sup>1</sup> As noted above, there is insufficient information contained in FortisBC's Application to assess the potential for residual effects during the Decommissioning phase of the Project.

<sup>2</sup> As noted in Section 3.3.4.1, there is insufficient information about FortisBC's proposed mitigation measures to afford a meaningful evaluation of their potential effectiveness to reduce or eliminate Project effects; therefore, potential effects identified in Sections 3.3.3 are also considered to be residual effects.

### 3.3.5 Characterization of Residual Effects

SṪÁUTW First Nation uses the same residual effects characterization criteria as set out in Section 11.1.11 of FortisBC's Application; however, SṪÁUTW First Nation presents its own descriptions and definitions of ratings for those criteria in Table 12.



**Table 12:** Criteria for the characterization of residual effects on SṪÁUTW First Nation rights and interests.

| Characterization Criteria and Description |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Ratings and Definitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Context</b>                            | The extent to which SṪÁUTW First Nation can exercise this right or interest in the LAA based on the effects of historical and existing projects and activities, anticipated future use of the LAA, the level of sensitivity and/or resilience of linked SṪÁUTW values, the uniqueness of the location or value, the level of conservation concern for the location or value, and the availability (or lack of availability) of similar values in other areas. | <ul style="list-style-type: none"> <li>• <b>Low:</b> The ability of the Nation to exercise this right or interest has been greatly impaired and is discontinued or continued with substantial alteration of behaviour.</li> <li>• <b>Moderate:</b> The ability of the Nation to exercise this right has been impaired but is still practiced with some restrictions, limitations, or alteration of behaviour.</li> <li>• <b>High:</b> The ability of the Nation to exercise this right or interest is unimpaired.</li> </ul>                                                                                                                                                                                                                                                                                                              |
| <b>Magnitude</b>                          | The intensity or severity of the residual effect to the SṪÁUTW ability to exercise this right or interest when compared to existing conditions.                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• <b>Negligible:</b> No change or a change that is not detectable or measurable and would not noticeably affect the ability to exercise this right or interest.</li> <li>• <b>Low:</b> A small but detectable change that would not noticeably affect the ability to exercise this right or interest.</li> <li>• <b>Moderate:</b> A demonstrable change that would noticeably affect the ability to exercise this right or interest, allowing continuation with some restrictions, limitations, or alteration of behaviour.</li> <li>• <b>High:</b> A demonstrable change that would noticeably affect the ability to exercise this right or interest; the exercise of this right or interest will either not continue or will require substantial alteration of behaviour to continue.</li> </ul> |
| <b>Extent</b>                             | The spatial area over which the residual effect is expected to occur.                                                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>• <b>Site:</b> the effect will be limited to the Project Footprint</li> <li>• <b>Local:</b> the effect will be limited to the Local Assessment Area</li> <li>• <b>Regional:</b> the effect will be limited to the Regional Assessment Area</li> <li>• <b>Beyond Regional:</b> the effect will be beyond the Regional Assessment Area</li> <li>• <b>n/a:</b> the effect is intangible and thus does not have a spatial extent</li> </ul>                                                                                                                                                                                                                                                                                                                                                            |
| <b>Duration</b>                           | The period during which the residual effect will persist and act upon this SṪÁUTW right or interest (may be longer than the duration of the physical work or activity that produced the effect).                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• <b>Short term:</b> Effect will extend up to one year.</li> <li>• <b>Medium term:</b> Effect will occur only during the construction or decommissioning phases.</li> <li>• <b>Long term:</b> Effect will persist for less than 25 years, or one generation.</li> <li>• <b>Permanent:</b> Effect will not dissipate with time or will extend beyond 25 years, or one generation. (Residual effects that restrict SṪÁUTW First Nation rights and interests and extend beyond a generation can effectively result in a generational</li> </ul>                                                                                                                                                                                                                                                       |

| Characterization Criteria and Description |                                                                                                                                                                                                                                                             | Ratings and Definitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|--|--|--|---------|------------|-----|----------|------|------|-----|-----|--------|--------|-------|-----|--------|--------|------|----------|--------|--------|------|-----------|-----------------|--------|------|-----------|-----------|------------|--|--|--|-------------|-----|--------|------|-----|-----|-----|--------|--------|-----|--------|--------|------|--------|--------|------|-----------|--------|------|------|
|                                           |                                                                                                                                                                                                                                                             | gap in knowledge or practice and therefore are classified as having a permanent duration.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Frequency                                 | How often or how many times the residual effect to this Sᑭᐱᐱ right or interest may occur.                                                                                                                                                                   | <ul style="list-style-type: none"><li>• <b>Single:</b> Effect will occur once.</li><li>• <b>Infrequent:</b> Effect will occur rarely but more than once.</li><li>• <b>Frequent:</b> Effect will occur repeatedly.</li><li>• <b>Irregular:</b> Effect will occur unpredictably and at no set schedule.</li><li>• <b>Regular:</b> Effect will occur at predictable intervals.</li><li>• <b>Continuous:</b> Effect will be constant and sustained.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |           |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Reversibility                             | Whether or not the residual effect on the Sᑭᐱᐱ right or interest can be reversed once the physical work or the activity causing the effects stop or mitigation measures take effect to eliminate the effect.                                                | <ul style="list-style-type: none"><li>• <b>Fully reversible:</b> Exercise of this right or interest is predicted to fully return to its pre-Project state.</li><li>• <b>Partially reversible:</b> Exercise of this right or interest is predicted to partially return to its pre-Project state.</li><li>• <b>Irreversible:</b> Exercise of this right or interest is not predicted to return to its pre-Project state.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Affected Populations                      | The distribution of the residual effect amongst subgroups within the Sᑭᐱᐱ First Nation (e.g., as youth, women, men, families, Elders, etc.).                                                                                                                | <ul style="list-style-type: none"><li>• <b>Even:</b> The effect will be experienced equally by all subgroups within the Nation.</li><li>• <b>Disproportionate:</b> The effect will be experienced differently by certain subgroups within the Nation.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Importance                                | Whether the affected right or interested is identified as a priority by Sᑭᐱᐱ First Nation.                                                                                                                                                                  | <ul style="list-style-type: none"><li>• <b>High:</b> All effects on Sᑭᐱᐱ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐱ First Nation.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Risk<br>(likelihood and consequence)      | Likelihood is whether a residual effect to the Sᑭᐱᐱ right or interest is likely to occur. Consequence is derived based on consideration of the residual effect’s magnitude and extent. Risk is then defined by considering both likelihood and consequence. | <ul style="list-style-type: none"><li>• <b>Likelihood:</b><ul style="list-style-type: none"><li>○ <b>Low:</b> Effects are unlikely to occur.</li><li>○ <b>Medium:</b> Effects may occur.</li><li>○ <b>High:</b> Effects are likely to occur.</li></ul></li><li>• <b>Consequence (derived from matrix below):</b><table><tr><th colspan="5">Magnitude</th></tr><tr><th>Extent¹</th><th>Negligible</th><th>Low</th><th>Moderate</th><th>High</th></tr><tr><td>Site</td><td>Low</td><td>Low</td><td>Medium</td><td>Medium</td></tr><tr><td>Local</td><td>Low</td><td>Medium</td><td>Medium</td><td>High</td></tr><tr><td>Regional</td><td>Medium</td><td>Medium</td><td>High</td><td>Very High</td></tr><tr><td>Beyond Regional</td><td>Medium</td><td>High</td><td>Very High</td><td>Very High</td></tr></table></li><li>• <b>Risk (derived from matrix below):</b><table><tr><th colspan="4">Likelihood</th></tr><tr><th>Consequence</th><th>Low</th><th>Medium</th><th>High</th></tr><tr><td>Low</td><td>Low</td><td>Low</td><td>Medium</td></tr><tr><td>Medium</td><td>Low</td><td>Medium</td><td>Medium</td></tr><tr><td>High</td><td>Medium</td><td>Medium</td><td>High</td></tr><tr><td>Very High</td><td>Medium</td><td>High</td><td>High</td></tr></table></li></ul> | Magnitude |           |  |  |  | Extent¹ | Negligible | Low | Moderate | High | Site | Low | Low | Medium | Medium | Local | Low | Medium | Medium | High | Regional | Medium | Medium | High | Very High | Beyond Regional | Medium | High | Very High | Very High | Likelihood |  |  |  | Consequence | Low | Medium | High | Low | Low | Low | Medium | Medium | Low | Medium | Medium | High | Medium | Medium | High | Very High | Medium | High | High |
| Magnitude                                 |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Extent¹                                   | Negligible                                                                                                                                                                                                                                                  | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Moderate  | High      |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Site                                      | Low                                                                                                                                                                                                                                                         | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Medium    | Medium    |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Local                                     | Low                                                                                                                                                                                                                                                         | Medium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Medium    | High      |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Regional                                  | Medium                                                                                                                                                                                                                                                      | Medium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | High      | Very High |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Beyond Regional                           | Medium                                                                                                                                                                                                                                                      | High                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Very High | Very High |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Likelihood                                |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Consequence                               | Low                                                                                                                                                                                                                                                         | Medium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | High      |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Low                                       | Low                                                                                                                                                                                                                                                         | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Medium    |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Medium                                    | Low                                                                                                                                                                                                                                                         | Medium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Medium    |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| High                                      | Medium                                                                                                                                                                                                                                                      | Medium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | High      |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |
| Very High                                 | Medium                                                                                                                                                                                                                                                      | High                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | High      |           |  |  |  |         |            |     |          |      |      |     |     |        |        |       |     |        |        |      |          |        |        |      |           |                 |        |      |           |           |            |  |  |  |             |     |        |      |     |     |     |        |        |     |        |        |      |        |        |      |           |        |      |      |

<sup>1</sup> Where extent has been characterized as "n/a", consequence is mapped directly to the 4-point magnitude rating (i.e. negligible, low, moderate, and high magnitudes define low, medium, high, and very high consequences, respectively).

Note that no characterization of confidence is offered by Sᑭᐱᐱ First Nation as part of this assessment. In general, as described in Section 3.3.4, the effectiveness of mitigations proposed by FortisBC is yet to be established, and would therefore be generally ranked as Low.

The above criteria and ratings are applied in Table 13, which presents a characterization of the potential residual effects identified in Section 3.3.4.2. Consistent with the approach taken in FortisBC's Application, only adverse residual effects are characterized in this table.

**Table 13:** Characterization of residual effects to Sᑭᐱᐱᐱ First Nation rights and interests.

| <b>Sᑭᐱᐱᐱ Interest / Residual Effect</b>                                                                                                                                                                                                                                                                             | <b>Criteria Rating</b>                                   | <b>Rationale</b>                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Harvesting and Subsistence Rights</b> <ul style="list-style-type: none"> <li>Introduction of additional sensory disturbances and further impacting of plant and wildlife populations and habitats</li> <li>Delay of revitalization and recovery of harvesting and access conditions supporting rights</li> </ul> | <b>Context:</b> Low                                      | The ability of the Nation to exercise this right has been greatly impaired by the extent of historical and ongoing disturbance within the LAA, and continues with substantial alteration in terms of the locations and extent to which the area is used (see Section 3.3.3.1).                                                                                                                               |
|                                                                                                                                                                                                                                                                                                                     | <b>Magnitude:</b> Negligible                             | The Project represents a relatively minor incremental contribution to sensory disturbances and terrestrial habitats largely contained within an existing disturbed area. It will add to existing infrastructure to the site, contributing to the ongoing trend of disturbance within the area and adding a negligible level of complexity and additional time to future revitalization and recovery efforts. |
|                                                                                                                                                                                                                                                                                                                     | <b>Extent:</b> Site                                      | Effects are largely anticipated to be contained within the Project Footprint                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                                                                                                                                                                                                                     | <b>Duration:</b> Permanent                               | Effects will continue for longer than 25 years (i.e., until the Project is decommissioned) and may continue depending on how the site is managed post-decommissioning.                                                                                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                     | <b>Frequency:</b> Continuous                             | Effects will be constant and sustained.                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                     | <b>Reversibility:</b> Irreversible                       | Sᑭᐱᐱᐱ First Nation cannot determine with confidence that exercise of this right will return to its pre-Project state given the mitigation measures and information on decommissioning presented in the Application.                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                     | <b>Affected Populations:</b> Even                        | Effects will be experienced equally by all subgroups.                                                                                                                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                     | <b>Importance:</b> High                                  | All effects on Sᑭᐱᐱᐱ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐱᐱ First Nation.                                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                     | <b>Risk:</b> Medium (Likelihood: High; Consequence: Low) | Sᑭᐱᐱᐱ First Nation considers that these effects are likely to occur; based on the preceding ratings for magnitude and extent, the consequence of this effect is rated as low. Therefore, the risk assessed is Medium.                                                                                                                                                                                        |
| <b>Cultural Use Sites and Areas</b> <ul style="list-style-type: none"> <li>Delay of access to and revitalization of Sᑭᐱᐱᐱ First Nation cultural sites and associated cultural and spiritual practices</li> </ul>                                                                                                    | <b>Context:</b> Low                                      | The ability of the Nation to exercise this right has been greatly impaired by the extent of historical and ongoing disturbance within the LAA; and continues with substantial alteration in terms of the locations and extent to which the area is used (see Section 3.3.3.2).                                                                                                                               |
|                                                                                                                                                                                                                                                                                                                     | <b>Magnitude:</b> Low                                    | The Project will add to existing infrastructure to the site, contributing to the ongoing trend of disturbance within the area and adding a low level of complexity and additional time to future revitalization and recovery efforts.                                                                                                                                                                        |

| Sᑭᐱᐱᐱ Interest / Residual Effect                                                                                                                                                                                                                                                                                                                                                             | Criteria Rating                                                | Rationale                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Extent:</b> Site                                            | Effects are largely anticipated to be contained within the Project Footprint (although sites and resources may have connections with practices that take place over a much broader area [e.g., ceremonies]).                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Duration:</b> Permanent                                     | Effects will continue for longer than 25 years (i.e., until the Project is decommissioned) and may continue depending on how the site is managed post-decommissioning.                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Frequency:</b> Continuous                                   | Effects will be constant and sustained.                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Reversibility:</b> Irreversible                             | Sᑭᐱᐱᐱ First Nation cannot determine with confidence that exercise of this right will return to its pre-Project state given the mitigation measures and information on decommissioning presented in the Application.                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Affected Populations:</b> Even                              | Effects will be experienced equally by all subgroups.                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Importance:</b> High                                        | All effects on Sᑭᐱᐱᐱ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐱᐱ First Nation                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Risk:</b> Medium<br>(Likelihood: High;<br>Consequence: Low) | Sᑭᐱᐱᐱ First Nation considers that these effects are likely to occur; based on the preceding ratings for magnitude and extent, the consequence of this effect is rated as low. Therefore, the risk assessed as Medium.                                                          |
| <b>Sᑭᐱᐱᐱ First Nation Governance</b> <ul style="list-style-type: none"> <li>Creation of ongoing barriers to Sᑭᐱᐱᐱ First Nation use of the Project Footprint</li> <li>Creation of ongoing barriers to the exercise of Sᑭᐱᐱᐱ First Nation laws, customs, and protocols</li> <li>Creation of effects inconsistent with and counterproductive to Sᑭᐱᐱᐱ First Nation stewardship goals</li> </ul> | <b>Context:</b> Low                                            | The ability of the Nation to exercise this right has been greatly impaired by the extent of historical and ongoing disturbance within the LAA, and continues with substantial alteration in terms of the locations and extent to which the area is used (see Section 3.3.3.3). |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Magnitude:</b> Negligible                                   | The Project represents a relatively minor incremental contribution to barriers within an existing disturbed area.                                                                                                                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Extent:</b> Site                                            | Effects are largely anticipated to be contained within the Project Footprint                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Duration:</b> Permanent                                     | Effects will continue for longer than 25 years (i.e., until the Project is decommissioned) and may continue depending on how the site is managed post-decommissioning.                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Frequency:</b> Continuous                                   | Effects will be constant and sustained.                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Reversibility:</b> Irreversible                             | Sᑭᐱᐱᐱ First Nation cannot determine with confidence that exercise of this right will return to its pre-Project state given the mitigation measures and information on decommissioning presented in the Application.                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Affected Populations:</b> Even                              | Effects will be experienced equally by all subgroups.                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                                              | <b>Importance:</b> High                                        | All effects on Sᑭᐱᐱᐱ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐱᐱ First Nation                                                                                                                                |

| Sᑭᐱᐅᐅᐅ Interest / Residual Effect                                                                                                                                                                                                                                                                                                                                                                                    | Criteria Rating                                                     | Rationale                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Risk:</b> Low<br>(Likelihood: Medium;<br>Consequence: Low)       | Sᑭᐱᐅᐅᐅ First Nation considers that there is potential for these effects to occur; based on the preceding ratings for magnitude and extent, the consequence of this effect is rated as low. Therefore, the risk assessed as Low.                                                                                                                              |
| <b>Social and Economic Conditions</b> <ul style="list-style-type: none"> <li>Impacts to future aspirations for the Project site and surrounding areas, including revitalization of harvesting and related resource sharing and trade</li> <li>Impacts to fishing, hunting, trapping, and gathering and cultural or ceremonial activities and practices</li> <li>Impacts to trade and social relationships</li> </ul> | <b>Context:</b> Low                                                 | The ability of the Nation to exercise this right has been greatly impaired by the extent of historical and ongoing disturbance within the LAA; and continues with substantial alteration in terms of the locations and extent to which the area is used (see Section 3.3.3.4).                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Magnitude:</b> Low                                               | The Project represents a relatively minor incremental contribution to disturbances to fishing, hunting, trapping, gathering, and some other practices occurring within an existing disturbed area. However, as noted in Section 3.3.3.4, impacts to trade and social relationships are being felt stemming from the environmental assessment process itself. |
|                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Extent:</b> Regional                                             | Many effects are largely anticipated to be contained within the Project Footprint; however, impacts to trade and social relationships may be felt within or beyond the RAA.                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Duration:</b> Permanent                                          | Effects will continue for longer than 25 years (i.e., until the Project is decommissioned) and may continue depending on how the site is managed post-decommissioning.                                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Frequency:</b> Continuous                                        | Effects will be constant and sustained.                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Reversibility:</b> Irreversible                                  | Sᑭᐱᐅᐅᐅ First Nation cannot determine with confidence that exercise of this right will return to its pre-Project state given the mitigation measures and information on decommissioning presented in the Application.                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Affected Populations:</b> Even                                   | Effects will be experienced equally by all subgroups.                                                                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Importance:</b> High                                             | All effects on Sᑭᐱᐅᐅᐅ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐅᐅᐅ First Nation                                                                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Risk:</b> Medium<br>(Likelihood: Medium;<br>Consequence: Medium) | Sᑭᐱᐅᐅᐅ First Nation considers that there is potential for these effects to occur; based on the preceding ratings for magnitude and extent, the consequence of this effect is rated as medium. Therefore, the risk assessed as Medium.                                                                                                                        |
| <b>Cultural Continuation</b> <ul style="list-style-type: none"> <li>Impacts to knowledge transmission from ongoing environmental disturbance</li> <li>Impacts to Sᑭᐱᐅᐅᐅ First Nation efforts to revitalize, develop, and</li> </ul>                                                                                                                                                                                  | <b>Context:</b> Moderate                                            | The ability of the Nation to exercise these rights has been impaired but is still practiced with some restrictions and changes to overall behaviour (see Section 3.3.3.5).                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Magnitude:</b> Negligible                                        | The Project represents a relatively minor incremental contribution to disturbances within an existing disturbed area and is therefore not anticipated to have a noticeable effect on the ability to exercise these rights.                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Extent:</b> n/a                                                  | Effects are intangible and do not have a spatial extent.                                                                                                                                                                                                                                                                                                     |

| Sᑭᐱᐱᐱ Interest / Residual Effect                                                                                                                                                                  | Criteria Rating                                               | Rationale                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>participate in knowledge transmission</p> <ul style="list-style-type: none"> <li>Impacts to opportunities to connect with and revitalize sense of place and identity</li> </ul>                | <b>Duration:</b><br>Permanent                                 | Effects will continue for longer than 25 years (i.e., until the Project is decommissioned) and may continue depending on how the site is managed post-decommissioning.                                                                                           |
|                                                                                                                                                                                                   | <b>Frequency:</b><br>Continuous                               | Effects will be constant and sustained.                                                                                                                                                                                                                          |
|                                                                                                                                                                                                   | <b>Reversibility:</b><br>Irreversible                         | Sᑭᐱᐱᐱ First Nation cannot determine with confidence that exercise of these rights will return to their pre-Project state given the mitigation measures and information on decommissioning presented in the Application.                                          |
|                                                                                                                                                                                                   | <b>Affected Populations:</b><br>Disproportionate              | Effects will be experienced by the entire Nation but may be most keenly felt by those most involved in knowledge transmission (i.e., youth and Elders) and those most engaged in cultural practices.                                                             |
|                                                                                                                                                                                                   | <b>Importance:</b> High                                       | All effects on Sᑭᐱᐱᐱ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐱᐱ First Nation                                                                                                                  |
|                                                                                                                                                                                                   | <b>Risk:</b> Low<br>(Likelihood: Medium;<br>Consequence: Low) | Sᑭᐱᐱᐱ First Nation considers that there is potential for these effects to occur; based on the preceding ratings for magnitude and extent, the consequence of this effect is rated as low. Therefore, the risk assessed as Low.                                   |
| <p><b>Sᑭᐱᐱᐱ First Nation Health and Well-being</b></p> <ul style="list-style-type: none"> <li>Impacts on mental and emotional health, and negative indirect impacts on physical health</li> </ul> | <b>Context:</b> Moderate                                      | The ability of the Nation to exercise these rights has been impaired but is still practiced with some restrictions and changes to overall behaviour (see Section 3.3.3.6).                                                                                       |
|                                                                                                                                                                                                   | <b>Magnitude:</b> Low                                         | The Project represents a relatively minor incremental contribution to disturbances within an existing disturbed area. However, as noted in Section 3.3.3.6, some effects to Sᑭᐱᐱᐱ well-being are anticipated due to the environmental assessment process itself. |
|                                                                                                                                                                                                   | <b>Extent:</b> n/a                                            | Effects are intangible and do not have a spatial extent.                                                                                                                                                                                                         |
|                                                                                                                                                                                                   | <b>Duration:</b><br>Permanent                                 | Effects will continue for longer than 25 years (i.e., until the Project is decommissioned) and may continue depending on how the site is managed post-decommissioning.                                                                                           |
|                                                                                                                                                                                                   | <b>Frequency:</b><br>Continuous                               | Effects will be constant and sustained.                                                                                                                                                                                                                          |
|                                                                                                                                                                                                   | <b>Reversibility:</b><br>Irreversible                         | Sᑭᐱᐱᐱ First Nation cannot determine with confidence that exercise of these rights will return to their pre-Project state given the mitigation measures and information on decommissioning presented in the Application.                                          |
|                                                                                                                                                                                                   | <b>Affected Populations:</b><br>Disproportionate              | Effects will be experienced by the entire Nation, but may be most keenly felt by those subgroups that are most susceptible to health risks, including Elders.                                                                                                    |
|                                                                                                                                                                                                   | <b>Importance:</b> High                                       | All effects on Sᑭᐱᐱᐱ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐱᐱ First Nation                                                                                                                  |

| STÁUTW Interest / Residual Effect | Criteria Rating                                                     | Rationale                                                                                                                                                                                                                             |
|-----------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | <b>Risk:</b> Medium<br>(Likelihood: Medium;<br>Consequence: Medium) | STÁUTW First Nation considers that there is potential for these effects to occur; based on the preceding ratings for magnitude and extent, the consequence of this effect is rated as medium. Therefore, the risk assessed as Medium. |

### 3.3.6 Cumulative Effects Assessment

Cumulative effects may be understood as “changes to environmental, social and economic values caused by the combined effect of past, present and potential future human activities and natural processes” (Province of British Columbia 2024). Other definitions include the “accumulation of changes to the environment caused by human activities (e.g. past, existing, and proposed activities, including activities associated with the project under assessment). These changes occur over space and time and can be brought about by environmental effects that are additive or interactive” (Nunavut Impact Review Board 2007:3) and “changes to the environment or human well-being from past, present, and future development projects and human activities” (Metlakatla First Nation 2019:12).

As noted in Sections 1 and 3.1.1.8, FortisBC’s Application has taken a conventional approach to CEA that first considers the Project’s incremental contribution to existing conditions (which include past and present disturbances), and then—if that contribution is considered to constitute residual effects—to further consider how the residual effects of reasonably foreseeable future projects may combine with those of the Project. It is STÁUTW First Nation’s view that, considering the level of existing disturbance, a precautionary approach would be to conduct a CEA wherever Project-specific potential effects have been identified.

#### 3.3.6.1 Identification of Cumulative Interactions and Potential Adverse Cumulative Effects

As noted earlier, the Project represents a further disturbance within the already highly disturbed Lower Mainland, including where the STÁUTW Consultation Area (defined under STÁUTW First Nation’s Consultation Protocol and Policy (STÁUTW First Nation 2024)) overlaps the LAA and RAA. Previous development and activities in this area have affected STÁUTW interests. Table 14 presents the list of future projects and activities defined in FortisBC’s Application as “certain and reasonably foreseeable” and therefore appropriate for consideration in the cumulative effects assessments. Most of these developments are proposed for construction within the next 5 to 10 years. For the purposes of this assessment, the CEA boundary is defined as the area of overlap between the Indigenous Interests RAA set out in Figure 11.18-1D of FortisBC’s Application and the STÁUTW Consultation Area.

**Table 14:** Reasonably foreseeable projects and activities considered in the cumulative effects assessment.

| Reasonably Foreseeable Future Projects and Activities | Spatial Overlap with CEA Boundary? | Project Construction Timeline <sup>1</sup> |
|-------------------------------------------------------|------------------------------------|--------------------------------------------|
| <i>Oil and Gas Developments</i>                       |                                    |                                            |
| Tilbury Phase 1 LNG Expansion Project                 | Yes                                | Completion in 2028                         |
| Parkland Burnaby Refinery                             | Yes                                | n/a                                        |



| Reasonably Foreseeable Future Projects and Activities         | Spatial Overlap with CEA Boundary? | Project Construction Timeline <sup>1</sup> |
|---------------------------------------------------------------|------------------------------------|--------------------------------------------|
| <i>Utilities and Energy Transmission</i>                      |                                    |                                            |
| Annacis Island (Delta) Wastewater Treatment Plant             | Yes                                | Completion in 2029                         |
| North Shore Wastewater Treatment Plant                        | No                                 | 2014-2030                                  |
| Second Narrows Water Supply Tunnel                            | No                                 | 2019-2025                                  |
| Northwest Langley Wastewater Treatment Plant                  | Yes                                | Completion in 2030                         |
| Annacis Water Supply Tunnel                                   | Yes                                | 2021-2028                                  |
| Annacis Water Main South                                      | Yes                                | 2021-2026                                  |
| Coquitlam Water Main Project                                  | No                                 | 2020-2025                                  |
| Douglas Road Water Main – Still Creek Section                 | No                                 | 2023-2025                                  |
| Fleetwood Reservoir and Water Main                            | Yes                                | 2021-2024                                  |
| Iona Island Wastewater Treatment Plant projects               | No                                 | 2022-2038                                  |
| Stanley Park Water Supply Tunnel                              | No                                 | 2024-2029                                  |
| <i>Mineral Resources</i>                                      |                                    |                                            |
| Delta Grinding Facility project                               | Yes                                | n/a                                        |
| <i>Residential Urban Development</i>                          |                                    |                                            |
| Delta Fresh Cold Storage Warehouse / Food Processing Facility | Yes                                | n/a (authorizations in progress)           |
| Ladner Harbour Redevelopment                                  | Yes                                | n/a                                        |
| Rezoning and Design Review at 5519 Admiral Way                | Yes                                | Under construction                         |
| The Southlands development                                    | Yes                                | Under construction                         |
| <i>Transportation and Infrastructure</i>                      |                                    |                                            |
| Tilbury Marine Jetty project                                  | Yes                                | Begins 2025                                |
| Roberts Bank Terminal 2                                       | Yes                                | Late 2020s                                 |
| Deltaport Expansion Berth 4                                   | Yes                                | n/a                                        |
| Fraser River Tunnel project                                   | Yes                                | n/a (authorizations in progress)           |
| Patullo Bridge Replacement                                    | Yes                                | 2019-2025                                  |

<sup>1</sup> Information taken from Section 6.6.1 of FortisBC's Application.

n/a: Information not provided in Section 6.6.1 of FortisBC's Application.

Like the Project, these projects and activities represent expansions, redevelopments, upgrades, and additions to existing developments. In a sense, this is a byproduct of the sheer density of development in the Lower Mainland; with no room for greenfield development, additions to existing sites are all that is possible.

If any or all of these projects proceed, they will be continuing the historical and present trend of disturbance within the CEA boundary. While the individual contribution of each of these projects on sites already disturbed by development may be relatively small, each project will serve to incrementally entrench development, increasing the alienation of Sᑭᐱᐱᐱ First Nation from its territory within the Lower Mainland. Thus, the potential cumulative effects to Sᑭᐱᐱᐱ First Nations rights and interests are similar to those of the Project itself, but spread out over a broader spatial area and longer timeframe, as follows:

- Harvesting and Subsistence Rights:
  - Introducing additional sensory disturbances and further impacting plant, fish, and wildlife populations and associated habitats;
  - Delaying revitalization and recovery of harvesting and access conditions supporting rights;
- Cultural Use Sites and Areas:
  - Delaying access to and revitalization of Sᑭᐱᐱᐱ First Nation cultural sites and associated cultural and spiritual practices;
- Sᑭᐱᐱᐱ First Nation Governance:
  - Creating ongoing barriers to Sᑭᐱᐱᐱ First Nation use of the area within the CEA boundary;
  - Creating ongoing barriers to the exercise of Sᑭᐱᐱᐱ First Nation laws, customs, and protocols;
  - Creating effects inconsistent with and counterproductive to Sᑭᐱᐱᐱ First Nation stewardship goals;
- Social and Economic Conditions:
  - Increased employment opportunities;
  - Negative effect to future aspirations for the area within the CEA boundary, including revitalization of harvesting and related resource sharing and trade;
  - Negative effect to fishing, hunting, trapping, and gathering and cultural or ceremonial activities and practices;
  - Negative effect to trade and social relationships;
- Cultural Continuation:
  - Negative effect to knowledge transmission from ongoing environmental disturbance;
  - Negative effect to Sᑭᐱᐱᐱ First Nation efforts to revitalize, develop, and participate in knowledge transmission;
  - Negative effect to opportunities to connect with and revitalize sense of place and identity;
- Sᑭᐱᐱᐱ First Nation Health and Well-being:
  - Negative effect on mental and emotional health, and negative impacts on physical health.

### 3.3.6.2 *Mitigation of Cumulative Effects*

As noted in Section 3.1.1.8, FortisBC does not identify any adverse effects of the Project in its Application and does not propose any mitigations for cumulative effects. Therefore, potential cumulative effects are considered to be residual cumulative effects and are characterized in Section 3.3.6.3.

### 3.3.6.3 Characterization of Residual Cumulative Effects

Table 15 provides a characterization for each of the residual cumulative effects identified, broadly using the same criteria defined in Section 3.3.5.

**Table 15:** Characterization of residual cumulative effects to Sᑭᐱᐅᐅᐅ First Nation rights and interests.

| Sᑭᐱᐅᐅᐅ Interest / Residual Cumulative Effect                                                                                                                                                                                                                                                                                         | Criteria Rating                    | Rationale                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Harvesting and Subsistence Rights</b> <ul style="list-style-type: none"> <li>Introduction of additional sensory disturbances and further impacting of plant, fish and wildlife populations and associated habitats</li> <li>Delay of revitalization and recovery of harvesting and access conditions supporting rights</li> </ul> | <b>Context:</b> Moderate           | The ability of the Nation to exercise this right has been impaired but is still practiced with some restrictions and changes to overall behaviour.                                                                                |
|                                                                                                                                                                                                                                                                                                                                      | <b>Magnitude:</b> Low              | Projects and activities will contribute to the ongoing trend of disturbance within the CEA boundary, adding a low level of complexity and additional time to future revitalization and recovery efforts.                          |
|                                                                                                                                                                                                                                                                                                                                      | <b>Extent:</b> Regional            | Effects will occur at several project sites throughout the CEA boundary.                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                                      | <b>Duration:</b> Permanent         | Effects will continue for longer than 25 years.                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                      | <b>Frequency:</b> Continuous       | Effects will be constant and sustained.                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                      | <b>Reversibility:</b> Irreversible | Sᑭᐱᐅᐅᐅ First Nation has no basis to predict that these effects will be reversed.                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                      | <b>Affected Populations:</b> Even  | Effects will be experienced equally by all subgroups.                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                                      | <b>Importance:</b> High            | All effects on Sᑭᐱᐅᐅᐅ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐅᐅᐅ First Nation                                                                                 |
| <b>Cultural Use Sites and Areas</b> <ul style="list-style-type: none"> <li>Delay of access to and revitalization of Sᑭᐱᐅᐅᐅ First Nation cultural sites and associated cultural and spiritual practices</li> </ul>                                                                                                                    | <b>Context:</b> Moderate           | The ability of the Nation to exercise this right has been impaired but is still practiced with some restrictions and changes to overall behaviour.                                                                                |
|                                                                                                                                                                                                                                                                                                                                      | <b>Magnitude:</b> Low              | Developments add to existing infrastructure to the site, contributing to the ongoing trend of disturbance within the area and adding a low level of complexity and additional time to future revitalization and recovery efforts. |
|                                                                                                                                                                                                                                                                                                                                      | <b>Extent:</b> Regional            | Effects will occur at several project sites throughout the CEA boundary (and sites and resources may have connections with practices that take place over a much broader area [e.g., ceremonies]).                                |
|                                                                                                                                                                                                                                                                                                                                      | <b>Duration:</b> Permanent         | Effects will continue for longer than 25 years.                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                      | <b>Frequency:</b> Continuous       | Effects will be constant and sustained.                                                                                                                                                                                           |

| Sᑭᐱᐅᐅᐅ Interest / Residual Cumulative Effect                                                                                                                                                                                                                                                                                                                                                                | Criteria Rating                                             | Rationale                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Reversibility:</b> Irreversible                          | Sᑭᐱᐅᐅᐅ First Nation has no basis to predict that these effects will be reversed.                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Affected Populations:</b> Even                           | Effects will be experienced equally by all subgroups.                                                                                                                                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Importance:</b> High                                     | All effects on Sᑭᐱᐅᐅᐅ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐅᐅᐅ First Nation                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Risk:</b> Medium (Likelihood: High; Consequence: Medium) | Sᑭᐱᐅᐅᐅ First Nation considers that these effects are likely to occur; based on the preceding ratings for magnitude and extent, the consequence of this effect is rated as medium. Therefore, the risk assessed as Medium.           |
| <b>Sᑭᐱᐅᐅᐅ First Nation Governance</b> <ul style="list-style-type: none"> <li>Creation of ongoing barriers to Sᑭᐱᐅᐅᐅ First Nation use of the area within the CEA boundary</li> <li>Creation of ongoing barriers to the exercise of Sᑭᐱᐅᐅᐅ First Nation laws, customs, and protocols</li> <li>Creation of effects inconsistent with and counterproductive to Sᑭᐱᐅᐅᐅ First Nation stewardship goals</li> </ul> | <b>Context:</b> Moderate                                    | The ability of the Nation to exercise this right has been impaired but is still practiced with some restrictions and changes to overall behaviour.                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Magnitude:</b> Moderate                                  | Projects and activities have resulted in a demonstrable change to the Nation's governance abilities within the CEA boundary.                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Extent:</b> Regional                                     | Effects will occur at several project sites throughout the CEA boundary.                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Duration:</b> Permanent                                  | Effects will continue for longer than 25 years.                                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Frequency:</b> Continuous                                | Effects will be constant and sustained.                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Reversibility:</b> Irreversible                          | Sᑭᐱᐅᐅᐅ First Nation has no basis to predict that these effects will be reversed.                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Affected Populations:</b> Even                           | Effects will be constant and sustained.                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Importance:</b> High                                     | Sᑭᐱᐅᐅᐅ First Nation has no basis to predict that these effects will be reversed.                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Risk:</b> Medium (Likelihood: Medium; Consequence: High) | Sᑭᐱᐅᐅᐅ First Nation considers that there is potential for these effects to occur; based on the preceding ratings for magnitude and extent, the consequence of this effect is rated as high. Therefore, the risk assessed as Medium. |
| <b>Social and Economic Conditions</b> <ul style="list-style-type: none"> <li>Impacts to future aspirations for area within the CEA boundary, including revitalization of harvesting and related resource sharing and trade</li> <li>Impacts to fishing, hunting, trapping, and</li> </ul>                                                                                                                   | <b>Context:</b> Moderate                                    | The ability of the Nation to exercise this right has been impaired but is still practiced with some restrictions and changes to overall behaviour.                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Magnitude:</b> Low                                       | Developments represent detectable incremental contributions to disturbances to fishing, hunting, trapping, gathering, and other practices occurring within existing disturbed areas.                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Extent:</b> Regional                                     | Effects will occur at several project sites throughout the CEA boundary.                                                                                                                                                            |
|                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Duration:</b> Permanent                                  | Effects will continue for longer than 25 years.                                                                                                                                                                                     |

| Sᑭᐱᐱᐱ Interest / Residual Cumulative Effect                                                                                                                                                                                                                                                                      | Criteria Rating                                               | Rationale                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| gathering and cultural or ceremonial activities and practices<br>• Impacts to trade and social relationships                                                                                                                                                                                                     | <b>Frequency:</b> Continuous                                  | Effects will be constant and sustained.                                                                                                                                                                                              |
|                                                                                                                                                                                                                                                                                                                  | <b>Reversibility:</b> Irreversible                            | Sᑭᐱᐱᐱ First Nation has no basis to predict that these effects will be reversed.                                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                  | <b>Affected Populations:</b> Even                             | Effects will be experienced equally by all subgroups.                                                                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                  | <b>Importance:</b> High                                       | All effects on Sᑭᐱᐱᐱ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐱᐱ First Nation                                                                                      |
|                                                                                                                                                                                                                                                                                                                  | <b>Risk:</b> Medium (Likelihood: Medium; Consequence: Medium) | Sᑭᐱᐱᐱ First Nation considers that there is potential for these effects to occur; based on the preceding ratings for magnitude and extent, the consequence of this effect is rated as medium. Therefore, the risk assessed as Medium. |
| <b>Cultural Continuation</b><br>• Impacts to knowledge transmission from ongoing environmental disturbance<br>• Impacts to Sᑭᐱᐱᐱ First Nation efforts to revitalize, develop, and participate in knowledge transmission<br>• Impacts to opportunities to connect with and revitalize sense of place and identity | <b>Context:</b> Moderate                                      | The ability of the Nation to exercise these rights has been impaired but is still practiced with some restrictions and changes to overall behaviour.                                                                                 |
|                                                                                                                                                                                                                                                                                                                  | <b>Magnitude:</b> Low                                         | Projects represent detectable incremental contributions to disturbances within existing disturbed areas, and are therefore anticipated to have a noticeable effect on the ability to exercise these rights.                          |
|                                                                                                                                                                                                                                                                                                                  | <b>Extent:</b> n/a                                            | Effects are intangible and do not have a spatial extent.                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                                  | <b>Duration:</b> Permanent                                    | Effects will continue for longer than 25 years.                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                  | <b>Frequency:</b> Continuous                                  | Effects will be constant and sustained.                                                                                                                                                                                              |
|                                                                                                                                                                                                                                                                                                                  | <b>Reversibility:</b> Irreversible                            | Sᑭᐱᐱᐱ First Nation has no basis to predict that these effects will be reversed.                                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                  | <b>Affected Populations:</b> Disproportionate                 | Effects will be experienced by the entire Nation, but may be most keenly felt by those most involved in knowledge transmission (i.e., youth and Elders) and those most engaged in traditional practices.                             |
|                                                                                                                                                                                                                                                                                                                  | <b>Importance:</b> High                                       | All effects on Sᑭᐱᐱᐱ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐱᐱ First Nation                                                                                      |
|                                                                                                                                                                                                                                                                                                                  | <b>Risk:</b> Medium (Likelihood: Medium; Consequence: Medium) | Sᑭᐱᐱᐱ First Nation considers that there is potential for these effects to occur; based on the preceding ratings for magnitude and extent, the consequence of this effect is rated as medium. Therefore, the risk assessed as Medium. |
| <b>Sᑭᐱᐱᐱ First Nation Health and Well-being</b><br>• Impacts on mental and emotional health, and                                                                                                                                                                                                                 | <b>Context:</b> Moderate                                      | The ability of the Nation to exercise these rights has been impaired but is still practiced with some restrictions and changes to overall behaviour.                                                                                 |
|                                                                                                                                                                                                                                                                                                                  | <b>Magnitude:</b> Low                                         | Projects represent detectable incremental contributions to disturbances within existing disturbed areas, and are                                                                                                                     |

| Sᑭᐱᐱᐱ Interest / Residual Cumulative Effect | Criteria Rating                                                     | Rationale                                                                                                                                                                                                                            |
|---------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| negative impacts on physical health         |                                                                     | therefore anticipated to have a noticeable effect on the ability to exercise these rights                                                                                                                                            |
|                                             | <b>Extent:</b> n/a                                                  | Effects are intangible and do not have a spatial extent.                                                                                                                                                                             |
|                                             | <b>Duration:</b><br>Permanent                                       | Effects will continue for longer than 25 years.                                                                                                                                                                                      |
|                                             | <b>Frequency:</b><br>Continuous                                     | Effects will be constant and sustained.                                                                                                                                                                                              |
|                                             | <b>Reversibility:</b><br>Irreversible                               | Sᑭᐱᐱᐱ First Nation has no basis to predict that these effects will be reversed.                                                                                                                                                      |
|                                             | <b>Affected Populations:</b><br>Disproportionate                    | Effects will be experienced by the entire Nation, but may be most keenly felt by those subgroups that are most susceptible to health risks, including Elders.                                                                        |
|                                             | <b>Importance:</b> High                                             | All effects on Sᑭᐱᐱᐱ First Nation rights and interests are identified as being of high importance as they are a priority for Sᑭᐱᐱᐱ First Nation                                                                                      |
|                                             | <b>Risk:</b> Medium<br>(Likelihood: Medium;<br>Consequence: Medium) | Sᑭᐱᐱᐱ First Nation considers that there is potential for these effects to occur; based on the preceding ratings for magnitude and extent, the consequence of this effect is rated as medium. Therefore, the risk assessed as Medium. |

### 3.4 Summary of Effects Assessment

Since time immemorial, Sᑭᐱᐱᐱ have stewarded and benefited from the resources in Sᑭᐱᐱᐱ First Nation territory. Use of the Lower Mainland was part of the Sᑭᐱᐱᐱ seasonal round and included the land and linked waterways of the ŚNEWIL/Fraser River, and was extensive. Sᑭᐱᐱᐱ First Nation objects to the Project as proposed without adequate mitigation and action on existing cumulative effects. The Project, if approved, would contribute to the ongoing breach of Sᑭᐱᐱᐱ First Nation's inherent and constitutionally protected Aboriginal and Treaty rights.

Sᑭᐱᐱᐱ First Nation has undertaken a systematic assessment of the Project's potential impacts on its rights and interests, using methods that differ in some ways from the conventional VC-based framework adopted by FortisBC in its Application. With respect to the Project and its potential effects, these rights relate to harvesting and subsistence activities, cultural use sites and areas, governance systems, social and economic conditions, cultural continuation, and health and well-being. These rights have not been extinguished and continue to be protected despite the considerable level of cumulative effects and access barriers that effectively prevent the meaningful exercise of these rights "as formerly", including:

- Cumulative effects and access barriers that effectively prevent fishing, plant gathering, and hunting activities.
- Beliefs and ceremonies rooted in the principles of kinship and respect being more difficult than ever to apply especially due to—but not limited to—the absence of sufficient resources (e.g., that are essential or the basis of many ceremonies).
- Colonization and colonial institutions, and settlement and development across Sᑭᐱᐱᐱ First Nation territory, including the Lower Mainland, that have directly obstructed Sᑭᐱᐱᐱ First Nation

from implementing and applying its laws. Large-scale losses of natural resources have also impacted the ability of Sᑭᐱᐱᐱ First Nation to implement governance principles and cultural beliefs manifest in customs and protocols of resource harvesting and use.

- The traditional economy of Sᑭᐱᐱᐱ First Nation—which centres on the harvest, sharing, and trade of marine and terrestrial resources—no longer being able to be exercised in a meaningful way in the Lower Mainland, disrupting food security and intercommunity relationships.
- Opportunities to engage in the transfer of cultural knowledge being rapidly lost since the signing of the Douglas Treaty, including through impacts to the resource base and access to resources in Sᑭᐱᐱᐱ First Nation territory and the Lower Mainland, severely limiting opportunities for experiential learning. Because these changes have persisted and spanned multiple generations, young members of Sᑭᐱᐱᐱ First Nation are especially susceptible to cultural disconnection and have simultaneously increasing generational gaps in knowledge.
- Cumulative effects and impacts in Sᑭᐱᐱᐱ First Nation territory and the Lower Mainland being compromised and continuing to affect Sᑭᐱᐱᐱ health and well-being by adversely affecting the resource base and diets, economic conditions, social cohesion and bonds, governance responsibilities, sense of place, knowledge transmission and ceremonies, and self-determination and governance (including in environmental assessment).

FortisBC's Application assesses the Project's potential effects on W̱SÁNEĆ Nations Indigenous Interests (including the rights and interests of Sᑭᐱᐱᐱ First Nation). FortisBC concludes that the Project will have numerous deleterious effects, but concludes there will be no impact on W̱SÁNEĆ Nations Indigenous Interests. Sᑭᐱᐱᐱ First Nation prefers—and has the right to expect—the revitalization and recovery of protected harvesting and subsistence rights, and the conditions that would permit the exercise of these rights as formerly. It is Sᑭᐱᐱᐱ First Nation's view that the Project's effects present a continuation (and in some cases, worsening) of current baseline conditions, which will delay and prevent such revitalization and recovery.

In addition, Sᑭᐱᐱᐱ First Nation finds that many of FortisBC's proposed mitigation measures are expressed in such general terms that it is often difficult to understand what measures are being proposed or to evaluate.

Table 16 summarizes Sᑭᐱᐱᐱ First Nation's predicted adverse residual effects and cumulative effects on Nation rights and interests from the proposed Project, as well as characterization criteria for these effects.

**Table 16:** Summary of predicted adverse residual effects and cumulative residual effects on Sᑭᐱᐱᐱ First Nation rights and interests.

| Predicted Residual and Cumulative Residual Effect                                                                                                                                                                                                                                                                                                | Residual Effects Characterization                                                                                                                                                                                                                                                                                           | Cumulative Effects Characterization                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Harvesting and Subsistence Rights</b> <ul style="list-style-type: none"> <li>• Introducing additional sensory disturbances and further impacting plant and wildlife populations and habitats (for the purposes of the CEA, also includes fish and fish habitats)</li> <li>• Delaying revitalization and recovery of harvesting and</li> </ul> | <b>Context:</b> Low<br><b>Magnitude:</b> Negligible<br><b>Extent:</b> Site<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Even<br><b>Importance:</b> High<br><b>Risk:</b> Medium<br><b>Likelihood:</b> High<br><b>Consequence:</b> Low | <b>Context:</b> Moderate<br><b>Magnitude:</b> Low<br><b>Extent:</b> Regional<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Even<br><b>Importance:</b> High<br><b>Risk:</b> Medium<br><b>Likelihood:</b> High<br><b>Consequence:</b> Medium |



| Predicted Residual and Cumulative Residual Effect                                                                                                                                                                                                                                                                                                                                                                                                          | Residual Effects Characterization                                                                                                                                                                                                                                                                                             | Cumulative Effects Characterization                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| access conditions supporting rights                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                       |
| <b>Cultural Use Sites and Areas</b> <ul style="list-style-type: none"> <li>Delaying access to and revitalization of Sᑭᐱᐅᐅᐅ First Nation cultural sites and associated cultural and spiritual practices</li> </ul>                                                                                                                                                                                                                                          | <b>Context:</b> Low<br><b>Magnitude:</b> Low<br><b>Extent:</b> Site<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Even<br><b>Importance:</b> High<br><b>Risk:</b> Medium<br><b>Likelihood:</b> High<br><b>Consequence:</b> Low          | <b>Context:</b> Moderate<br><b>Magnitude:</b> Low<br><b>Extent:</b> Regional<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Even<br><b>Importance:</b> High<br><b>Risk:</b> Medium<br><b>Likelihood:</b> High<br><b>Consequence:</b> Medium      |
| <b>Sᑭᐱᐅᐅᐅ First Nation Governance</b> <ul style="list-style-type: none"> <li>Creating ongoing barriers to Sᑭᐱᐅᐅᐅ First Nation use of the area</li> <li>Creating ongoing barriers to the exercise of Sᑭᐱᐅᐅᐅ First Nation laws, customs, and protocols</li> <li>Creating effects inconsistent with and counterproductive to Sᑭᐱᐅᐅᐅ First Nation stewardship goals</li> </ul>                                                                                 | <b>Context:</b> Low<br><b>Magnitude:</b> Negligible<br><b>Extent:</b> Site<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Even<br><b>Importance:</b> High<br><b>Risk:</b> Low<br><b>Likelihood:</b> Medium<br><b>Consequence:</b> Low    | <b>Context:</b> Moderate<br><b>Magnitude:</b> Moderate<br><b>Extent:</b> Regional<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Even<br><b>Importance:</b> High<br><b>Risk:</b> Medium<br><b>Likelihood:</b> Medium<br><b>Consequence:</b> High |
| <b>Social and Economic Conditions</b> <ul style="list-style-type: none"> <li>Increased employment opportunities</li> <li>Negative effect to future aspirations for the area, including revitalization of harvesting and related resource sharing and trade</li> <li>Negative effect to fishing, hunting, trapping, and gathering and cultural or ceremonial activities and practices</li> <li>Negative effect to trade and social relationships</li> </ul> | <b>Context:</b> Low<br><b>Magnitude:</b> Low<br><b>Extent:</b> Regional<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Even<br><b>Importance:</b> High<br><b>Risk:</b> Medium<br><b>Likelihood:</b> Medium<br><b>Consequence:</b> Medium | <b>Context:</b> Moderate<br><b>Magnitude:</b> Low<br><b>Extent:</b> Regional<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Even<br><b>Importance:</b> High<br><b>Risk:</b> Medium<br><b>Likelihood:</b> Medium<br><b>Consequence:</b> Medium    |
| <b>Cultural Continuation</b> <ul style="list-style-type: none"> <li>Negative effect to knowledge transmission from ongoing environmental disturbance</li> <li>Negative effect to Sᑭᐱᐅᐅᐅ First Nation efforts to revitalize, develop, and participate in knowledge transmission</li> </ul>                                                                                                                                                                  | <b>Context:</b> Moderate<br><b>Magnitude:</b> Negligible<br><b>Extent:</b> n/a<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Disproportionate<br><b>Importance:</b> High<br><b>Risk:</b> Low                                            | <b>Context:</b> Moderate<br><b>Magnitude:</b> Low<br><b>Extent:</b> n/a<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Even<br><b>Importance:</b> High<br><b>Risk:</b> Medium                                                                    |

| Predicted Residual and Cumulative Residual Effect                                                                                                                                          | Residual Effects Characterization                                                                                                                                                                                                                                                                                                         | Cumulative Effects Characterization                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Negative effect to opportunities to connect with and revitalize sense of place and identity</li> </ul>                                              | <b>Likelihood:</b> Medium<br><b>Consequence:</b> Low                                                                                                                                                                                                                                                                                      | <b>Likelihood:</b> Medium<br><b>Consequence:</b> Medium                                                                                                                                                                                                                                                                                   |
| <b>SṪÁUTW First Nation Health and Well-being</b> <ul style="list-style-type: none"> <li>Negative effect on mental and emotional health, and negative impacts on physical health</li> </ul> | <b>Context:</b> Moderate<br><b>Magnitude:</b> Low<br><b>Extent:</b> n/a<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Disproportionate<br><b>Importance:</b> High<br><b>Risk:</b> Medium<br><b>Likelihood:</b> Medium<br><b>Consequence:</b> Medium | <b>Context:</b> Moderate<br><b>Magnitude:</b> Low<br><b>Extent:</b> n/a<br><b>Duration:</b> Permanent<br><b>Frequency:</b> Continuous<br><b>Reversibility:</b> Irreversible<br><b>Affected Populations:</b> Disproportionate<br><b>Importance:</b> High<br><b>Risk:</b> Medium<br><b>Likelihood:</b> Medium<br><b>Consequence:</b> Medium |

For thousands of years, SṪÁUTW practiced a way of life connected to and dependent on the waters and lands in SṪÁUTW First Nation territory, harvesting and trading fish, wildlife, and other natural resources; travelling via trails and waterways; and holding ceremonies and gatherings. The great abundance of the water and land made SṪÁUTW, in the words of an elder, “the richest people on earth” (WŚÁNEĆ Elder Dave Elliot Sr.).

In 1852, SṪÁUTW entered into agreements of peaceful coexistence with early settlers as signatories to the South and North Saanich Douglas Treaties. As the other party to this agreement, the Crown promised SṪÁUTW the protection of several inherent rights, including harvesting rights that would allow SṪÁUTW to carry on fisheries, hunting, and other activities with the same freedoms as before.

For the past 173 years, connection to the waters and lands of SṪÁUTW First Nation territory has continued to be central to the Nation’s identity and way of life. Land- and water-based harvesting are still tightly intertwined with SṪÁUTW customs, protocols, traditions, and values. However, over that same period, the waters and lands that were once a source of great prosperity for SṪÁUTW have undergone a massive transformation. Significant changes include dense settlement (industrial and urban) of land within the territory, overfishing and competition from colonial commercial fisheries, contamination and habitat fragmentation, and barriers to access imposed by the international border.

The cumulative effects of these actions have fundamentally impaired the freedom of SṪÁUTW to meaningfully exercise its rights. While in isolation, the Project does not represent a substantive new escalation of this overall pattern of development, it is SṪÁUTW’s view that it both incrementally worsens existing conditions and delays potential for recovery and restoration of terrestrial and aquatic ecosystems.

In a similar vein to Justice Burke’s findings in *Yahey v. British Columbia*, 2021 BCSC 1287, allowing industrial development in SṪÁUTW First Nation territory at an extensive scale without assessing the cumulative impacts of this development—or ensuring that SṪÁUTW will be able to continue meaningfully exercising its Treaty rights in its territory—is in conflict with the rights of SṪÁUTW First Nation under the Douglas Treaty. As an outcome of the *Yahey* decision, the Province and several BC First Nations entered into new agreements relating to environmental restoration and protection and resource management. Similar concrete and concerted action is required to address cumulative effects in the Lower Mainland and the attendant breach of SṪÁUTW First Nation rights.

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### 16.17.2 The EAO's Views

#### **SᑭÁUTW's Assessment**

Participating Indigenous nations have the opportunity under Section 19(4) of the EAA to carry out an assessment with respect to the potential effects of the project on the nation and on its rights. SᑭÁUTW completed an effects assessment under Section 19(4), as agreed upon in the Assessment Plan of the Process Order.

The EAO acknowledges and respects that SᑭÁUTW's Section 19(4) assessment has been undertaken using its own laws, knowledge systems, and decision-making frameworks, and that the assessment reflects SᑭÁUTW's perspectives on the nature and severity of potential effects on its Aboriginal and Treaty rights. The EAO also acknowledges that SᑭÁUTW's assessment methods may differ in some respects from EAO's assessment methods, and that any characterization of residual effects and determination of significance for this assessment is based on the methods that SᑭÁUTW used.

#### **SᑭÁUTW's Involvement in the Consultation Process**

SᑭÁUTW identified as a participating Indigenous nation for the Project on October 31, 2024, which provided opportunities to participate in the environmental assessment process. Prior to this, SᑭÁUTW was engaged in the environmental assessment as part of the W̱SÁNEĆ Nations, not as a participating Indigenous nation, but receiving notifications and information on the process. The EAO updated the Process Order, and Assessment Plan on May 5, 2025, to reflect this, and SᑭÁUTW began participating in the Technical Advisory Committee starting at the Application review phase. SᑭÁUTW participated in the review of Fortis's Application, EAO's draft Assessment Report and EAC, and ongoing engagement with the EAO and Fortis.

The EAO worked collaboratively with SᑭÁUTW throughout the environmental assessment process. SᑭÁUTW participated in technical discussions and iterative engagement opportunities to review project information, identify potential effects on its rights, and provide input on mitigation and accommodation measures to address potential impacts to SᑭÁUTW's rights and title. The EAO and SᑭÁUTW maintained ongoing dialogue throughout the process, including regular meetings and discussions to understand, assess, and respond to issues as they arose.

#### **Provincial Conditions and Federal Key Mitigation Measures**

The EAO notes that SᑭÁUTW recommended additional specific mitigations, and those recommendations were considered and responded to in the development of provincial and federal conditions.

Provincial conditions and federal Key Mitigation Measures were developed to address potential effects on SᑭÁUTW's Aboriginal and Treaty rights, including effects related to harvest and subsistence rights, cultural use sites and areas, governance, social and economic conditions, cultural continuity, and health and well-being. The following provincial conditions and federal Key Mitigation Measures also address the matters assessed by SᑭÁUTW in their Section 19(4) assessment.

#### **Harvesting and Subsistence Rights**

The EAO identified the following proposed provincial conditions that would mitigate potential effects to harvesting, with any management plans from these conditions to be developed in consultation with SᑭÁUTW:

- **Condition 10 (Community Feedback Process)** creates a clear way for SᑭÁUTW to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of harvesting and cultural practices;

- **Condition 12 (Construction Environmental Management Plan)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. By reducing disturbance and protecting the environmental conditions that support fish, wildlife, and plants, this condition helps maintain the ability to access, harvest, and experience culturally important areas;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to SṠÁUTW harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions-control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support harvesting and cultural practices; and,
- **Condition 17 (Dry Street Sweeping Report)** assesses whether dry street sweeping can reduce 6PPD-quinone on project-related roads, which may lower impacts on salmon and other fish important to SṠÁUTW.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to harvesting:

- **Migratory Bird Protections** would require protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting SṠÁUTW's harvesting practices and broader ecosystem conditions important to their way of life.

#### Cultural Use Sites and Areas and Cultural Continuation

The EAO identified the following proposed provincial conditions that would mitigate potential effects to cultural use sites and areas, and cultural continuation, with any management plans from these conditions be developed in consultation with SṠÁUTW:

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance;
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for SṠÁUTW to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (Construction Environmental Management Plan)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. By reducing disturbance and protecting the environmental conditions that support fish, wildlife, and plants, this condition helps maintain the ability to access and experience culturally important areas in ways that are consistent with SṠÁUTW values, supporting continuity of cultural practices and connection to place;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation. Maintaining stable and predictable environmental conditions over time helps preserve the integrity of the area, helping maintain environmental conditions that support cultural use of the area and connection to culturally important sites;

- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions-control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites; and,
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities, to prevent additional cultural disturbance.

### STÁUTW Governance

The EAO identified the following proposed provincial conditions that would help address potential effects related to STÁUTW governance interests, with any management plans from these conditions be developed in consultation with STÁUTW:

- **Condition 4 (Consultation)** requires the Proponent be available to meet with STÁUTW throughout all project phases and discuss issues or concerns related to the Project;
- **Condition 3 (Document Development)** requires that plans and programs include clear objectives, monitoring protocols, and reporting requirements, as well as provisions for evaluating mitigation effectiveness using baseline information (including Indigenous knowledge, where available). It also requires adaptive management where monitoring indicates that predicted outcomes are not achieved. These requirements are intended to support transparency, accountability, and ongoing refinement of mitigation measures over the Project lifecycle;
- **Condition 10 (Community Feedback Process)** ensures a clear and responsive pathway for STÁUTW to raise and resolve concerns about project effects. By enabling early identification and timely resolution of issues such as noise, dust, light, or access disruptions, this allows STÁUTW more agency over these sensory concerns;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities, to prevent additional cultural disturbance; and,
- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan supporting economic participation of First Nations, and local communities, that would describe employment and contracting strategies and training practices. This plan supports STÁUTW economic governance, ownership and self-determination.

### STÁUTW Health and Well-being and Social and Economic Conditions

The EAO identified the following proposed provincial conditions that would mitigate potential social and economic effects, and effects to health and well-being, with any management plans from these conditions be developed in consultation with STÁUTW:

- **Condition 10 (Community Feedback Process)** provides STÁUTW with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** require ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with STÁUTW to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;



- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of SᑭÁUTW. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting physical health and overall well-being; and
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. This condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being and Social and Economic Conditions:

- **Accidents and Malfunctions Reporting** would support mitigation of potential impacts on SᑭÁUTW's interests by ensuring timely response, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

### EAO Conclusion

Provincial conditions and federal Key Mitigation Measures were developed to address potential effects to First Nations' s.35 rights, including SᑭÁUTW's Aboriginal and Treaty rights, and the EAO is of the view that the seriousness of potential effects on SᑭÁUTW's rights would be reduced through implementation of the proposed provincial conditions and federal Key Mitigation Measures.

In consideration of the above analyses and the proposed provincial conditions, federal Key Mitigation Measures and follow-up programs, the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on the interests of SᑭÁUTW has been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with SᑭÁUTW on Tilbury Phase 2, as outlined above, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult and accommodate SᑭÁUTW.

## **16.18 Tsawwassen First Nation**

### **16.18.1 Tsawwassen First Nation's Section 19.4 Assessment**

# Indigenous-Led Assessment of the Effects of the Tilbury Phase 2 Expansion Project on the Rights of Tsawwassen First Nation

June 18, 2026

Prepared by:



With support from:



Submitted to:

BC Environmental Assessment Office

## Disclaimer

The information contained in this report is based on research and analysis conducted by the Tsawwassen First Nation and Firelight. The report may be updated, refined, or changed as new information becomes available. The information contained herein should not be construed as to define, limit, or otherwise constrain the Indigenous rights of Tsawwassen First Nation or any other First Nations or Indigenous peoples.

## Executive Summary

This report evaluates the effects of the Tilbury Phase 2 Expansion Project (the “Project”) on the exercise of Tsawwassen First Nation (“Tsawwassen”) Aboriginal and Treaty rights. The assessment was undertaken pursuant to section 19(4) of the British Columbia Environmental Assessment Act, which enables Indigenous nations to assess project impacts on rights recognized and affirmed under section 35 of the Constitution Act, 1982.

The Assessment focuses on the psychosocial conditions that support meaningful rights-based practice for Tsawwassen. The rights impacts identified extend beyond the initial pathways of effect identified in the Proponent’s Environmental Assessment Certificate Application to include the often-intangible dimensions that shape the conditions necessary for the meaningful exercise of Tsawwassen’s rights and Treaty Objectives. These conditions include mental and emotional well-being, sense of place and identity, and experiences of marginalization within a cumulatively industrialized landscape. Tsawwassen’s rights are defined in the Tsawwassen First Nation Final Agreement, which established a new relationship between Tsawwassen and the Crown, and acknowledges Tsawwassen’s connection to its territory, as well as its stewardship, cultural, governance, and economic objectives, which together underpin the rights and relationships set out in the Treaty.

The Project is located within the lower Fraser River, in the heart of Tsawwassen First Nation’s Territory. This is an area that has undergone sustained industrial transformation over several decades. Shoreline modification, port expansion, transportation corridors, and existing LNG infrastructure have materially altered the ecological, visual, and experiential character of the territory. Community members described cumulative discouragement, diminished confidence in territorial recovery, and concerns that thresholds of change have already been surpassed.

In light of the Proponent’s commitment to avoid use of the Fraser River, the Project is not anticipated to introduce new direct barriers to harvesting rights, nor is it predicted to materially contribute (absent an exceedance or malfunction) to direct reduction in resource abundance within the immediate project footprint. However, the Project reinforces and extends the industrial permanence of Tilbury Island, intensifies perceptions of catastrophic risk, and contributes to ongoing psychosocial strain on Tsawwassen’s exercise of its rights and ability to advance Treaty objectives within an already vulnerable context.

Residual effects on psychosocial well-being – which translate into effects on Tsawwassen’s rights and Treaty Objectives – are characterized by: **high vulnerability, moderate magnitude, long-term duration, and low reversibility**. When assessed against Tsawwassen’s articulated desired future conditions, including strengthened cultural continuity, stewardship, and confident intergenerational rights-based practice, the Project contributes incrementally to a negative direction.

The overall severity of effects on Tsawwassen's rights and Treaty Objectives through psychosocial pathways is determined to be **moderate**. While the Project does not eliminate by itself the ability of Tsawwassen members to exercise their rights, it reinforces cumulative pressures in a landscape where psychosocial thresholds have already been crossed, further constraining the relational and experiential conditions necessary for revitalized and future-oriented rights practice.

The report identifies recommended measures to reduce residual impacts on Tsawwassen's rights and Treaty Objectives. These include enhanced risk transparency mechanisms, experiential and sensory mitigation measures, support for cultural continuity and intergenerational harvesting initiatives, and structured participation and adaptive oversight mechanisms. These measures are intended to strengthen community confidence, improve experiential conditions, and support the exercise of Tsawwassen's rights within an industrialized context.

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# 1. Introduction

This Indigenous-led Assessment evaluates the potential effects of the Tilbury Phase 2 Expansion Project (“the Project”) on Tsawwassen First Nation’s (“Tsawwassen”) Aboriginal and Treaty rights. The Assessment is undertaken pursuant to section 19(4) of the British Columbia Environmental Assessment Act (BCEAA), which enables Indigenous nations to assess project impacts on rights recognized and affirmed under Section 35 of the Constitution Act. Tsawwassen’s rights are defined in the Tsawwassen First Nation Final Agreement, which established a new relationship between Tsawwassen and the Crown. It acknowledges Tsawwassen’s connection to its territory, as well as its stewardship, cultural, governance, and economic objectives, which together underpin the rights and relationships set out in the Treaty.

The Project is located within the heart of Tsawwassen First Nation’s Territory, in a highly industrialized and previously disturbed area where the cumulative impacts of numerous development projects are already severely limiting Tsawwassen members’ ability to practice their rights and achieve Treaty Objectives related to a healthy river. The rights impacts identified in this Indigenous-led Assessment extend beyond the initial pathways of effect identified in the Proponent’s Environmental Assessment Certificate Application to include the often-intangible dimensions that shape the conditions necessary for the meaningful exercise of Tsawwassen’s rights and Treaty Objectives. These conditions include mental and emotional well-being, sense of place and identity, and experiences of marginalization within a cumulatively industrialized landscape.

In light of the Proponent’s commitment to avoid use of the Fraser River, the Project is not anticipated to introduce new direct barriers to harvesting rights, nor is it predicted to materially contribute (absent an exceedance or malfunction) to direct reduction in resource abundance within the immediate project footprint. However, the Project reinforces and extends the industrial permanence of Tilbury Island, intensifies perceptions of catastrophic risk, and contributes to ongoing psychosocial strain on Tsawwassen’s exercise of its rights, its stewardship responsibilities, and its ability to advance Treaty Objectives related to psychosocial health and well-being within an already vulnerable context. In doing so, it has the potential to further reinforce the industrial character of Tsawwassen’s traditional territory, weakening attachment to place, normalizing industrialization, and, over time, undermining confidence in the feasibility of rights revitalization and the realization of Treaty Objectives for current and future generations.

The meaningful exercise of Aboriginal and Treaty rights and Treaty Objectives depends on more than biophysical conditions and the technical ability to undertake specific activities. For Tsawwassen, it also depends on members’ psychological, emotional, and spiritual relationship with their lands and waters. These experiential and relational dimensions, often described in the literature as psychosocial conditions (Ninomiya et al., 2023; Gregory et al., 2020), directly influence how Indigenous peoples participate in rights-based practices, transmit knowledge to younger generations, and uphold stewardship and governance responsibilities (Acharibasam et al., 2024). When

psychosocial conditions are compromised, the effects extend across multiple rights categories, including harvesting, stewardship and governance, and cultural continuity.

Tsawwassen's articulation of its Treaty Objectives reflects this relational understanding of rights, expressed through a framework of health. Tsawwassen's Treaty Objectives are as follows:

- **Healthy Rights – Healthy River:** Recognizes the inseparable relationships between the well-being of Tsawwassen members and the health of the Fraser River and surrounding waters.
- **Healthy Relationships:** Emphasizes mutual respect and accountability in Tsawwassen's relationships with other governments, proponents, and regulatory bodies.
- **Healthy Future for Future Generations:** Reflects Tsawwassen's responsibility to ensure that decisions made today do not compromise the ability of future generations to exercise their rights and live well within the traditional territory.
- **Healthy Culture – Strong Stewardship:** Affirms the central role of culture, law, and stewardship responsibilities (šxʷkʷecxənəm) in maintaining Tsawwassen well-being (TFN, 2024).

These Objectives articulate a holistic and intergenerational vision of Treaty rights rooted in well-being and that links individuals and collective health to the condition of surrounding lands and waters, the integrity of social and environmental relationships, and the exercise of Tsawwassen governance and stewardship responsibilities. Project-related effects that weaken Tsawwassen members' relational, emotional, and psychological connection to their lands, waters, culture, and future generations therefore adversely impact the meaningful exercise of Tsawwassen's Aboriginal and Treaty rights and Treaty Objectives.

Accordingly, this Indigenous-led Assessment focuses on how the Project may influence Tsawwassen members' relational, emotional, and psychological connection to their lands, waters, culture, and future generations, and how these effects may shape the meaningful present and future exercise of Tsawwassen's Aboriginal and Treaty rights and Treaty Objectives within a cumulatively industrialized landscape.

## 2. Tsawwassen's Connection to the Fraser River and Surrounding Area

Tsawwassen First Nation (Tsawwassen) is a vibrant and complex modern Nation with deep and enduring connections to its Traditional Territory in the lower Fraser River, Boundary Bay, and the southern Strait of Georgia. Tsawwassen people are forward-looking while still maintaining a strong sense of connection with their history, culture, and governance systems. As described in the Declaration of Tsawwassen Identity and Nationhood:

We honour the ni sqwel kw̓θe syəw̓enelct (words of our ancestors) who preserved our history, our hən̓qəmin̓əm̓ (language) and protected our inheritance. We lift our hands to our ancestors and Elders who imparted syawən (teachings), s̓x̓wəx̓wəyem (stories), stiləm (songs) and q̓wəyeləx (dances) that allowed us to maintain our unique identity and way of life. We honour our children and future generations who will ensure these teachings carry on. We honour the Creator from whom all life flows as the source of our spirituality. We will uphold our fundamental belief system to maintain harmony with all of creation. (TFN 2009)

For thousands of years, Tsawwassen people have lived in relationships with the lands and waters of coastal BC. As stated by Chief Harry Joe in 1914,

...we have been in this place from time immemorial and... our ancestors were created in this place right over at the high land here known as [stl'alep] or English Bluff. That is the place where the first man of this race was created. (Bouchard and Kennedy 1991, 111)

Scəw̓aθən məsteyəx̓w̓, translated from the Salishan hən̓qəmin̓əm̓ language into the English name 'Tsawwassen First Nation', means "people of the land facing the sea". This name reflects a deeply rooted psychosocial and cultural identity that is inseparable from Tsawwassen lands and waters. Since time immemorial, Tsawwassen people have thrived as accomplished fishers and hunters on their traditional territories, from the waterways of the southern Strait of Georgia to the lower Fraser River and beyond. These places, and the beings that inhabit them – including fish, migratory birds, terrestrial animals, plants, and medicines – continue to hold profound cultural, subsistence, ceremonial, and spiritual importance for the people of Tsawwassen. The ongoing ability to access and steward these places is central to Tsawwassen well-being (TFN 2024).

Archaeological evidence, including carbon dating, demonstrates long-term habitation, while Indigenous Knowledge – including ancestral stories, legends, and hən̓qəmin̓əm̓ place names – confirms continuous use and stewardship of the territory (TFN 2015b; EAO 2019, 377; Williams per correspondence 16 May 2023). These includes two place names within proximity to Tilbury Island, the high land from Sunbury down to Mud Bay known as x̓w̓mēcənətp̓ and pəł̓x̓əneməx̓ ('meadowland'), referring to the area west of Deas Island (Williams pers. correspondence 16 May 2023). The Fraser River has long played a key role in Tsawwassen's cultural identity as a host Nation in the lower mainland. Historically, Tsawwassen held potlatches, participated in mask dancing, and welcomed canoes that came in along the Fraser River (TFN 2022).

The Coast Salish territory, known for its abundant food systems, sustained Tsawwassen peoples for millennia. Historical accounts describe a landscape where "salmon could be caught by the thousands, sturgeons reached a weight of one ton and whales a weight of thirty tons, and waterfowl numbered in the tens of thousands" (Suttles 1987, 47 as cited in TFN 1998, 21). However, by the 19th century, colonial settlement and industrial

development significantly altered both the physical environment and Tsawwassen's relationships with it. Colonial policies such as the imposition of the Indian Act and the reserve system have severely constrained Tsawwassen access to and governance over their territory. In 1871, the BC Surveyor General unilaterally defined the boundaries of the Tsawwassen reserve (Bouchard and Kennedy 1991). By 1914, the Tsawwassen reserve was confirmed at 604 acres (Bouchard and Kennedy 1991).

Large-scale infrastructure developments such as the construction of the BC Ferry Terminal and the Roberts Bank port facilities have had pronounced effects on local waters and foreshore areas, "creating a stagnant bay choked with invasive, non-Indigenous, plants and seaweed" (TFN n.d.a, 17). In the south arm of the Fraser, the establishment of canneries and increasing population of Vancouver spurred industrialization and boat traffic in this unique estuary ecosystem (Donald Luxton and Associates 2017, 4). Together with pollution, climate change, and ongoing industrial developments, these cumulative stressors have resulted in the decline or loss of many resources and foods that were once readily available to *scəwəθən məsteyəxʷ* within traditional harvesting sites (TFN 1998; Marushka et al. 2019; Weatherdon et al. 2016).

Today, Tsawwassen has 505 members, approximately half of whom reside on Tsawwassen Lands. Other members live in nearby communities such as Delta, Ladner, Surrey, and Langley, as well as in the Okanagan (British Columbia) and Bellingham (Washington) areas (TFN 2021a, 14; TFN n.d.b). Regardless of residence, Tsawwassen members maintain enduring social, cultural, and emotional connections to their traditional territory, which extends from Pitt Lake to New Westminster, south to Boundary Bay and the Point Roberts peninsula, and west into the Salish Sea and Southern Gulf Islands, including Galiano, Salt Spring, Pender, and Saturna islands (TFN 2019a). This diverse landscape includes marine waters, rivers, streams, lakes, sloughs, marshes, valleys, and bogs; all of which are surrounded by mountains (TFN 1998), and which continue to shape Tsawwassen identity, stewardship responsibilities, and well-being (TFN 1998).

Language is a core component of Tsawwassen identity. Linguistically, Tsawwassen is classified as a dialect of the mainland division of the Halkomelem Coast Salish Language, specifically of the downriver group sub-dialect (Bouchard and Kennedy 1991, 101). The *hən̓q̓əmin̓əm̓* language is a personal and cultural expression of identity. *hən̓q̓əmin̓əm̓* is also the conduit through which Tsawwassen's history and way of life was taught in the past, as it connects the community to past generations and ancestors. Despite the loss of language caused by colonization and the residential school system, the revival of *hən̓q̓əmin̓əm̓* is a vital part of Tsawwassen's culture today (TFN 2009).

Culture is integral to Tsawwassen's harvesting practices and community life. For example, the annual First Salmon Ceremony honors returning salmon, regarded as spiritual beings who provide sustenance, and includes the preparation of fish in sacred rituals that return bones to the water (TFN n.d.a.). Potlaches link food production, wealth distribution, and social relations, while providing a venue for songs, dances, oral histories, and intergenerational knowledge transfer (TFN 1998, 27). Both ceremonies

demonstrate how Tsawwassen's culture holistically supports social cohesion and community well-being.

Traditionally, Tsawwassen and surrounding Coast Salish peoples thrived in part due to their social organization by residential groups, such as the family, household, local group, and winter village. Each family prepared their food and kept their own provisions and supplies while living within a household that cooperated both economically and socially. Households lived in longhouses and together formed the core of a 'local group', also referred to as 'clans' or 'extended families' (Bouchard and Kennedy 1991). Local groups, who were linked by ties of marriage and the exchange of resources, clustered together in central villages, particularly during winter months (Bouchard and Kennedy 1991). This exchange of foods and other resources was key to the survival of First Nations families and households and took place informally among households and local groups or more formally through potlatches (TFN 1998).

Governance and leadership continue to be expressed through legal frameworks, hereditary institutions, and longhouse practices and ceremonies (TFN n.d.a.). The modern Tsawwassen governance system builds on these traditions, reflecting a continuity of responsibility, stewardship, and social cohesion. Today, Tsawwassen's contemporary relationships with the Crown is formalized through the Tsawwassen First Nation Final Agreement, a modern treaty and self-government agreement between Tsawwassen First Nation, Canada, and British Columbia which came into effect in 2009.

The Treaty recognizes Tsawwassen as a self-governing Indigenous nation, affirms ownership of Tsawwassen Lands, and establishes jurisdictional authority and Treaty rights, including hunting, fishing, and governance within its broader Traditional Territory, and specifically within the Project area. At the same time, the Treaty represents a broader project of nation-building, supporting Tsawwassen's self-determination goals while reshaping and redefining relationships with Canada and British Columbia on a government-to-government basis. In this way the Treaty marks a significant shift in these relationships, creating new pathways for decision-making in collaboration, and for the exercise of Tsawwassen law and authority. Furthermore, the Treaty provides a foundation for Tsawwassen's stewardship responsibilities and informs Indigenous-led Assessments for proposed developments to protect the cultural and psychosocial well-being of the Nation and its members.

### **3. Assessment Scope and Approach**

#### **3.1. Assessment Principles**

Several guiding principles articulated by Tsawwassen are followed in this psychosocial assessment, including:

1. The assessment must consider the nature and scope of rights as those rights are asserted, and how the rights might be impacted.



2. Assessing impacts on Aboriginal and Treaty rights and Treaty Objectives requires more than assessing environmental effects on the current use of lands and resources for traditional purposes or on physical and cultural heritage.
3. Assessing impacts on the exercise of Aboriginal and Treaty rights and Treaty Objectives requires understanding the context of historical and contemporary cumulative effects in which rights are exercised. This context needs to be evaluated before looking at Project effects on those rights.
4. The assessment should not be limited to site-specific effects but must consider all impacts on the exercise of rights within defined temporal and geographic boundaries
5. Utilizing an Indigenous perspective and Indigenous Knowledge is an imperative.
6. The assessment must consider Indigenous values, norms, and laws, where provided by a community.
7. Where a community has elected to participate, the selection of methods and indicators for assessing impacts to Aboriginal and Treaty rights and Treaty Objectives must be community driven.
8. Thresholds and measures to understand the potential effects of a project on the exercise of Aboriginal and Treaty rights and Treaty Objectives are to be utilized where they have been defined by the community.
9. Assessments of impact to the exercise of Aboriginal and Treaty rights and Treaty Objectives should consider a project's contribution to reconciliation.

### 3.2. Purpose of the Assessment

The purpose of this Indigenous-led Assessment is to evaluate the potential effects of the Project on the meaningful present and future exercise of Tsawwassen's Aboriginal and Treaty rights. This includes rights recognized and affirmed under Section 35 of the Constitution Act, 1982 and defined in the Tsawwassen First Nation Final Agreement.

Consistent with Tsawwassen's articulated principles and Treaty Objectives, this Assessment proceeds from the understanding that the exercise of rights depends not only on biophysical conditions or technical access to land and resources, but also on the relational, emotional, psychological, cultural, and governance conditions that sustain those practices over time. Rights are lived and practiced within social, environmental, and intergenerational contexts. Project-related changes that alter these conditions may therefore affect the feasibility, confidence, continuity, and vitality of rights practice, even where direct physical interference is limited.

This Assessment focuses primarily on the impacts to Tsawwassen rights and Treaty Objectives through psychosocial pathways, within a cumulatively industrialized



landscape. It examines how the Project may influence Tsawwassen members' attachment to place, confidence in harvesting and stewardship, perceptions of safety and risk, governance capacity, intergenerational knowledge transmission, and broader relational health, all of which are conditions required for the exercise of Tsawwassen's rights and the ability of Tsawwassen and the Crown to achieve Treaty Objectives. It further considers how incremental additions to industrial development may compound existing constraints on rights revitalization and resumption.

The Assessment is undertaken pursuant to section 19(4) of the British Columbia Environmental Assessment Act and reflects Tsawwassen's jurisdictional authority to assess impacts on its Aboriginal and Treaty rights and Treaty Objectives. It is intended to inform regulatory decision-making, support mitigation and accommodation discussions, and provide a clear articulation of how the Project may affect Tsawwassen's rights within their broader relational and cumulative context.

### 3.3. Assessment Boundaries

Tsawwassen has identified that the meaningful exercise of Aboriginal and Treaty rights, as well as Treaty Objectives, is not limited to biophysical conditions, but also includes the social, cultural, and psychological conditions that shape whether, how, and with what confidence rights can be practiced. This section outlines the framework used to define the spatial and temporal boundaries for assessing these types of impacts on Tsawwassen through a psychosocial Indigenous-led Assessment.

#### 3.3.1. Spatial Boundaries

The primary area of direct physical change associated with the Project is the Tilbury Island LNG facility. This constitutes the Project footprint considered in this Assessment. The Proponent has revised the Project to no longer include direct use of the Fraser River. This Assessment takes that commitment as confirmed for the purpose of defining spatial boundaries. As a result, direct physical changes to the river are not anticipated, and the spatial extent of directly biophysical effects is correspondingly more limited.

However, Tsawwassen's Aboriginal and Treaty rights depend not only on biophysical conditions, but also on the cultural and psychosocial conditions that support access, safety, cultural continuity, and connection to place. Rights-based practices and the conditions that sustain them, such as psychosocial well-being, are not confined to the Project site. Accordingly, this Assessment considers the broader landscape within which Tsawwassen members maintain cultural, governance, and stewardship connections, including how cumulative industrial development shapes the psychosocial conditions necessary to uphold Treaty Objectives.

The Assessment does not re-evaluate components assessed under the separate Tilbury Marine Jetty Project. Existing and previously approved infrastructure forms part of the cumulative context within which the Project is considered.

### 3.3.2. Temporal Boundaries

The Assessment considers both construction and operational phases of the Project. Construction-related activities are assessed in relation to short-term changes in industrial activity and perceived risk. Operational activities are assessed in relation to the long-term presence of expanded LNG infrastructure.

Given the intergenerational nature of the practice of Tsawwassen's rights, the Assessment also considers longer-term implications for cultural continuity, stewardship responsibilities, and confidence in rights revitalization. The temporal boundary includes cumulative past and reasonably foreseeable future development within the surrounding industrial landscape.

## 3.4. Guiding Frameworks and Concepts

Tsawwassen has identified that the meaningful exercise of Aboriginal and Treaty rights is not limited to biophysical conditions but also includes the cultural and psychosocial conditions that support well-being, connection to place, and the continuity of rights-based practices. Tsawwassen has further identified that its understanding of rights is inseparable from its Treaty Objectives, which reflect these interrelated conditions. Impacts to these conditions are often characterized in the literature as psychosocial impacts. These impacts are increasingly recognized in impact assessment processes, with heightened awareness that many projects can lead to adverse mental health and well-being outcomes for affected communities (Ninomiya et al., 2023; IAIA, 2021). This section outlines the framework that guides this psychosocial Indigenous-led Assessment, including psychosocial health, solastalgia, and cumulative effects.

### 3.4.1. Psychosocial Health and Risk Perception

Psychosocial health frameworks recognize the interconnection between mental, emotional, cultural, and social well-being. For many First Nations, psychosocial well-being is inseparable from relationships to land, culture, governance, and intergenerational continuity. Impacts to psychosocial health can arise from resource development projects, environmental disasters, and unwanted changes to one's environment (Edelstein & Vanclay 2024). Such changes may alter how individuals and communities experience their environment and their place in it. Psychosocial impacts may manifest as stress, anxiety, chronic uncertainty, altered behaviour, and diminished confidence in everyday activities, including cultural and land-based practices (Edelstein & Vanclay 2024).

This assessment adopts a holistic understanding of psychosocial wellness, recognizing that impacts may arise both from direct environmental change and from changes in perception. Risk perception is the "subjective judgement that individuals make about the characteristics and severity of a risk" (Spicer et al. 2020: 6851). Even where scientific

assessments indicate low or managed risk, perceived risk and changes in perception may lead to changes in behaviour, participation in land-based practices, intergenerational teaching and overall wellness (Edelstein & Vanclay 2024). In this context, perception is treated as a meaningful factor shaping the lived experience and exercise of rights.

### 3.4.2. Solastalgia and Place-Based Distress

The term solastalgia is used as a guiding concept in this Indigenous-led Assessment. Solastalgia refers to the distress experienced when one's home environment undergoes unwanted transformation while one remains physically in place (Albrecht 2005). It describes the emotional and psychological suffering that can arise from environmental change, particularly when individual perceive that valued landscapes, cultural settings, or ecological relationships are being altered or degraded.

Solastalgia describes this specific form of melancholy as someone witnesses intense and unwanted transformation of the place they call home. It is often associated with feelings of powerlessness, environmental injustice, and diminished control over decision-making affecting one's territory. This can lead to a range of unwanted psychosocial health outcomes, including chronic stress, grief, anxiety, and a weakened sense of belonging (Albrecht 2005).

In the context of Tsawwassen, solastalgia provides a lens for understanding how incremental industrial transformation within an already heavily developed landscape may affect members' attachment to territory, confidence in environmental integrity, and sense of cultural continuity. The concept is applied as an interpretive framework for examining how environmental change may influence the lived experience and meaningful exercise of Aboriginal and Treaty rights and Treaty Objectives.

### 3.4.3. Cumulative Industrialization

Cumulative effects in EA refers to a holistic perspective that considers the successive, incremental, and compounding impacts of past, present, and reasonably foreseeable future activities on the environment, society, culture, and the economy (Gill & Ritchie 2020). In the context of psychosocial health, cumulative effects may arise when repeated or sustained industrial development alters landscapes, reinforces perceptions of environmental degradation, and compounds stress, uncertainty, and loss of place attachment across generations. Unlike project-specific effects, cumulative effects arise from multiple activities interacting over time and space.

For Tsawwassen, the Project is situated within an already heavily industrialized area of the Fraser River estuary. Over time, successive industrial developments may contribute to a normalization of industrial land use, diminished expectations for ecological restoration, and erosion of confidence in the feasibility of rights revitalization and

resumption. Even where individual projects introduce limited new biophysical disturbance, incremental expansion can reinforce a broader industrial character that shapes how members experience, relate to, and envision the future of their territory and impact the exercise of rights.

This Indigenous-led Assessment therefore evaluates the Project within its cumulative industrial context, recognizing that psychosocial effects may result from incremental additions to an already transformed landscape rather than from isolated changes attributable to a single development.

#### 3.4.4. Application to Tsawwassen's Rights Context

The frameworks described above are applied in this Indigenous-led Assessment to examine how incremental industrial expansion may influence the meaningful exercise of Tsawwassen's rights. This approach is grounded in Tsawwassen's direction that rights must be understood holistically, as practices shaped by interconnected cultural and psychosocial conditions, and guided by Tsawwassen's Treaty Objectives.

From Tsawwassen's perspective, psychosocial dimensions of wellbeing are key aspects of how changes to the environment are experienced and understood, particularly within a cumulatively industrialized landscape, and how impacts to rights are experienced. These concept of psychosocial wellbeing provides a lens for understanding how industrial activities may affect the underlying conditions that support the exercise of rights. Even in the absence of substantial new biophysical disturbance, incremental expansion can alter how members experience their territory, shape expectations for its future, and influence participation in rights-based practices. Perceptions of risk, normalization of industrial land use, and feelings of marginalization or diminished influence in decision-making processes may compound over time.

In this context, psychosocial impacts are not treated as secondary or indirect effects. Rather, they are understood as pathways through which Project-related change may influence the lived experience and long-term viability of Tsawwassen's harvesting, stewardship, governance, and cultural responsibilities.

### 3.5. Assessment Dimensions

Drawing from the conceptual foundations outlined above and TFN's articulation of its Treaty Objectives, this Indigenous-led Assessment evaluates Project-related effects across three interconnected psychosocial dimensions: (1) mental and emotional wellbeing; (2) sense of place and identity; and (3) stigma and marginalization. These dimensions reflect various aspects of the scope set out in Tsawwassen's Assessment Plan, including sense of place and identity, social relationships, and spiritual, psychological, and emotional components of identity. These dimensions represent structured pathways through which incremental industrial expansion may influence the

lived experience and meaningful exercise of Tsawwassen's Aboriginal and Treaty rights and Treaty Objectives.

The dimensions are interrelated but analytically distinct. Mental and emotional well-being captures stress, anxiety, uncertainty, and confidence in environmental integrity (Albrecht 2005). Sense of place and identity reflects attachment to territory, cultural continuity, and intergenerational belonging (Cáceres et al. 2022). Stigma and marginalization address perceptions of environmental injustice, diminished influence in decision-making, and normalization of industrial land use within Tsawwassen territory (Baker et al. 2025).

Together, these dimensions provide a structured framework for assessing how changes in the physical and industrial landscape may alter the relational, psychological, and governance conditions that sustain Tsawwassen's rights practice over time.

### 3.5.1. Mental and Emotional Well-being

Mental and emotional refers to the emotional and psychological conditions that enable individuals and communities to live well within their territory and to practice their rights with confidence and continuity. For many Indigenous peoples, wellbeing is closely connected to the health and integrity of lands and waters. This encompasses rights and responsibilities to uphold sacred stewardship of the lands and waters, and all associated resources and non-human beings (Baker 2025). In this context, mental and emotional well-being is directly linked to Tsawwassen's ability to exercise and uphold its Treaty Objectives, including maintaining a healthy river, strong culture, and effective stewardship.

When these relationships with the land are degraded or placed at risk by industrial development, members may experience chronic stress, anxiety, or diminished confidence in environmental integrity. These responses may influence participation in harvesting, cultural practices, governance processes, and intergenerational teaching, and may constrain the meaningful exercise of rights and continuity of knowledge transmission across generations.

Key indicators related to mental health and well-being include:

- Increased stress, anxiety, and emotional exhaustion.
- Fear of industrial pollution affecting health and safety.
- Reduced confidence in long-term environmental integrity.
- Emotional fatigue associated with cumulative industrialization.

### 3.5.2. Sense of Place and Identity

For Tsawwassen, sense of place is foundational to the exercise of Aboriginal and Treaty Rights, as well as Treaty Objectives, as these rights are practiced through ongoing

relationships with specific lands and waters over time. Sense of place refers to the deep emotional, cultural, and historical connections individuals and communities have to the land and waters. It implies a strong emotional connection between a person or group of people with a particular location – places are centres of human meaning, attachment, experiences, and values (Windsor & McVey 2005). Sense of place is vital to group identity, and involuntary loss of sense of place can lead to serious physical and mental health consequences. This is because place provides individuals and groups with a sense of security and comfort (Windsor & McVey 2005).

From the lens of First Nations in British Columbia, sense of place may also be described in terms of connection to land, encompassing lands and waters, which provide foods for hunting, fishing, and farming; building and tool materials; medicines; and are spaces of spiritual and ceremonial connection (Windsor & McVey 2005; Baker et al. 2025). Industrial expansion alters the physical environment and sensory landscape, affecting how Tsawwassen members relate to their surroundings. Disruptions to the sensory environment can lead to disconnection from place, cultural loss, and changes in community identity, which may affect the ability and willingness of Tsawwassen members to engage in rights-based practices. Key indicators related to sense of place and identity include:

- Reduced enjoyment of harvesting activities.
- Feelings of loss and disconnection from place.
- Reduced connection to cultural identity.

### 3.5.3. Stigma and Marginalization

Industrial expansion within Indigenous territories may contribute to perceptions of inequitable burden-sharing, reduced influence in decision-making, and normalization of intensive land use. Where communities experience repeated industrial approvals within their territory, concerns may arise that Indigenous lands are treated “sacrifice zones” for industry (De Souza 2021). Within these spaces, the physical and mental health and well-being of some people is compromised in the pursuit of ‘economic development’ or ‘progress’ for the sake of capitalist gains (De Souza 2021). For Tsawwassen, such dynamics may undermine its ability to exercise governance authority and advance Treaty Objectives related to healthy relationships and self-determination.

Tsawwassen members may feel politically and socially marginalized in decisions about their territory, or that development proceeds despite articulated concerns. Such experiences may generate feelings of marginalization, diminished agency, or skepticism regarding the responsiveness of decision-making processes.

Stigma may also arise externally, where Tsawwassen Territory becomes publicly associated with industrial activity rather than with its cultural, ecological, and governance significance. Internally, ongoing development pressures may contribute to



tension between economic opportunity and cultural protection, affecting social cohesion. Together, these dynamics may influence the social and political conditions necessary to sustain collective rights and responsibilities over time.

Key indicators related to stigma and marginalization are identified, including:

- Perception of traditional territory and Treaty lands as an industrial “sacrifice zone”.
- Perceived exclusion and political disempowerment in decision-making processes.
- Community tensions over economic benefits and cultural losses, affecting social cohesion.

### 3.6. Reconciliation-Based Approach to Evaluating Project Impacts

This Indigenous-led Assessment is grounded in a reconciliation-based approach to impact assessment, which moves beyond procedural consultation to transform how impacts are identified and addressed. This approach centres Indigenous rights, values, and worldviews, ensuring that Tsawwassen voices lead the assessment process. It is founded upon core values of respect, reciprocity, relationship-building, and self-determination, which are woven into every part of this Assessment. It prioritizes recognition of cumulative and intergenerational trauma and amplifies culturally grounded measures that support community well-being. A reconciliation-based approach to Indigenous-led Assessment requires proponents and colonial governments to recognize Tsawwassen as an autonomous and self-governing Nation with decision-making power over their Traditional Territory (Craik 2016).

### 3.7. Information Sources and Engagement

This assessment draws on information from both secondary sources and primary, community-based research conducted by Tsawwassen.

In November 2025, Tsawwassen undertook a review of existing documents relevant to the Project, the Study Area, and Tsawwassen’s rights and interests. This review included key Tsawwassen governance and planning documents, relevant academic and grey literature, and project related technical and regulatory reports (a complete list of documents reviewed is provided in the References section). Documents were systematically reviewed and coded to identify key information and themes.

Between June 23, 2025, and July 3, 2025, Tsawwassen conducted two focus groups with seven community members including resource users, knowledge holders, Elders, youth, and Tsawwassen staff. This community-based research generated qualitative information on the importance of the Study Area to Tsawwassen members; Tsawwassen stewardship, governance, and decision-making responsibilities; past,



current, and desired future uses of the Study Area; cumulative stressors; and concerns regarding the Project's potential impacts on Tsawwassen's rights, psychosocial identity, and well-being.

Focus groups were guided by open-ended questions designed to elicit participant perspectives and experiences. Audio recordings were transcribed, and transcripts and facilitator notes were reviewed and analyzed using thematic coding. Coding and analysis were undertaken by Tsawwassen and the research team to identify key issues, concerns, and impact pathways relevant to psychosocial well-being.

This report also draws from archived interviews that were previously conducted for this Project between June 29<sup>th</sup>, 2023, and August 28<sup>th</sup>, 2023. In total, Tsawwassen conducted 11 separate interviews and four focus groups with 31 community members including resource users, knowledge holders, Elders, youth, and Tsawwassen staff. This archival, community-based research yielded additional insights about the importance of the Study Area to Tsawwassen. While psychosocial impacts were not the focus of this part of the research, several themes that emerged are relevant to this report and are highlighted in the results section.

### 3.7.1. Limitations

There are several limitations to this assessment. These include:

- Not all Tsawwassen members and knowledge holders were able to participate in this Study. Efforts were made to include key Tsawwassen members, however, not everyone contacted was able or willing to participate.
- Data collected for each participant is limited by what the participant is able and willing to report.
- This Report does not reflect all Tsawwassen rights-practice in or around the Study Area. **An absence of data does not signify an absence of use, value, or potential impact.**
- Mapped representations of Tsawwassen values should be understood to be a small portion of the actual area needed. For example, a single ceremony site may be mapped with a precise point, but that point does not capture the full complexity of Tsawwassen's ceremonial practices, or the environmental and social conditions which make ceremony possible and meaningful to Tsawwassen's culture and rights.
- All data included in this Report is the property of the Tsawwassen and may not be used or reproduced outside the Project regulatory process without the express written consent of the Tsawwassen.
- Nothing in this Report should be construed as to waive, reduce, or otherwise constrain Tsawwassen rights within, or outside of, regulatory processes. Nor

should this Report be construed as to define, limit, or otherwise constrain the Aboriginal or Treaty rights of other First Nations or Aboriginal peoples. It should not be relied upon to inform other projects or initiatives without the written consent of Tsawwassen.

### 3.8. Analytical Approach

This Indigenous-led Assessment applies the three psychosocial dimensions described above to evaluate how the Project may influence the meaningful exercise of Tsawwassen's Aboriginal and Treaty rights, as well as Treaty Objectives, within a cumulatively industrialized landscape. The analytical approach is structured to assess baseline conditions, identify potential pathways of effect, characterize anticipated changes, and evaluate their severity in light of Tsawwassen's relational and intergenerational understanding of rights.

#### 3.8.1. Baseline Conditions

The Assessment first identifies existing psychosocial conditions within Tsawwassen's Territory, including current levels of industrialization, community experiences of environmental change, and pre-existing stressors or vulnerabilities. Baseline conditions include both experiential factors (e.g., confidence in environmental integrity, attachment to place, governance fatigue) and structural factors (e.g., cumulative industrial presence, regulatory context). Establishing baseline conditions provides the reference point against which Project-related changes are evaluated.

#### 3.8.2. Pathways of Effect

Project-related effects are assessed through structured pathways of effect. The Assessment examines:

Project activity

- Environmental or perceptual change
- Influence on one or more psychosocial dimensions
- Implications for rights practice

This approach recognizes that psychosocial impacts may arise not only from direct physical disturbance, but also from perceived risk, incremental industrial expansion, or changes in the character of the landscape. Effects are assessed within both project-specific and cumulative contexts.

#### 3.8.3. Consideration of Mitigation and Accommodation

The Assessment evaluates whether proposed mitigation measures meaningfully address identified psychosocial pathways and whether additional measures may be required to support the continued vitality of Tsawwassen's rights practice. Mitigation

effectiveness is considered in light of cumulative context and intergenerational implications.

### 3.8.4. Characterization of Residual Effects

Residual effects on psychosocial well-being are characterized using four criteria: vulnerability, magnitude, duration, and reversibility. These criteria are consistent with environmental assessment practice and are defined below to reflect the experiential and relational nature of psychosocial conditions.

- **Vulnerability** refers to the existing condition of psychosocial well-being within Tsawwassen, including cumulative historical and ongoing stressors that shape sensitivity to additional Project-related change.
- **Magnitude** refers to the degree to which the Project incrementally reinforces, intensifies, or introduces psychosocial stressors, including reinforcement of industrial permanence, perceived risk, discouragement, or marginalization.
- **Duration** refers to the length of time over which the residual psychosocial effect is expected to persist, including whether effects are limited to construction or extend through long-term operations.
- **Reversibility** refers to the degree to which the psychosocial effect can reasonably be undone or reduced through mitigation, natural recovery, or structural change.

Table 3-1 provides rating definitions for each criterion.

*Table 3-1 Residual Effects Criteria Rating Definitions*

| Criterion            | Rating Definitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Vulnerability</b> | <p><b>Low:</b> Baseline psychosocial conditions are relatively stable, with limited cumulative stressors influencing sensitivity to additional change.</p> <p><b>Moderate:</b> Existing cumulative stressors are present and influence sensitivity to Project-related change.</p> <p><b>High:</b> Psychosocial conditions are already strained due to cumulative historical, environmental, or industrial stressors, such that additional change is likely to amplify effects.</p> |
| <b>Magnitude</b>     | <p><b>Low:</b> The Project results in minimal incremental reinforcement of psychosocial stressors or experiential change.</p> <p><b>Moderate:</b> The Project results in noticeable reinforcement of existing psychosocial stressors or industrial character, affecting experiential conditions.</p> <p><b>High:</b> The Project results in strong reinforcement or intensification of psychosocial stressors, with substantial experiential or symbolic effects.</p>              |
| <b>Duration</b>      | <p><b>Short-term:</b> Effects are limited to construction or temporary activities.</p> <p><b>Medium-term:</b> Effects extend beyond construction into the early</p>                                                                                                                                                                                                                                                                                                                |

|                      |                                                                                                                                                                                                                                                                                                                       |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | operational period.<br><b>Long-term:</b> Effects persist for the operational life of the Project or longer.                                                                                                                                                                                                           |
| <b>Reversibility</b> | <b>High:</b> Effects can be readily reduced or reversed through mitigation or over time.<br><b>Moderate:</b> Partial recovery is possible, though some effects are likely to persist.<br><b>Low:</b> Effects are unlikely to be meaningfully reversed without substantial structural, land-use, or governance change. |

### 3.8.5. Severity Determination Method

Severity is determined through an integrated evaluation of the four residual effects criteria: vulnerability, magnitude, duration, and reversibility. Severity reflects how the combined characteristics of the residual effect influence the conditions necessary for Tsawwassen's current and future rights-based practices.

Professional judgment is applied to assess how these criteria interact in context. Particular consideration is given to the cumulative nature of psychosocial conditions and the extent to which effects reinforce existing stressors within an already industrialized landscape.

In general:

- Severity increases where vulnerability is elevated, magnitude reflects meaningful reinforcement of psychosocial stressors, duration is long-term, and reversibility is limited.
- Severity decreases where vulnerability is lower, magnitude is limited, duration is short-term, and effects are more readily reversible.

Severity categories are defined as follows:

- **Low Severity** – Residual effects are limited in magnitude and/or duration and occur within a context of lower vulnerability. Effects do not materially influence the conditions supporting rights-based practices.
- **Moderate Severity** – Residual effects meaningfully reinforce existing stressors or experiential change within a context of cumulative vulnerability. Effects influence the quality, confidence, or continuity of rights-based practices but do not fundamentally alter overall ability to exercise rights.
- **High Severity** – Residual effects strongly reinforce or intensify psychosocial stressors within an already vulnerable context, persist over the long term, and materially undermine the conditions necessary for the meaningful present or future exercise of rights-based practices.

## 4. Conditions Supporting Tsawwassen Psychosocial Health

### 4.1. Foundations of Tsawwassen's Psychosocial Health

#### *Tsawwassen's Three Pillars of Life*

*Pillar 1 – Social and Human Health: Social and human health includes viewscape, landscape, and access to Tsawwassen First Nation Territory. Moreover, it includes the ability of Tsawwassen First Nation community members to enjoy their lands and territory. Social and human health includes physical and mental health of its community members.*

*Pillar 2 – Harvesting Rights: Harvesting rights includes the right of Tsawwassen First Nation community members to exercise their Treaty Rights to harvest. Harvesting rights are to fish, hunt, and harvest plants for food, social, and ceremonial purposes.*

*Pillar 3 – Culture and Heritage: Culture and heritage include Tsawwassen First Nation's way of life, including its intangible cultural heritage, such as its spiritual relationship with the Southern Resident Killer Whales and the significance of the spiritual relationships and the unique cultural values with which the relationships strengthen and enhance Tsawwassen First Nation's way of life. Access to the land, sea, and resource provides Tsawwassen First Nation with the ability to teach the language, laws, and culture to the next generations and to continue Tsawwassen First Nations traditional way of life (TFN 2024, 3).*

For Tsawwassen members, psychosocial health is grounded in place-based conditions that emerge from the ability of the Nation and its members to live in accordance with their laws, responsibilities, and relationships. As articulated by Tsawwassen's three pillars of life (TFN 2019b), psychosocial health is grounded in sustained relationships with lands, waters, and non-human species, as well as the meaningful exercise of Aboriginal and Treaty rights, strong cultural continuity, and the ability to govern and steward the Territory in ways that reflect Tsawwassen values and priorities. As one member stated,

My mom always used to say, be proud of who you are and where you come from. My connection is this land, so that's where I come from. People of Tsawwassen, we're not from Tsawwassen, our connection is of the land. (TFN Elders Focus Group, 2025)

Psychosocial health for Tsawwassen is inseparable from governance, stewardship, and rights. When Tsawwassen people can uphold their sacred responsibilities to lands and waters, transmit knowledge across generations, practice culture, and participate in

decision-making about their territory, psychosocial well-being is strengthened (TFN 2024). Conversely, when these foundations are eroded – through environmental degradation, cumulative impacts, and/or exclusion from decision-making – psychosocial harms can occur even in the absence of direct or immediate biophysical impacts.

### **Social and Human Health**

Social and human health – identified by Tsawwassen in Pillar 1 of its three pillars of life – forms a core foundation of psychosocial well-being (TFN 2024). Strong relationships with families, across generations, and throughout the broader community support identity, belonging, and resilience. Social and human health depends on the ability to access Tsawwassen lands and waters, where social cohesion can be reinforced through shared experiences on the traditional territory and participation in intergenerational cultural activities (TFN 2024).

### **Relationships to Lands and Waters**

Tsawwassen psychosocial health is rooted in enduring relationships with the Fraser River, Boundary Bay, the Salish Sea, and the broader traditional territory. These lands and waters are living relatives that shape Tsawwassen identity, values, and ways of being. The ability to access, care for, and feel safe within these places supports feelings of belonging, security, continuity, and well-being. As one participant stated,

When I got out and get on the water, my heart is full, my spirit is happy, everything makes sense. It's almost indescribable how good I feel when I'm out on the water. (TFN Focus Group 2025)

Industrial development that alters the physical, sensory, or symbolic character of these places can disrupt these relationships, impacting how Tsawwassen members feel about their home territory. Even when direct access remains possible, the perceived degradation or industrialization of culturally significant landscapes can weaken attachment to place, diminish enjoyment of being on the land and waters, and undermine the psychosocial benefits that flow from these relationships (Masterson et al. 2017).

### **Cultural Continuity and Intergenerational Responsibilities**

Psychosocial health for Tsawwassen is sustained through cultural continuity, including the ongoing transmission of language, teachings, stories, and practices that connect past, present, and future generations. Intergenerational responsibility is central to this foundation (TFN 2024). Tsawwassen decision-making is guided by the responsibility to ensure that future generations can live well within the territory and exercise their rights in meaningful ways. When current conditions or future projected impacts suggest that rights resumption might be increasingly difficult or unattainable, this can create psychosocial distress rooted in concern for future generations, as well as feelings of grief, frustration, or loss (Comtesse et al., 2021).



### **Governance, Stewardship, and Self-Determination**

Tsawwassen psychosocial health is closely linked to the Nation's ability to govern its traditional territories and be recognized as a legitimate decision-maker within regulatory processes (TFN 2024). Leadership in Indigenous-led decision-making processes, including Indigenous-led Assessments, supports psychosocial well-being by establishing a sense of control over the process, as well as agency and accountability. When Tsawwassen experiences exclusion from decision-making by colonial governments or agencies, psychosocial impacts may arise. These can include feelings of powerlessness, mistrust in regulatory systems, and perceptions that Tsawwassen lands are treated as expendable or sacrificed for broader economic priorities (De Souza, 2021). Such experiences can compound existing cumulative stressors and undermine confidence in colonial governance systems over time.

## **4.2. Vulnerability of Tsawwassen's Psychosocial Health**

The lower Fraser River and Tilbury Island are situated within one of the most intensively developed industrial corridors in British Columbia. Over several decades, the area has undergone sustained transformation associated with port expansion, transportation infrastructure, shoreline modification, and energy-related development. These changes form part of the contemporary landscape within which Tsawwassen members live, work, and exercise their Aboriginal and Treaty rights, as well as Treaty Objectives.

### **4.2.1. Colonial and Structural Context**

The industrial transformation of the lower Fraser River has occurred within a broader colonial history marked by dispossession, land alienation, and the restructuring of Indigenous governance systems. Like many First Nations in British Columbia, Tsawwassen has experienced significant reduction and fragmentation of its accessible land base through settler development, infrastructure expansion, and state regulation. Traditional territories that once supported interconnected harvesting, travel, governance, and cultural practices have been reconfigured through industrial zoning, transportation corridors, shoreline armouring, and regulatory control.

These historical processes continue to shape contemporary relationships between Tsawwassen, its territory, and external decision-making institutions. Experiences of constrained influence over land and resource governance, combined with successive waves of territorial transformation, form part of the structural context within which additional development proposals are evaluated and experienced.



#### 4.2.2. Industrial and Infrastructure Development in the Lower Fraser River

Tilbury Island and the surrounding estuarine area host a range of industrial activities and infrastructure, including:

- Port-related facilities and marine shipping traffic associated with the Port of Vancouver;
- Rail corridors and associated freight movement connecting port terminals and industrial lands;
- Major highway infrastructure, including Highway 17 and Highway 99;
- Pipeline corridors and energy infrastructure;
- Existing liquefied natural gas processing and storage infrastructure at the Tilbury facility;
- Long-standing industrial land use designations and logistics operations within the surrounding area.

Over time, these developments have incrementally reshaped land use patterns, access routes, and the visual and sensory character of the estuarine landscape. As one participant stated, “It never ends... given them an inch and they take a mile...” (TFN Elder Focus Group 2025). One participant reflected that

[when] they stated talking about Robert’s Bank, I remember my grandfather walking in that house over here, back and forth... and he looked out there shaking his head – that will never work for us. Look at it, it’s a city out there now, destroying wildlife, birds... (TFN Elder Focus Group 2025)

One participant stated that “we’re living in industrialization,” referring to cumulative project impacts on Tsawwassen’s territory like BC Rail, CN Rail, and the Delta Port (TFN Elder Focus Group 2025). Participants expressed frustration with project proponents, explaining that

I’m not happy with [BC Ferries], I’m not happy with this project, I’m not happy with the Port, I’m not happy with the South Fraser River Road. (TFN Elder Focus Group 2025)

#### 4.2.3. Modification of Shoreline and Estuarine Environment

The Fraser River estuary has experienced extensive shoreline armouring, dredging, infilling, and habitat alteration to accommodate navigation, industrial facilities, and flood protection works. Intertidal and riparian areas have been reduced or reconfigured in

places, and industrial lighting, noise, and vessel movement contribute to an altered sensory environment relative to historic conditions.

Participants expressed frustration about the seemingly endless nature of ongoing and proposed developments within their traditional territory. As one participant stated, “it’s just never ending” (TFN Elder Focus Group 2025). The participant continued by asking – “I’m curious as to when does the expansion stop? That’s the big question.” Another participant echoed that “everything is getting chipped away” (TFN Elder Focus Group 2025). Participants spoke to the cumulative impacts of these projects, explaining that,

any amount of disturbance, it doesn’t matter what time of the season, what time of the day, what time of the month... It’s going to impact because it’s a foreign object that’s being introduced to waters that’s been there for many years, many hundreds if not thousands, or however long our Fraser River has been alive. So, it will definitely have an impact... (TFN Focus Group 2025)

#### 4.2.4. Layered Regulatory Processes and Ongoing Development Pressure

The lower Fraser River has been subject to repeated project proposals and regulatory reviews over time. Successive environmental assessments, permit applications, and infrastructure expansions contribute to an ongoing cycle of development consideration and regulatory engagement.

In contexts where industrial activity is persistent and layered, cumulative development pressure may influence expectations regarding future land use and environmental change. This broader trajectory forms part of the existing conditions against which incremental expansion is assessed.

#### 4.2.5. Implications for Psychosocial Conditions

The sustained industrial and structural transformation of the lower Fraser River has produced a landscape in which ecological, cultural, transportation, and industrial functions coexist in close proximity. Additional development may contribute incrementally to psychosocial impacts by reinforcing existing patterns of industrialization, uncertainty, and perceived loss of control – all of which are impact Tsawwassen’s rights to their territory.

Understanding Tsawwassen’s psychosocial health requires keen attention to how new projects interact with existing conditions and influence both present well-being and future possibilities for practicing rights and ensuring cultural continuity. The Assessment

therefore treats current psychosocial vulnerability not as a static or individualized condition, but as one shaped by historical dispossession, territorial reconfiguration, sustained industrial presence, and ongoing regulatory layering within Tsawwassen territory.

### 4.3. Community Vision for the Future

Tsawwassen's vision for the future is rooted in the continued practice and resumption of Aboriginal and Treaty rights. Tsawwassen seeks not only to maintain these rights where they are currently exercised, but also to restore and resume rights that have been constrained or eroded through ongoing and cumulative impacts. For Tsawwassen, this is what the Final Agreement is intended to achieve and is central to Tsawwassen's understanding of Treaty rights, as evidenced by Tsawwassen's Treaty Objectives. The hope for a future where rights can be meaningfully practiced is foundational to Tsawwassen's psychosocial well-being, identity, and resilience.

Tsawwassen is presently in a period of cultural, social, and political revival and renewal, guided by a long-term commitment to the strength and sustainability of present and future generations (TFN, n.d.b). As a self-governing Nation, Tsawwassen's vision is for *scəwaθən məsteyəxw* to be "united, proud, and confident in our culture; are connected to and taking care of our lands and resources; and are healthy, self-reliant, and prospering" (TFN 2021: 5).

Central to Tsawwassen's future aspirations is the active stewardship of lands, waters, and non-human species. Tsawwassen continues to exercise its responsibilities to care for its territory in ways that support ecological integrity, cultural practice, and the ability of future generations to experience the full benefits of Treaty rights (TFN 2018: 8). Protecting these relationships is a critical component of psychosocial health, cultural continuity, and intergenerational responsibilities.

## 5. Anticipated Project Impacts

In light of the Proponent's commitment to avoid use of the Fraser River, the Project is not anticipated to introduce new direct barriers to harvesting rights, nor is it predicted to materially contribute (absent an exceedance or malfunction) to direct reduction in resource abundance within the immediate project footprint. However, the Project reinforces and extends the industrial permanence of Tilbury Island, intensifies perceptions of catastrophic risk, and contributes to ongoing psychosocial strain on Tsawwassen's exercise of its rights and ability to advance Treaty Objectives within an already vulnerable context. This demonstrates that despite the Proponent's avoidance of direct use of the Fraser River, project impacts remain, particularly for more intangible impacts experienced by members across psychosocial dimensions. These impacts

extend beyond the pathways of effect identified in the Proponents Environmental Assessment Certificate Application, which narrowly focus on tangible Project impacts such as changes to the physical environment and harvesting access.

Despite the Proponent's shift away from direct use of the Fraser River, the Project is still predicted to impact Tsawwassen members' psychosocial health across dimensions related to mental and emotional well-being, sense of place and identity, and stigma and marginalization. This section identifies predicted changes in the conditions supporting Tsawwassen members' psychosocial health based on information about likely project impact pathways and Tsawwassen predictions collected through community-based research.

## 5.1. Mental and Emotional Well-Being

### 5.1.1. Current Conditions

As described in Section 4, Tsawwassen members live within a cumulatively industrialized landscape shaped by long-standing port operations, transportation infrastructure, shoreline modification, and existing LNG infrastructure at Tilbury. Participants described ongoing sadness, frustration, and discouragement associated with environmental change in the Fraser River and declining harvesting experiences. Members also emphasized the restorative and protective effects of being on the lands and waters.

This existing context provides the baseline against which Project-specific effects are assessed. The following analysis focuses on incremental pathways through which the Project may influence mental and emotional well-being beyond existing cumulative conditions.

### 5.1.2. Project-Specific Pathways

Participants identified several pathways through which the proposed Project may influence mental and emotional well-being. These pathways relate not only to the probability of harm, but also to the perceived scale, permanence, and consequence of expanded LNG infrastructure within Tsawwassen Territory.

#### **(a) Perceived Escalation of Catastrophic Risk**

The Project would increase LNG processing and storage capacity at the Tilbury facility. Participants consistently focused not on routine operations, but on the potential consequences of a major accident.

One Elder stated:

[If] disaster happens, at that plant there, is it going to happen at the same time as our fishery? Just a thought that comes into your head. But hopefully not... (TFN Elder Focus Group 2025)

Although the same participant expressed confidence in the environmental assessment process, they acknowledged that “there’s always a chance that something happens.” Another member emphasized that while incidents may be rare, “when it does it’s pretty bad” (TFN Focus Group 2025).

These statements reflect persistent background anxiety associated with the scale of potential consequences. Expansion increases the quantity of LNG processed and stored on site. Even where regulatory systems are trusted, enlargement of the facility intensifies concern about catastrophic outcomes affecting fisheries, air quality, community safety, and surrounding waters. The psychological burden arises from living alongside infrastructure perceived as carrying low-probability but high-consequence risk.

### **(b) Discouragement and Emotional Fatigue**

Participants also described the expansion as emotionally discouraging within an already cumulative context. One Elder stated:

I think it’s going to have a major mental setback... people are just going to be discouraged...” (TFN Elder Focus Group 2025)

These expressions reflect emotional fatigue associated with repeated industrial proposals. The Project was not discussed as a discrete project, but as another increment in an ongoing trajectory. For some members, the expansion reinforced a sense that development pressure is continuous and difficult to influence.

This discouragement operates at the level of internal resilience. Participants described feelings of hopelessness, including statements such as “we’ll never get back to point A.” The expansion contributes to these emotional responses by signaling continuation of a pattern members perceive as eroding environmental and cultural stability.

### **(c) Moral Distress and Association with Upstream Extraction**

Some participants linked the Project to broader concerns about fracking, greenhouse gas emissions, and environmental degradation beyond Tsawwassen Territory. While

these activities occur elsewhere, expansion of LNG processing was understood as connected to upstream extraction:

I think some people don't know enough about the dangers of fracking. (TS14, 2025)

For some members, this association contributed to frustration and moral discomfort. The Project was viewed not only as local infrastructure, but as participation in a broader industrial system perceived as environmentally harmful. This moral dimension adds another layer of emotional strain beyond immediate physical risk.

### 5.1.3. Summary of Mental and Emotional Well-Being Effects

Participants described the Project as contributing to psychological strain rooted in perceived catastrophic risk, cumulative fatigue, and moral concern. While some members expressed confidence in regulatory oversight, expansion of LNG processing and storage capacity intensified awareness of low-probability but high-consequence accident scenarios. Harvesting and using the River alongside enlarged infrastructure was associated with persistent background anxiety, particularly in relation to fisheries, air quality, and community safety.

The Project was also framed as reinforcing a broader trajectory of industrial expansion. Participants described feelings of discouragement and emotional exhaustion linked to repeated development proposals and a perception that industrialisation continues with limited community influence. The Project was interpreted by some as another increment in this pattern, contributing to a sense of resignation and diminished optimism regarding future conditions.

In addition, proximity to LNG infrastructure was associated with unease related to truck traffic and potential accidents. Expansion reinforces the scale and permanence of these conditions, contributing to heightened vigilance and anticipatory stress when travelling or fishing near the facility.

Finally, some participants connected the Project to upstream gas extraction and broader environmental harm. This association contributed to moral discomfort and frustration for members who perceive alignment between local expansion and environmentally harmful industrial systems.

Taken together, the Project contributes to increased anxiety, discouragement, and emotional fatigue within a cumulatively industrialized context. These effects arise through perceived risk, reinforcement of ongoing industrial pressure, and moral

concern, rather than through direct biophysical interference. The severity of these residual effects is evaluated in Section 8.

## 5.2. Sense of Place and Identity

### 5.2.1. Current Conditions

As described in Section 4, the lower Fraser River and Tilbury Island are situated within a landscape that has undergone sustained industrial transformation. Shoreline modification, port expansion, transportation corridors, and existing LNG infrastructure have altered the ecological, visual, and sensory character of the estuary. Participants described long-term changes in harvesting conditions and environmental quality and emphasized the importance of the river and surrounding lands as sources of identity, continuity, and grounding.

Being on the water and within the territory was repeatedly described as restorative and identity-affirming. Members spoke of fishing, travelling the river, and spending time on the land as central to cultural continuity and personal well-being.

This existing relational context forms the baseline against which Project-specific effects are assessed.

### 5.2.2. Project-Specific Pathways

Participants identified several ways in which the Project may affect sense of place and identity. These pathways relate primarily to how expansion may alter the meaning, character, and experiential quality of the landscape, rather than introducing direct physical barriers to access.

#### **(a) Reinforcement of Industrial Character of Place**

Participants repeatedly framed Tilbury Island and the surrounding river corridor as a landscape transformed by successive waves of infrastructure and industrial development. When discussing the Project, members did not treat it as a standalone project; rather, it was understood as another increment within a broader pattern.

One participant stated directly:

We're living in industrialization. (TS14, 2025)

Industrialisation was identified as the primary cause of territorial change. Members referenced the construction of BC Ferries, highways, rail infrastructure, and port expansion as examples of developments that proceeded without meaningful Tsawwassen control. The Project was situated within that same trajectory.



Participants expressed concern that the expansion represents further consolidation of industrial land use in an area historically associated with fishing, gathering, and community life:

Where does it stop? We're just at survival level now. (TS15, 2025)

This framing reflects more than cumulative frustration. It situates the Project as reinforcing a perception that the industrial identity of Tilbury Island is becoming permanent. Members described earlier conditions in which they “used to roam up and down the Fraser River,” contrasting that experience with the present:

Now it's null and void right now, it's nothing. (TS14, 2025)

The increase in LNG processing and storage capacity contributes to this sense of entrenchment. The Project does not introduce a new land use type; rather, it intensifies an existing one. In doing so, it consolidates the industrial character of the area and reshapes how members understand what the place is and what it is becoming. Attachment to place is affected not by direct exclusion, but by reinforcement of an industrial identity within a culturally significant landscape.

### **(b) Alteration of Sensory and Experiential Environment**

Participants described their relationship to the river as emotionally grounding and central to identity. Being on the water was associated with relief from stress and mental strain:

When I'm on the water, I don't feel any of that. (TS11, 2023)

At the same time, members described concrete sensory intrusions associated with existing LNG operations, including odours and discomfort when travelling past the facility:

It smelled like really heavy methane gas. It's disgusting. (TFN Elder Focus Group 2025)

Passing the facility was described as something one “just [has] to put up with.”

The Project increases the scale and permanence of LNG infrastructure within this experiential setting. The expansion does not merely maintain the status quo; it enlarges processing and storage capacity at a prominent industrial site within a culturally meaningful space. Participants anticipated that this would “greatly affect” their experience of moving through the area (TFN Focus Group 2025).

The river functions as a site of cultural continuity, healing, and identity affirmation. Expansion intensifies the presence of industrial cues, such as visual scale, infrastructure density, truck traffic, and association with LNG risk. As industrial presence expands, the experiential quality of being on the water shifts. Reduced comfort and

diminished enjoyment while fishing or travelling are direct consequences of this altered sensory environment.

### **(c) Avoidance and Cultural Continuity**

Participants described long-term reductions in shoreline harvesting and changes in everyday river use:

We cannot go out on our own shoreline and harvest... that can no longer be done. (TFN Focus Group 2025)

While the Project does not introduce new formal access restrictions, members raised concerns about increased truck traffic and accident risk associated with expanded LNG operations:

Do you know how many trucks will be coming in and out of there? (TS14, 2025)  
If they're carrying LNG it could be a manmade disaster. (TS14, 2025)

Concerns about intensified industrial activity contribute to unease when fishing or travelling near the facility. Participants described the possibility of disasters occurring while on the river and the broader discomfort associated with proximity to LNG infrastructure.

Avoidance can occur in such contexts without formal exclusion. Where areas are perceived as industrial, risky, or undesirable, members may limit time spent near them or shift activities elsewhere. Over time, reduced presence in culturally significant locations weakens continuity of river-based practices.

Participants explicitly linked industrialisation to generational shifts in practice and identity, describing younger generations as increasingly disconnected from fishing and land-based activities. The Project reinforces the industrial trajectory within which these changes are occurring, contributing to conditions that make sustained cultural presence more difficult.

### 5.2.3. Summary of Sense of Place and Identity Effects

The Project reinforces an already articulated trajectory of industrialisation within Tsawwassen Territory. Participants framed the Project not as an isolated proposal, but as part of a cumulative pattern of development that has progressively reshaped the ecological, social, and experiential character of the lower Fraser River.

Expansion of LNG processing and storage capacity consolidates the industrial identity of Tilbury Island. The Project increases the scale and permanence of infrastructure within a culturally significant landscape historically associated with fishing, gathering, and community life. This reinforcement of industrial character affects how members understand the meaning of place and the future direction of the territory.

The Project also intensifies the sensory and experiential presence of industrial infrastructure within spaces relied upon for cultural connection and emotional grounding. Participants described discomfort associated with existing LNG operations and anticipated that expansion would further affect their experience of travelling and fishing in the area. Reduced comfort and diminished enjoyment in these spaces represent direct effects on sense of place.

Finally, the expansion contributes to conditions under which avoidance behaviours may occur. While the Project does not introduce new legal restrictions on access, concerns regarding increased industrial activity, traffic, and accident risk influence willingness to use areas near the facility. Reduced presence in culturally significant locations weakens continuity of river-based practices and reinforces generational shifts in identity described by participants.

Taken together, these effects operate through reinforcement of industrial character, alteration of experiential quality, and gradual displacement of cultural presence. They are relational rather than biophysical in nature but directly influence TFN members' connection to place and confidence in the long-term continuity of land-based identity. The severity of these residual effects is evaluated in Section 8.

## 5.3. Stigma and Marginalization

### 5.3.1. Current Conditions

As described in Section 4, Tsawwassen Territory has experienced successive waves of industrial and infrastructure development over several decades. Participants described these developments as occurring within a broader pattern in which major projects proceed with limited TFN control and limited tangible benefit to the community.

Members referenced past infrastructure decisions that were perceived as predetermined, describing consultation processes as largely procedural rather than outcome-determinative. Participants expressed frustration that “nothing we can say or do will stop these projects” and that Tsawwassen is often treated as “the afterthought of their projects” (TFN Elder Focus Group 2025).

Industrial expansion was also associated with economic imbalance and external profit generation, with members noting that large projects generate substantial revenue while delivering comparatively limited community benefit. In addition, participants described demographic and social changes associated with ongoing development, including the influx of people unfamiliar with Tsawwassen culture and history.

This existing context reflects perceptions of limited influence in decision-making, cumulative governance fatigue, and structural inequity associated with industrial expansion. These conditions form the baseline against which the Project-specific pathways for stigma and marginalization are assessed.

### 5.3.2. Project-Specific Pathways

Participants framed the Project within a broader pattern of industrial decision-making in which Tsawwassen influence is perceived as limited. The Project was not discussed as a neutral technical proposal, but as part of a cumulative trajectory that reinforces feelings of political marginalization and inequitable treatment.

#### **(a) Reinforcement of Perceived Limited Influence**

Several participants expressed skepticism regarding the ability of Tsawwassen members to meaningfully influence project outcomes. One member stated:

Nothing we can say or do will stop these projects... we're just the afterthought of their projects. (TFN Elder Focus Group 2025)

When discussing engagement processes, participants suggested that consultation often occurs after key decisions have already been made. The proposed expansion was therefore interpreted by some as another example of development proceeding regardless of community concern.

This pathway relates to reinforcement of perceived limited agency. Expansion of LNG capacity signals continuation of industrial land use within Tsawwassen Territory, contributing to a perception that development pressure is structurally entrenched and difficult to redirect.

#### **(b) Economic Inequity and Distributive Imbalance**

Participants also framed the Project in terms of economic imbalance. Members noted that large-scale industrial developments generate substantial external profit while delivering comparatively modest direct benefits to Tsawwassen:

Look at the billions they make, but it's peanuts [distributed] to us. (TFN Elder Focus Group 2025)

While some discussion referenced potential employment, participants questioned whether limited job creation offsets broader territorial impacts. This framing situates the Project within concerns about distributive injustice, where risks and environmental burdens are borne locally while financial gains accrue elsewhere.

Expansion of LNG capacity reinforces perceptions of structural inequity where Tsawwassen Territory functions as a site of industrial production without proportionate decision-making authority or economic return.

### **(c) Cumulative Threshold and Normalization of Industrial Disregard**

Participants repeatedly described cumulative industrialization as having pushed Tsawwassen “to a survival level.” When discussing the Project, members questioned:

Where does it stop? (TS15, 2025)

Such statements reflect concern that incremental expansion contributes to normalization of industrial prioritization over Indigenous territorial interests. The Project was interpreted by some as reinforcing a pattern in which development continues despite longstanding community concerns.

This cumulative framing contributes to perceptions that Tsawwassen Territory is treated as an acceptable site for repeated industrial expansion. Over time, this can reinforce stigma associated with Indigenous lands functioning as industrial zones while community voices are perceived as secondary.

### **(d) Moral Framing of Corporate Decision-Making**

Participants also expressed concern that corporate decision-making prioritizes financial gain over environmental and cultural considerations. One member stated:

All they see at the end of the day is a cheque. (TFN Elder Focus Group 2025)

Expansion of LNG infrastructure was therefore interpreted by some as evidence of value systems misaligned with Tsawwassen priorities and Treaty Objectives. This moral framing contributes to perceptions of marginalization where Indigenous concerns are viewed as subordinate to profit-driven objectives.

### **5.3.3. Summary of Stigma and Marginalization Effects**

Participants framed the Project within a broader history of industrial decision-making in Tsawwassen Territory. The Project was interpreted not as an isolated proposal, but as part of an ongoing pattern of development perceived to proceed with limited community influence and disproportionate external benefit.

Expansion of LNG capacity reinforces perceptions of constrained agency in land and resource governance. Participants described engagement processes as frequently procedural and expressed skepticism regarding the ability of Tsawwassen members to alter development trajectories. In this context, the Project was understood by some as signaling continuation of industrial expansion irrespective of longstanding concerns.

The Project was also situated within concerns regarding distributive imbalance. Members questioned whether economic returns to Tsawwassen are proportionate to the scale of industrial activity occurring within the territory. Expansion of LNG infrastructure therefore contributes to perceptions of inequitable allocation of risk, burden, and benefit.

Finally, the cumulative framing of industrial growth led some participants to question “where does it stop,” reflecting concern that incremental expansion normalizes prioritization of industrial development over Indigenous territorial interests. In this way, the Project contributes to reinforcement of structural marginalization rather than creating entirely new forms of exclusion.

Taken together, the residual effects in this dimension relate to reinforcement of perceived political marginalization, economic inequity, and cumulative disregard within decision-making processes. These effects operate through institutional and distributive pathways and shape how Tsawwassen members understand their position within ongoing industrial development.

The severity of these residual effects is evaluated in Section 8.

#### 5.4. Connection to Treaty Objectives

All of these dimensions – including mental and emotional wellbeing, sense of place and identity, and stigma and marginalization – are not standalone impacts but are deeply connected and ultimately tied to the fulfillment of Tsawwassen’s Treaty Objectives. The ability of Tsawwassen members to experience a sense of safety and confidence in their Territory directly shapes the meaningful exercise of their rights and responsibilities, both now and for future generations. For instance, impacts to mental and emotional wellbeing are closely linked to the Objective of Healthy Rights – Healthy River, which recognizes the interconnectedness of the wellbeing of Tsawwassen members and the health of the Fraser River and surrounding waters. Changes to sense of place and identity are directly connected to Healthy Culture – Strong Stewardship, which affirms the central role of culture and stewardship responsibilities in maintaining Tsawwassen wellbeing. The dimensions identified in this Indigenous-led Assessment map directly onto Tsawwassen’s stated Treaty Objectives, demonstrating pathways by which psychosocial wellbeing and the conditions that support it are necessary for the fulfillment of Tsawwassen goals and priorities as a self-governing Nation.

## 6. Evaluation of Proponent-Identified Mitigation

FortisBC has identified mitigation measures primarily directed at avoiding or reducing biophysical effects associated with construction and operation of the Project. These measures include removal of the previously proposed marine offloading facility, implementation of construction best management practices, spill prevention and response planning, stormwater management, air quality controls, and monitoring through a Construction Environmental Management Plan. The proponent concludes that, with implementation of these measures, no adverse residual effects to Tsawwassen rights or interests are anticipated.

FortisBC has also identified potential positive effects related to employment and procurement opportunities and has committed to implementing hiring policies that promote diversity consistent with its Statement of Indigenous Principles. The proponent has further committed to continued engagement with Tsawwassen regarding mitigation and offsetting strategies.

However, the mitigation measures identified in the Application are directed primarily at physical environmental pathways and general economic enhancement. The Application does not identify specific mitigation measures addressing psychosocial pathways, including perceived catastrophic risk, reinforcement of industrial character, experiential changes to the landscape, or structural marginalization within decision-making processes.

Accordingly, while biophysical risk pathways are addressed through standard avoidance and reduction measures, the psychosocial, relational, and structural pathways identified in this Indigenous-led Assessment remain largely unmitigated. The characterization of residual effects below reflects this absence of targeted mitigation.

## 7. Characterization of Residual Effects

While the preceding sections distinguish three analytical dimensions for clarity, psychosocial well-being is experienced holistically. The residual severity determination below therefore evaluates the combined effect of the Project across mental and emotional well-being, sense of place and identity, and stigma and marginalization.

**Vulnerability** is assessed as **high**. Tsawwassen's psychosocial baseline exists within a landscape that has undergone sustained industrial transformation, including port expansion, transportation infrastructure, shoreline modification, and existing LNG development. Participants described cumulative discouragement, diminished confidence in restoration, and fatigue associated with ongoing industrialization. Expressions of being "at survival level" and not being able to "get back to point A" reflect



perceived threshold conditions. In this context, sensitivity to additional industrial expansion is elevated.

**Magnitude** is assessed as **moderate**. The Project does not introduce new physical barriers to access or predicted reductions in resource abundance. However, it increases LNG processing and storage capacity within an already industrialized setting and reinforces perceptions of industrial permanence, catastrophic risk, and entrenchment of industrial land use. Participants linked expansion to discouragement, unease, and reduced confidence in long-term territorial recovery. While incremental in physical footprint, the Project meaningfully reinforces existing psychosocial stressors.

**Duration** is assessed as **long-term**. The Project involves permanent infrastructure with a multi-decade operational lifespan. Psychosocial effects associated with perceived permanence, industrial entrenchment, and experiential change would persist throughout the operational life of the facility.

**Reversibility** is assessed as **low**. The psychosocial pathways identified are linked to structural land-use patterns and cumulative industrialization. No targeted mitigation measures address reinforcement of industrial character, perceived marginalization, or symbolic permanence. Reversal of these effects would require broader structural, or land-use change beyond the scope of Project-level mitigation.

Table 7-1 summarizes the residual effects ratings.

*Table 7-1 Residual Effects Ratings*

| Criterion     | Rating    | Rationale                                                                                                                                              |
|---------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vulnerability | High      | Occurs within a cumulatively industrialized landscape where participants expressed fatigue, discouragement, and threshold conditions.                  |
| Magnitude     | Moderate  | Reinforces industrial permanence, perceived catastrophic risk, and experiential unease, but does not introduce new direct biophysical interference.    |
| Duration      | Long-Term | Linked to permanent LNG infrastructure with multi-decade operational lifespan.                                                                         |
| Reversibility | Low       | No targeted mitigation addressing reinforcement of industrial character or structural marginalization; reversal would require broader land-use change. |

## 8. Severity Determination

Severity reflects the combined implications of high vulnerability, moderate magnitude, long-term duration, and low reversibility for Tsawwassen's current and future rights-based practices.

Tsawwassen has articulated desired future conditions grounded in healthy relationships, cultural continuity, stewardship responsibilities, and a revitalized connection to lands and waters. Within this context, severity is evaluated based on whether the Project supports, maintains, or moves conditions further away from those articulated objectives.

The psychosocial baseline is characterized by cumulative industrialization and expressed fatigue regarding continued expansion. Within this elevated vulnerability context, the Project reinforces perceptions of industrial permanence, catastrophic risk, and diminishing prospects for territorial recovery. Although the Project does not introduce new physical barriers to access or measurable reductions in resource abundance, it consolidates an industrial land-use trajectory that participants associate with discouragement and erosion of confidence in long-term cultural continuity.

The long-term operational lifespan of the expanded facility means that these reinforcing effects would persist for decades. Given the absence of mitigation measures addressing psychosocial pathways, the effects are unlikely to be meaningfully reversed within the foreseeable future.

Taken together, residual effects on psychosocial well-being are determined to be of **Moderate Severity**. While cumulative thresholds have already been surpassed, the Project does not independently create a new structural constraint on rights practice. Rather, it incrementally reinforces existing constraints on the conditions necessary for their confident, future-oriented revitalization.

## 9. Recommended Measures to Address Psychosocial Effects

As identified in Section 7, residual effects on psychosocial well-being are characterized by high vulnerability, moderate magnitude, long-term duration, and low reversibility. While the Project does not introduce new physical barriers to rights-based practices, it reinforces industrial permanence, perceived catastrophic risk, experiential unease, and cumulative discouragement within an already industrialized landscape.

The following measures are recommended to reduce residual psychosocial effects and support the conditions necessary for confident and intergenerational rights-based practice.

## 9.1. Risk Transparency and Confidence-Building Measures

To address perceived catastrophic risk and background unease associated with expanded LNG capacity:

### 1. Independent Safety and Risk Review Mechanism

Establish a Tsawwassen-supported independent technical advisory mechanism to review safety performance, incident reporting, and emergency preparedness for the facility. Annual plain-language summaries should be provided to Tsawwassen members.

### 2. Enhanced Environmental Transparency

Provide Tsawwassen with real-time access to relevant environmental monitoring data, including air quality and odour reporting, and establish clear communication protocols in the event of operational incidents.

### 3. Co-Developed Emergency Response Planning

Update and co-develop emergency response procedures with Tsawwassen, including joint training exercises and culturally appropriate communication protocols.

These measures increase transparency, reduce uncertainty, and strengthen community confidence in risk management.

## 9.2. Experiential and Spatial Quality Measures

To address reinforcement of industrial character and experiential alteration of the river environment:

### 4. Sensory Impact Management Enhancements

Implement enhanced measures to minimize odour, noise, lighting spill, and visual intrusion associated with expanded operations, beyond regulatory minimum requirements where feasible.

### 5. River Access and Experiential Quality Improvements

In collaboration with Tsawwassen, support improvements to river access infrastructure and shoreline areas or other measures that facilitate safe and culturally meaningful use of the territory, including boat access enhancements and site improvements identified by Tsawwassen.

These measures help maintain the experiential and relational quality of the river environment that supports psychosocial well-being.

### 9.3. Cultural Continuity and Intergenerational Support

To address discouragement and erosion of confidence in future rights-based practice:

#### **6. Community Harvest and Cultural Revitalization**

Establish long-term, Tsawwassen-directed support harvesting activities, youth mentorship, and Elder-led cultural transmission initiatives that strengthen intergenerational continuity and river-based identity.

Eligible initiatives may include:

- Equipment and safety supports for community harvesting
- Youth-on-the-river programming
- Community food sharing events
- Elder-led skills transmission activities

This measure reinforces confidence in the continuity of rights-based practices within an industrialized context.

#### **7. Action Stewardship Measures**

Engage in measures to action stewardship through restoration and rejuvenation of Tilbury Island and track progress over time. The core measure for this initiative is the restoration of the Tilbury Slough.

#### **8. Cumulative Effects Initiative**

Establish and fund a long-term cumulative effects initiative for the Lower Fraser to support the ongoing assessment, monitoring, and management of conditions affecting Tsawwassen's rights. The initiative should include community-based monitoring and long-term research on cumulative and psychosocial impacts.

### 9.4. Structured Participation and Adaptive Oversight

To address structural marginalization and cumulative discouragement:

#### **9. Ongoing Operational Liaison and Reporting Mechanism**

Establish a formalized Tsawwassen-Proponent operational liaison committee to review monitoring results, planned operational changes, and emerging community concerns on a regular basis.

## 10. Periodic Psychosocial Follow-Up Assessment

Provide funding for periodic Tsawwassen-led community check-ins or focused assessments to evaluate whether psychosocial conditions are improving, stable, or declining over time, with commitments to consider additional measures if warranted.

These measures strengthen agency, oversight, and adaptive management in relation to psychosocial pathways.

## 10. Conclusion

This Indigenous-led Assessment evaluated the potential effects of the Project on the psychosocial conditions that support Tsawwassen's Aboriginal and Treaty rights, as well as Treaty Objectives. The assessment focused on mental and emotional well-being, sense of place and identity, and experiences of marginalization within a landscape shaped by sustained industrial transformation.

The Project does not introduce new physical barriers to harvesting or access, nor is it predicted to directly reduce resource abundance within the immediate project footprint (absent an exceedance or malfunction). However, it reinforces the industrial permanence of Tilbury Island, intensifies perceptions of catastrophic risk, and contributes to cumulative discouragement expressed by community members regarding the trajectory of territorial change.

Participants described the lower Fraser River as a landscape where thresholds have already been surpassed. Expressions of being "at survival level" and not being able to "get back to point A" reflect perceptions that cumulative industrialization has materially altered the relational conditions necessary for confident, intergenerational rights-based practice. Within this elevated vulnerability context, additional industrial expansion carries heightened psychosocial consequence.

Residual effects on psychosocial well-being are characterized by high vulnerability, moderate magnitude, long-term duration, and low reversibility. When assessed against Tsawwassen's articulated desired future conditions, including strengthened cultural continuity, stewardship, and intergenerational renewal, the Project contributes incrementally but materially to ongoing strain.

The overall severity of residual psychosocial effects is determined to be **Moderate**. The Project does not eliminate the ability of Tsawwassen members to exercise their rights. However, it reinforces cumulative pressures in a landscape where psychosocial thresholds have already been crossed, further constraining the conditions that support confident, future-oriented revitalization of rights-based practices.

The recommended measures outlined in Section 9 are intended to reduce these residual effects and support restoration of relational, experiential, and governance

conditions necessary for the meaningful exercise of Tsawwassen's Treaty Objectives and Aboriginal and Treaty rights.

The findings of this Indigenous-led Assessment should be considered alongside biophysical and technical findings, recognizing that psychosocial conditions are foundational to the meaningful exercise of constitutionally protected rights.

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### 16.18.2 The EAO's Views

#### Tsawwassen First Nation's Assessment

Through engagement during the Process Planning phase, it was identified that Tsawwassen First Nation (Tsawwassen) would undertake an Indigenous led assessment of project effects on its Treaty Rights and Objectives, under section 19(4) of the Act. The EAO acknowledges and respects Tsawwassen's leadership in undertaking its 19(4) assessment using its own laws, knowledge systems, and decision-making frameworks and in accordance with the Assessment Plan. EAO recognizes and appreciates the significant effort invested by Tsawwassen in assessing the potential effects of the Project on its Treaty rights, interests, and Treaty Objectives.

#### Tsawwassen's Involvement and Engagement

Throughout the environmental assessment, the EAO and Tsawwassen sought to work together in a manner that reflected the spirit and requirements of the Tsawwassen First Nation Final Agreement and the government-to-government relationship between Tsawwassen and the Province. This included, among other things, identifying as a participating Indigenous nation for the Project, taking part in technical discussions (including through development of the Process Order, Application Information Requirements, Assessment Plan, FortisBC Application, EAO's Assessment Report) and iterative engagement opportunities respecting project information, potential effects on its Treaty rights, and measures to address the recommendations identified in the ILA. These discussions and engagement opportunities were grounded in Tsawwassen's Treaty Objectives and a shared recognition of Tsawwassen's stewardship responsibilities and the cumulative effects context Tsawwassen is experiencing.

#### Tsawwassen First Nation's Recommendations

The EAO notes that Tsawwassen's 19(4) assessment included recommendations intended to address identified effects from the Project on Tsawwassen and its Treaty rights. These recommendations aligned with proposals identified by Tsawwassen earlier in the assessment process.

Through holistic discussions grounded in Treaty, a range of measures have been identified that, taken together, respond to and address Tsawwassen's recommendations.

Provincial conditions and federal Key Mitigation Measures that respond to recommendations by Tsawwassen in its Section 19(4) assessment, including impacts to mental and emotional well-being, sense of place and identity, stigma and marginalization, include:

- Condition 3 (Document Development) requires plans and programs to include clear objectives, monitoring and reporting requirements, and adaptive management to improve mitigation measures where needed throughout the Project lifecycle.
- Condition 4 (Consultation) requires the Proponent to be available to meet with Tsawwassen throughout all project phases, and discuss issues or concerns that are related to the Project.
- Condition 10 (Community Feedback Process) is intended to establish a pathway for Tsawwassen to raise concerns about project effects and provide opportunities to address issues relating to mental and emotional well-being.
- Condition 12 (Construction Environmental Management Plan) requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction by reducing disturbance and protecting the environmental conditions that support fish, wildlife, and plants, this condition helps maintain the ability to access, harvest, and experience culturally important areas;
- Condition 13 (OEMP) requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation. Maintaining stable and predictable environmental conditions over time helps preserve the integrity and character of the area, supporting ongoing relationships with the land and reinforcing identity tied to harvesting and stewardship practices;

- Condition 14 (Air Quality Management Plan) ensures the Project selects and applies effective emissions control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support harvesting and cultural practices; and,
- Condition 15 (Chance Find Protocol) requires procedures to identify and protect archaeological or cultural materials discovered during project activities, to prevent additional cultural disturbance; and
- Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan) requires the development and implementation of a plan supporting economic participation of First Nations, and local communities, that would describe employment and contracting strategies and training practices. This plan supports economic governance, ownership and self-determination.
- Condition 17 (Dry Street Sweeping Report) assesses whether dry street sweeping can reduce 6-PPDQ on project related roads, which may lower impacts on salmon and other fish important to Tsawwassen.

This is complemented by the potential federal condition relating to accidents and malfunctions reporting to IAAC that is intended to ensure timely responses to accidents and malfunctions, incorporation of Indigenous perspectives and relevant authorities', and continuous improvement to avoid or reduce the risk and severity of future incidents. In addition, the potential federal conditions would strengthen protections for migratory birds, their nests, eggs and habitats, helping to reduce disturbance from project activities.

Tsawwassen also notes that the Proponent has made several commitments directly to the Nation that Tsawwassen considers responsive to recommendations in the Tsawwassen Indigenous led assessment, including measures to support cultural mitigation activities, an innovative habitat restoration project for the Tilbury Slough, a commitment not to use the Fraser River to transport construction materials and collaboration on information sharing and emergency response procedures and exercises.

Where Tsawwassen's recommendations could not be fully addressed through project conditions, Tsawwassen and the Province worked collaboratively to find a path forward grounded in the Treaty relationship.

### **EAO Conclusion**

In consideration of mitigations committed to by the proponent and the holistic approach to conditions/accommodations that has been developed to respond to the ILA recommendations, Tsawwassen has indicated that the Province has satisfied its consultation and accommodation obligations for the Project under Treaty. This has informed the EAO's conclusion that it has upheld its consultation obligations to Tsawwassen on Tilbury Phase 2.

## **16.19 Tsleil-Waututh Nation**

### **16.19.1 Tsleil-Waututh Nation's Section 19.4 Assessment**





**səlilwətaᑭ**

Tsleil-Waututh Nation

PEOPLE OF THE INLET

**Section 19(4): Assessment of Impacts of the Tilbury  
Phase 2 LNG Expansion Project on səlilwətaᑭ 's Rights  
and Interests**

**səlilwətaᑭ (Tsleil-Waututh Nation)**

**May 15, 2026**

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## Glossary of hə́ŋqəminəm Terms

| Tsleil-Waututh hə́ŋqəminəm Name | Definition/ Translation                             |
|---------------------------------|-----------------------------------------------------|
| əmeʔ t ʔ snəw əyəl              | Braiding generational knowledge                     |
| hə́ŋqəminəm                     | Halkomelem                                          |
| lewətəl                         | Healing together                                    |
| qəlləlməcən                     | Killer whale, orca                                  |
| scé·lən                         | Salmon                                              |
| səliwət                         | A single Tsleil-Waututh person; also, Burrard Inlet |
| səliwətəl                       | Tsleil-Waututh Nation or Tsleil-Waututh people      |
| sxʷəliʔəlc                      | Spiritual                                           |
| xʷətiwənəlc                     | Mental                                              |

## Acronyms

|      |                                                  |
|------|--------------------------------------------------|
| AIR  | Application Information Requirements             |
| BC   | British Columbia                                 |
| CAC  | criteria air contaminant                         |
| CCME | Canadian Council of Ministers of the Environment |

|                 |                                                             |
|-----------------|-------------------------------------------------------------|
| CEMP            | Construction Environmental Management Plan                  |
| CO <sub>2</sub> | carbon dioxide                                              |
| CPD             | Certified Project Description                               |
| DFO             | Department of Fisheries and Oceans                          |
| DNA             | deoxyribonucleic acid                                       |
| DPD             | Detailed Project Description                                |
| DPM             | diesel particulate matter                                   |
| DRIPA           | <i>Declaration on the Rights of Indigenous Peoples Act</i>  |
| EA              | Environmental Assessment                                    |
| EA Act          | <i>Environmental Assessment Act, 2018</i>                   |
| EAC             | Environmental Assessment Certificate                        |
| EAO             | Environmental Assessment Office                             |
| FPIC            | free, prior and informed consent                            |
| FSC             | Food, Social, and Ceremonial                                |
| GHG             | greenhouse gas                                              |
| GWP             | Global Warming Potential                                    |
| IA              | Impact Assessment                                           |
| IA Act          | <i>Impact Assessment Act, 2019</i>                          |
| IAAC            | Impact Assessment Agency of Canada                          |
| IR              | Information Request                                         |
| KMM             | Key Mitigation Measures                                     |
| LEPH            | light extractable petroleum hydrocarbon                     |
| LNG             | Liquefied Natural Gas                                       |
| NO <sub>2</sub> | nitrogen dioxide                                            |
| NO <sub>x</sub> | nitrogen oxides                                             |
| PAH             | polycyclic aromatic hydrocarbon                             |
| PM              | particulate matter                                          |
| Project         | Tilbury Phase 2 LNG Expansion Project                       |
| Project TUS     | Project Traditional Use Study                               |
| proponent       | FortisBC                                                    |
| RBT2            | Roberts Bank Terminal 2 Project                             |
| RNG             | renewable natural gas                                       |
| SACC            | Government of Canada Strategic Assessment of Climate Change |
| SO <sub>2</sub> | sulphur dioxide                                             |
| SRKW            | Southern Resident Killer Whales                             |

|        |                                                                |
|--------|----------------------------------------------------------------|
| T1A    | Tilbury Phase 1A Project                                       |
| T1B    | Tilbury Phase 1B Project                                       |
| TMJ    | Tilbury Marine Jetty Project                                   |
| TUS    | traditional use studies                                        |
| TWN    | Tsleil-Waututh Nation                                          |
| UNDRIP | United Nations Declaration on the Rights of Indigenous Peoples |
| VC     | Valued Component                                               |
| VOC    | volatile organic compounds                                     |
| WQG    | Water Quality Guidelines                                       |
| 6-PPDQ | 6-PPD-quinone                                                  |

# 1. Introduction

Tsleil-Waututh Nation (TWN) has participated throughout the environmental assessment (EA) process for the Tilbury Phase 2 LNG Expansion Project (Project) to identify concerns and assess the Project's potential effects on TWN's constitutionally protected rights, title, and interests under Section 35 of the *Constitution Act, 1982* (Section 35 rights), including rights to harvest, fish, hunt, gather, and practice culture throughout our territory. TWN's participation in this process has been guided by our stewardship responsibilities, obligations to future generations, and commitment to protecting the environmental, cultural, spiritual, and economic foundations necessary for our Nation to thrive.

Under the *Declaration on the Rights of Indigenous Peoples Act* (DRIPA), the Province of British Columbia has committed to implement the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) in consultation and cooperation with Indigenous peoples. This includes, among other obligations, consulting and cooperating in good faith to obtain the free, prior and informed consent (FPIC) of Tsleil-Waututh Nation before adopting or implementing measures that may affect them (Article 19); recognizing and protecting rights to lands, territories, and resources (Article 26); establishing fair and transparent processes that respect Indigenous laws and governance (Article 27); protecting cultural heritage and knowledge (Article 31); and ensuring that projects affecting Indigenous lands and resources proceed only with FPIC and appropriate measures to mitigate impacts (Article 32).

səlilwətaʔ (Tsleil-Waututh Nation or Tsleil-Waututh people), the People of the Inlet, are a distinct Coast Salish Nation whose traditional territory includes Burrard Inlet (səlilwət) and the waters draining into it. səlilwətaʔ have lived in, occupied, governed, and acted as stewards of our territory since time immemorial and continue to do so today. We hold a sacred and legal obligation to our Ancestors, current citizens, and future generations to maintain, protect, and restore the lands, waters, and resources of our territory so that the environmental, cultural, spiritual, and economic foundations necessary for our Nation to thrive are sustained. These responsibilities are embedded within TWN's laws and governance systems and is articulated through the Tsleil-Waututh Nation's Stewardship Policy (2009), which guides TWN's approach to stewardship, impact assessment, and decision making.

TWN's Section 19(4) assessment of the Project (TWN's Assessment) is grounded in TWN's Section 35 rights, stewardship obligations, legal orders, knowledge systems, and assessment methodologies. From our perspective, TWN's own assessment is the most appropriate means of determining how the Project may affect TWN's rights, responsibilities, governance, and relationship with our territory.

Throughout the EA process, TWN engaged with the B.C.'s Environmental Assessment Office (EAO), the Impact Assessment Agency of Canada (IAAC) and other regulators through consultation, information sharing, technical discussions, and consensus-seeking processes regarding the Project's potential effects on TWN's rights and interests. These engagements were intended to support a better understanding of TWN's concerns, identify potential pathways to avoid or minimize adverse effects, and advance more informed decision making. Although areas of alignment were achieved on some issues, TWN recognizes that significant differences in perspectives and conclusions remain regarding certain Project effects and the adequacy of proposed mitigation measures, including the characterization of residual and cumulative effects.

Due to TWN's inherent authority, laws, stewardship obligations, and distinct methodologies, TWN requested to conduct and present TWN's own assessment of the Project's potential effects on our rights and interests under section 19(4) of the *Environmental Assessment Act, 2018* (the EA Act).

The 19(4) TWN Assessment is presented in TWN's own words and reflects our own assessment framework, methodologies, legal orders, and knowledge systems. The views, conclusions, and characterization of effects presented in TWN's 19(4) Assessment reflect Tsleil-Waututh Nation's perspectives and do not necessarily reflect the views or conclusions of the EAO. Where the EAO's conclusions differ from those presented under this section, we consider TWN's own assessment and conclusions to best reflect the Project's potential impacts on our constitutionally protected rights, title, interests, governance responsibilities, and relationship with our territory. From TWN's perspective, cumulative and ongoing industrial development within our territory has already created significant constraints on the meaningful exercise of Section 35 rights and responsibilities, including impacts to fishing practices, culturally important species, cultural continuity, stewardship obligations, and intergenerational wellbeing.

TWN expects both Provincial and Federal decision makers to carefully consider the findings and conclusions presented in this assessment, including the cumulative nature of impacts on TWN's rights and interests, and to ensure that decisions are consistent with applicable legal obligations, including Section 35 of the *Constitution Act, 1982*, DRIPA, UNDRIP, and relevant jurisprudence related to cumulative effects, meaningful consultation and accommodation, and the continued ability of Indigenous peoples to meaningfully exercise their rights, responsibilities, and governance obligations within their territories.

## **1.1 Purpose of Tsleil-Waututh Nation Assessment**

This assessment was undertaken by Tsleil-Waututh Nation pursuant to our role as a Participating Indigenous Nation under Section 19(4) of the EA Act in response to the Project. Our analysis is guided by TWN's Stewardship Policy and applies the methodology set out in TWN's Cumulative Effects Framework and Environmental Assessment Framework. Through this process, we evaluate how the Project may affect TWN's Section 35 rights and interests, our territory, and our relationships with the lands, waters, and resources, using our own legal and governance frameworks.

The Project is located within, and would directly affect, our Consultation Area (see Figure 1), asserted territory, and areas of cultural, spiritual, and governance importance. The geographic overlap between the Project and Tsleil-Waututh Nation's Consultation Area, combined with the nature of the Project and its interaction with social, cultural and environmental systems, triggered the need for us to undertake a TWN Assessment of the impacts to our rights and interests. These interests must be understood in the context of the cumulative effects that have already constrained our ability to exercise our rights, transmit cultural knowledge, and uphold our stewardship responsibilities.

For the purposes of this assessment, we focus on scé·tən (salmon) from the Lower Fraser River as one of our key interests likely to be affected by the Project, particularly in relation to our constitutionally protected rights. This focus reflects the Project's proximity to the Fraser River and the ways in which construction activities, associated vessel traffic, contaminants, and emissions may affect scé·tən habitat, health, and the safe access and sustainability of our harvesting practices. While we use scé·tən as a primary indicator, this does not mean that our interests are limited to scé·tən. scé·tən provide a way to



trace pathways of effects from the Project, through the environment, to our rights, culture, and governance, allowing us to assess the significance of residual and cumulative effects in a holistic way.

This assessment extends beyond biophysical effects to consider how the Project may affect our ability to exercise our rights, maintain access to culturally important resources and places, and carry out cultural, spiritual, and governance responsibilities. In accordance with səliłwətał law, impacts to our rights, include not only changes to species and habitat, but also effects on access, use, cultural practices, self-governance, health, and our relationships with our territory.

## 2. Tsleil-Waututh Nation Community Profile

We are səliłwətał, the People of Burrard Inlet, where our First People were created and where our Ancestors have lived since time out of mind. Our Consultation Area includes, but is not limited to, Burrard Inlet, the Fraser River, and the greater Vancouver region, and overlaps TWN's traditional territory as well as shared territories with neighbouring First Nations.

We are a distinct Coast Salish Nation, governed by a Chief and six Councillors, each elected for four-year terms. Our Nation has entered into several agreements with the Crown, including a Reconciliation Agreement (2025) with the federal government,<sup>1</sup> Collaborative Decision-Making Regarding Disposal at Sea (2018), and a Letter of Understanding with the Province (2022). These agreements recognize TWN's inherent rights and stewardship role within our territory,<sup>2</sup> which reflects traditional responsibilities in a contemporary governance framework. TWN is also a member of the Naut'sa mawt Tribal Council.<sup>3</sup>

Historically, səliłwətał spoke the downriver dialect of hə́ŋqəmínəm (Halkomelem)<sup>4</sup> and through intermarriage also spoke Skwxwú7mesh (Squamish). Due to the impacts of colonization, fluency in these languages was severely disrupted, and today there are very few fluent hə́ŋqəmínəm speakers within our community. Language revitalization is a priority for səliłwətał, and the Tsleil-Waututh Language Program is actively working to restore language knowledge, learning, and use.<sup>5,6,7</sup>

Currently, many səliłwətał Members reside at Burrard Inlet IR No. 3 (Sleil-Waututh or Burrardview) in North Vancouver, with two smaller reserves located at Inlailawatash on the Indian River (Inlailawatash IR No. 4 and IR No. 4a). As of 2025, TWN had over 600 registered members and our community continues to grow through natural population growth and the reinstatement of previously disenfranchised Members.

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<sup>1</sup> Tsleil-Waututh Nation (2025). News Release: Tsleil-Waututh Nation and the Government of Canada sign a Reconciliation Agreement. <https://twnation.ca/news-release-tsleil-waututh-nation-and-the-government-of-canada-sign-a-reconciliation-agreement/>

<sup>2</sup> Tsleil-Waututh Nation (2009). Tsleil-Waututh Nation Stewardship Policy.

<sup>3</sup> Naut'sa mawt Tribal Council (2026). Member Nations. <https://www.nautsamawt.org/members>

<sup>4</sup> Arnett, Chris, and Jesse Morin (2018) The Rock Art/Xela:ls of the Tsleil-Waututh: A Historicized Coast Salish Practice. *Ethnohistory* 65:101-128.

<sup>5</sup> Tsleil-Waututh Nation (n.d.). Culture & Language. <https://twnation.ca/culture-language/>

<sup>6</sup> Tsleil-Waututh Nation (2024). Tsleil-Waututh Nation Annual Report 2023-2024. [https://twnation.ca/wp-content/uploads/2024/10/2023-24-TWN-Annual-Report\\_DIGITAL-Public-Version\\_Final\\_smaller.pdf](https://twnation.ca/wp-content/uploads/2024/10/2023-24-TWN-Annual-Report_DIGITAL-Public-Version_Final_smaller.pdf)

<sup>7</sup> Tsleil-Waututh Nation (2025). Tsleil-Waututh Nation Annual Report 2024-2025. [https://twnation.ca/wp-content/uploads/2025/10/TWN-2024-25-Annual-Report-v06.2-20251009-WEB\\_PUBLIC-VERSION.pdf](https://twnation.ca/wp-content/uploads/2025/10/TWN-2024-25-Annual-Report-v06.2-20251009-WEB_PUBLIC-VERSION.pdf)

TWN operates through several departments and programs that support governance, stewardship, community wellbeing, and economic development. This includes Treaty, Lands and Resources; Health and Wellness; Public Works and Climate Action; Economic Development; and Community Development. These departments and programs work together to support TWN's responsibilities to the lands, waters, culture, language, health, and future generations. TWN has also developed and implemented initiatives, including a Health and Wellness Strategic Plan, a Food Sovereignty Policy, a Climate Change Resiliency Action Plan, and a Cumulative Effects Monitoring Initiative, in response to the cumulative impacts of industrialization, environmental degradation, and climate change within our territory.

Continued access to fisheries of the Lower Fraser River is highly significant for TWN, including in relation to the Project. Today, səliłwətał asserts Section 35 rights in fisheries on the Fraser River, and our chiefs were signatories on petitions asserting TWN's interests on the Lower Fraser as early as the AD 1860s. The very large historic Coast Salish village (DgRs-17), located on the north bank of the South Arm approximately opposite to the Project speaks to the richness of the salmon fishery here. Of the fisheries of the Fraser River, sockeye fisheries are the most important, as sockeye is the preferred food species, and by far the single largest source of traditional seafood that is available for harvest by səliłwətał within our territory. Chinook scé-łən is also a preferred species, which is only available within the Lower Fraser River area.<sup>8</sup>

Tsleil-Waututh Nation currently has allocations for sockeye and chinook on the Lower Fraser River through our food, social, and ceremonial (FSC) licenses issued by the Department of Fisheries and Oceans (DFO). However, in recent years, we were unable obtain our full allocation of sockeye due to increasingly poor returns. As a result of poor-return years, TWN's food fish distribution to the community has been curtailed, and individual community members received only a few fish each, if any. Our diets should contain local foods to maintain personal health and a healthy relationship with the lands and waters of our territory.<sup>9</sup>

Furthermore, sharing traditional foods at large community gatherings, particularly those involving guests from other Indigenous communities, is an important cultural practice and responsibility for səliłwətał<sup>10</sup>. Sockeye scé-łən continues to be a central food served at many TWN gatherings and ceremonies, and without reliable access to scé-łən harvests, it becomes increasingly difficult to uphold cultural protocols, reciprocal relationships, and community responsibilities in a culturally appropriate way. səliłwətał also access fish beyond DFO jurisdiction through cultural protocols and kinship ties with neighboring First Nations, which are integral to our cultural, nutritional, and community wellbeing.<sup>11</sup>

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<sup>8</sup> Tsleil-Waututh Nation, Treaty, Lands and Resources Department. (2023). *Ethnohistoric review and summary of Tsleil-Waututh Nation's rights and interests in relation to the FortisBC Tilbury LNG Phase 2 Expansion Project*.

<sup>9</sup> Tsleil-Waututh Nation (2015) Assessment of the Trans Mountain Pipeline and Tanker Expansion Proposal. Tsleil-Waututh Nation, Treaty, Lands and Resources Department. pp. 80-81.

<sup>10</sup> Tsleil-Waututh Nation (2015) Assessment of the Trans Mountain Pipeline and Tanker Expansion Proposal. Tsleil-Waututh Nation, Treaty, Lands and Resources Department. pp. 80-81.

<sup>11</sup> Tsleil-Waututh Nation, Treaty, Lands and Resources Department. (2023). *Ethnohistoric review and summary of Tsleil-Waututh Nation's rights and interests in relation to the FortisBC Tilbury LNG Phase 2 Expansion Project*.

səliwətaʔ also use sockeye for ceremonial purposes, including seasonal burnings to take care of our ancestors and supernatural beings.<sup>12,13,14</sup> As described in Morin (2015, pg.390), Tsleil-Waututh Nation ritualists say that our ancestors and supernatural spirits want local traditional foods because these are the foods our ancestors know and remember. Part of TWN's stewardship obligation to our ancestors and local supernatural spirits is to take care of those beings/spirits by ritually sending them local traditional food. Sockeye or chinook scé-ʔən have been the focal food at every recent səliwətaʔ burning ceremony. Without access to sockeye and chinook scé-ʔən from the Lower Fraser River, our ritualists cannot fulfill our obligation to take care of our ancestors.

Industrialization throughout our territory, including along the Lower Fraser River and Burrard Inlet, has degraded ecosystems and restricted access to marine foods, such as scé-ʔən. In response, TWN actively undertakes stewardship and restoration initiatives. For example, TWN has been working in partnership with the District of North Vancouver on a shoreline restoration project at Whey-ah-Wichen (Cates Park) in North Vancouver, and TWN co-developed the Water Quality Objectives for Burrard Inlet with the Province. TWN also issues Cultural Heritage Investigation Permits and deploys environmental and archaeological monitors to project sites, fulfilling stewardship responsibilities while building expertise in natural and cultural resource management.

Tsleil-Waututh Nation assesses projects holistically, recognizing that effects on our Nation are cumulative and interconnected. Long-standing industrial development, settlement, and climate change have contributed to declining ecosystem health, with corresponding impacts on the cultural, physical, mental, social, and economic well-being of our community. In response, TWN has initiated a Health and Wellness Strategic Plan, a Food Sovereignty Plan, Cumulative Effects Monitoring Initiative and a Climate Change Resiliency Action Plan.

Tsleil-Waututh Nation also participates in economic development through a range of Nation-owned and affiliated businesses operated through our Economic Development Department, including Inlailawatash LP (resource management), Takaya Developments (real estate), Salish Seas Limited Partnership (fisheries), and Takaya Tours (tourism).

In summary, TWN seeks meaningful participation in all planning and development processes within our Consultation Area to fulfill our stewardship responsibilities, protect our rights and interests, restore ecological and cultural health, and advance economic and social outcomes that can be equitably shared by present and future generations.

### 3. Regional Context

The Project is located within Tsleil-Waututh Nation's traditional territory, including our Consultation Area (see Figure 1). TWN's Consultation Area encompasses much of the Lower Mainland, extending

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<sup>12</sup> Kew, Michael (1970) Coast Salish Ceremonial Life: Status and Identity in a Modern Village. Unpublished PhD dissertation, Department of Anthropology, University of Washington, Seattle. Pp. 210-230.

<sup>13</sup> McHalsie, Albert (Sonny) (2007) We Have to Take Care of Everything That Belongs to Us. In *Be of Good Mind: Essays on the Coast Salish*, edited by B. Miller, pp. 82-130. UBC Press, Vancouver. pp. 119-120.

<sup>14</sup> Morin, Jesse (2015) Tsleil-Waututh Nation's History, Culture and Aboriginal Interests in Eastern Burrard Inlet. Prepared for Gowlings, Lafleur, Henderson LLP. Submitted to the National Energy Board. pp. 364, 389-391.

from Mount Garibaldi and the Squamish Valley in the north, to Gibsons in the west, the 49th parallel in the south, and eastward along the Lower Fraser River to approximately the Alouette River. Our Consultation Area is a living document that may be refined over time and is informed by traditional use studies (TUS) documenting TWN Members' land and resource use.

TWN's Consultation Area overlaps portions of our traditional territory and shared territories, including those of neighbouring First Nations, which are accessed in accordance with long-standing Coast Salish laws and protocols. It is important to note that our traditional territory is not necessarily confined to the boundaries of our Consultation Area and may extend beyond them, as TUS represent snapshots in time rather than exhaustive accounts of territorial use.

In pre-contact times and continuing thereafter, our Ancestors accessed and stewarded the resources of our territory, including those within and nearby the Project footprint, through seasonal rounds and kinship ties with neighbouring First Nations. The Fraser River was accessed by canoe, including routes from the Point Grey area, and by overland travel along established trails, including routes connecting present-day New Westminster and Port Moody.

While the primary focus of TWN settlement is eastern Burrard Inlet, səliłwətał families traditionally participated in seasonal rounds that included regular use of the Lower Fraser River. These seasonal movements occurred in both spring and late summer and enabled the harvesting of scé-łən, as well as eulachon in the spring. Although sockeye and eulachon harvesting was of particular importance, TWN also harvested sturgeon, chum, pink, and Chinook scé-łən, as well as steelhead, throughout the Lower Fraser River.

While eulachon is rarely harvested today due to the collapse of Fraser River eulachon populations more than a century ago, scé-łən from the Lower Fraser River remain a crucial source of food and cultural continuity for səliłwətał.<sup>15,16,17</sup> The Project TUS confirms that the Lower Fraser River has been actively fished by səliłwətał in recent decades, including within and nearby the Project footprint.<sup>18</sup> The Lower Fraser River, including the Project footprint, lies within TWN's FSC salmon fishing area.<sup>19</sup>

The Project TUS also identified a broad range of cultural use sites, Indigenous place names, archaeological sites, spiritual areas, and marine use areas throughout the study area, reinforcing the longstanding and ongoing importance of this region to səliłwətał. Archaeological and cultural sites within the study area continue to experience pressures from industrial development, vessel traffic, pollution, wake erosion, and acoustic disturbance. TWN also maintains significant cultural and spiritual relationships with species such as ǵəłəłəməcən (killer whales, including Southern Resident Killer

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<sup>15</sup> Morin, J., Evans, A. B., & Efford, M. (2023). The rise of Vancouver and the collapse of forage fish: a story of urbanization and the destruction of an aquatic ecosystem on the Salish Sea (1885–1920 CE). *Human Ecology*, 51(2), 303–322. <https://doi.org/10.1007/s10745-023-00398-w>

<sup>16</sup> Morin, Jesse (2015) Tsleil-Waututh Nation's History, Culture and Aboriginal Interests in Eastern Burrard Inlet. Prepared for Gowlings, Lafleur, Henderson LLP. Submitted to the National Energy Board pp. 336,399.

<sup>17</sup> Morin, Jesse (2016) Tsleil-Waututh Nation Traditional Use Study Review in Relation to the WesPac Tilbury Marine Jetty Project (14-211). Report prepared for Tsleil-Waututh, Treaty, Lands and Resources Department. Tsleil-Waututh Nation pp. 25.

<sup>18</sup> Tsleil-Waututh Nation, Treaty, Lands and Resources Department. (2023). *Ethnohistoric review and summary of Tsleil-Waututh Nation's rights and interests in relation to the FortisBC Tilbury LNG Phase 2 Expansion Project*.

<sup>19</sup> Aboriginal Fisheries Strategy (2016) Department of Fisheries and Oceans AFS2016-MLT-1650-0.

Whales), which may be adversely affected by increased vessel traffic and underwater noise associated with the Project and related marine shipping activities.

TWN holds a sacred and legal responsibility to past, present, and future generations to protect, defend, and steward the water, land, air, and resources of our territory. However, much of this territory, including the Lower Fraser River, has been profoundly altered by industrial, urban, and infrastructure development. TWN considers the cumulative effects of past, present, and ongoing projects to have exceeded what is allowable under səlilwətał law, resulting in sustained pressures on ecological integrity, cultural continuity, and the meaningful exercise of Section 35 rights and stewardship responsibilities.

### **3.1 Links to Cumulative Effects and Related Projects**

Although this subsection of TWN's 19(4) Assessment is not intended to function as a standalone cumulative effects assessment, TWN considers cumulative effects and existing pressures on the territory to be central to understanding the Project's potential impacts on TWN's rights, interests, stewardship responsibilities, and cultural continuity. From TWN's perspective, the Project effects cannot be meaningfully assessed in isolation from the broader context of ongoing industrialization, marine shipping, habitat degradation, pollution, and increasing development pressures throughout səlilwətał territory.

Accordingly, TWN's Assessment considers the broader cumulative context surrounding the Project, including interactions with existing and reasonably foreseeable projects and activities within TWN's territory. This includes adjacent and connected projects such as Tilbury Phase 1A (T1A), Tilbury Phase 1B (T1B), associated gas line and utility expansions, as well as the Tilbury Marine Jetty (TMJ), which received an Environmental Assessment Certificate (EAC) in March 2024. Although TMJ and the Project are regulated as separate projects, they share the same proponent and are operationally connected, as TMJ would facilitate shipping and bunkering of the Project's LNG product. From TWN's perspective, the effects of all Tilbury projects should be considered together within the broader cumulative effects context.

TWN has consistently raised concerns regarding the cumulative impacts associated with increasing vessel traffic and industrial development within our territory, including impacts to fisheries, harvesting practices, culturally important species, cultural and spiritual practices, marine access, archaeological sites, intergenerational knowledge transmission, and the meaningful exercise of Section 35 rights and stewardship obligations. In a separate submission to Ministers regarding the TMJ project in October 2022, TWN raised concerns that the Province's piecemeal approach to consultation and assessment did not adequately assess cumulative effects as a whole and, from TWN's perspective, did not justify further infringements on TWN rights and interests.

From TWN's perspective, the combined effects of the Project and TMJ project, together with other existing and foreseeable developments within the territory, increase pressure on already stressed ecosystems and further constrain TWN's ability to meaningfully exercise rights, responsibilities, and relationship with our territory. Accordingly, this assessment considers cumulative context as an important component in understanding the seriousness, extent, and implications of Project effects on TWN's rights, interests, and stewardship responsibilities.



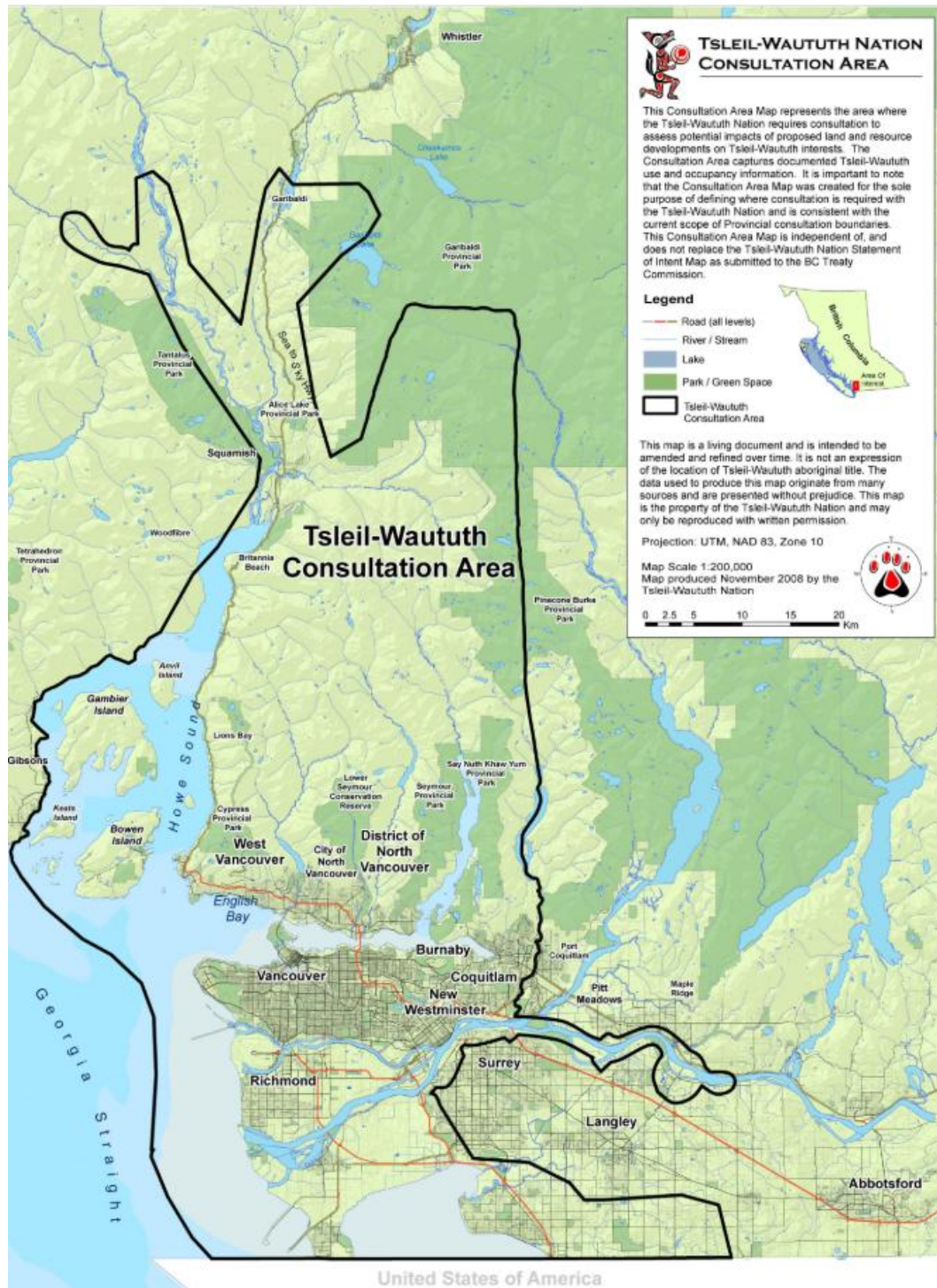


Figure 1. Tsleil-Waututh Nation Consultation Area

## 4. Consultation Process

This section broadly describes the consultation process for the Project between TWN and the EAO, the IAAC, other regulators, and—where relevant—the proponent (FortisBC).

As the foundation for meaningful consultation, TWN's Stewardship Policy articulates who we are, sets out our legal principles and community objectives, and establishes our standards for effective engagement, including consultation and accommodation. TWN has applied our Stewardship Policy, including its provisions, as the overarching framework for assessing whether consultation in this EA process has met the standard of what TWN defines as "meaningful consultation"<sup>20</sup>.

TWN also applies the principle of FPIC, as affirmed in the UNDRIP and implemented through the DRIPA, in evaluating consultation conducted through the EA process. These principles, together with TWN's Stewardship Policy, inform our expectations for meaningful consultation and guide this Assessment prepared pursuant to section 19(4) of the EA Act.

From TWN's perspective, meaningful consultation is not merely procedural. It is a collaborative process that recognizes TWN's governance, laws, legal orders, and decision-making authority, and must provide TWN with a meaningful opportunity to assess potential impacts to Section 35 rights, cultural heritage, stewardship responsibilities, and cumulative effects within TWN's Consultation Area prior to decision-making.

The following are TWN's requirements for meaningful consultation, as per the provisions in our Stewardship Policy, and for the principle of FPIC:

### **Timely Notice and Resourcing**

The Crown and proponent must provide advance notice of proposed activities or decisions related to the Project that may impact TWN's rights and interests. Adequate resourcing must be provided to support TWN's full and effective participation, including funding for internal coordination, technical review, TWN's own Assessment under Section 19(4) (of the EA Act), cultural analysis, and community engagement.

### **Full and Transparent Information Sharing**

TWN must be provided with complete, timely, and accessible information in formats that enable informed analysis and decision-making. This includes technical studies, impact assessments, project design used for modeling, and regulatory frameworks associated with the Project. Information must be sufficient for TWN to assess potential impacts on Section 35 rights, cultural health, stewardship responsibilities, and cumulative effects.

### **Adequate Time for Review and Dialogue**

Meaningful consultation requires that TWN be provided with reasonable and mutually agreed upon timelines to review information, conduct TWN's own Assessment under Section 19(4), and engage internally with leadership, advisors, and community Members. We must have the opportunity to

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<sup>20</sup> Tsleil-Waututh Nation Stewardship Policy (2009) outlines the necessary steps for meaningful consultation, which has been shared with the regulators and proponent.



present TWN's views, receive responses, and engage in dialogue to address concerns and identify areas of disagreement prior to decision-making.

### **Collaboration in Good Faith and Issue Resolution**

TWN's input, including TWN's Section 19(4) assessment, must be fully and fairly considered in decision-making. This includes a clear process for identifying and addressing outstanding issues, with efforts made to reach mutual understanding and resolve differences prior to the potential approval of a project. Final decisions should reflect a genuine effort to accommodate TWN's rights and interests, consistent with FPIC and DRIPA, and not merely to notify or document them.

## **4.1 Regulatory and Consultation Issues**

The issues below demonstrate that the EA process did not meet the principles set out in TWN's Stewardship Policy for meaningful consultation and the principle of FPIC were not fully upheld, despite TWN's clear and consistently communicated concerns throughout the EA process.

### **Duty to Consult and FPIC**

TWN continues to have significant concerns regarding the adequacy of the regulatory and consultation process for the Project and whether the IAAC and the EAO, on behalf of the Crown, have met their duty to meaningfully consult and accommodate TWN in relation to the potential impacts of the Project on TWN's rights and interests. TWN has raised consultation issues throughout the EA process to the EAO and IAAC, as described in issues tracking tables, consensus-seeking tables and consultation letters.<sup>21</sup> TWN identified fundamental flaws in the EA and consultation process that undermine the principles of scientific integrity, objectivity, thoroughness, and accuracy, as required under Section 6(3)(b) of the *Impact Assessment Act, 2019* (IA Act).<sup>22</sup>

Since the EAO is the regulator responsible for leading, administering and coordinating the substituted EA process for the Project, TWN expects the EAO to ensure assessments are carried out in a thorough, transparent, and impartial way, using the best available science and Indigenous Knowledge in decision making, as required under Section 2(2)(b) of the EA Act.<sup>23</sup> Section 2(2)(b) also requires that the EAO collaborate with Indigenous Nations on EA projects, consistent with the UNDRIP, while recognizing their right to participate in decision-making on matters that would affect their rights. This means that FPIC should be upheld throughout the EA process, while allowing Indigenous Nations to fully understand and assess the potential impacts of projects before decisions are made. This includes critically assessing whether information relied upon during the assessment, including information used to support conclusions on the significance of residual effects, the Project's contribution to sustainability, the effectiveness of mitigation measures, and the overall characterization of impacts on Indigenous rights and interests is adequate, complete and evidence based.

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<sup>21</sup> TWN's consultation issues are outlined in letters sent to the EAO and IAAC on July 6, 2022, February 6, 2024, and August 5, 2025.

<sup>22</sup> Government of Canada. (2019). *Impact Assessment Act*. Retrieved from: <https://laws.justice.gc.ca/eng/acts/i-2.75/page-1.html#docCont>

<sup>23</sup> BC EAO. (2018). *Environmental Assessment Act*. Retrieved from: <https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/18051#section2>

### **Information Gaps, EA Process Limitations, and Post-Certificate Deferral**

Since the Early Engagement phase, TWN has repeatedly raised concerns regarding gaps, uncertainties, and the lack of sufficient detail in key aspects of the Detailed Project Description, marine transportation activities, air emissions, proposed mitigation measures, follow-up programs, cumulative effects, and Post-Certificate processes. These concerns are described in issues tracking tables, consensus-seeking tables, and TWN's consultation letters sent to the EAO and IAAC throughout the EA process (see footnote 21). TWN remains particularly concerned that many important details and decisions have not been fully resolved or assessed during the EA process and instead have been deferred to the post-certificate phase. This includes deferring decisions on several key mitigation measures and emissions-control technologies to the post-certificate phase, rather than clearly defining and assessing them during the EA process. As a result, important aspects of the Project may later be addressed through permitting processes, management plans, adaptive management frameworks, future amendments, or left to the proponent's discretion following the potential issuance of an EAC for the Project. From TWN's perspective, this limits our ability to fully understand the potential effects of the Project and assess the implications for our territory, rights, cultural continuity, and future generations.

TWN recognizes the limitations of the current EA processes and acknowledges that the proponent is generally responding to the requirements established under the EA Act, the IA Act, and associated process documents. Simultaneously, TWN remains concerned that our outstanding information requests have not yet been adequately addressed through the EA process. These concerns include, but are not limited to, the need for independent and neutral technical experts at Technical Advisory Committee or bilateral meetings to address technical issues related to greenhouse gas (GHG) emissions, mitigation measures, certain aspects of the proponent's Application, and proposed conditions. TWN notes that the treatment of technical issues throughout the EA process did not fully reflect the intent of relevant EAO guidance and policy documents, including the *Environmental Assessment Certificate Policy* (EAO, 2021) and the *Effects Assessment Policy* (EAO, 2020). TWN also maintains that the level of detail required under the *Application Information Requirements Guidelines* (EAO, 2020) to support informed decision-making was not always met, or that certain Project components were exempted from the Application Information Requirements without clear justification.

### **Project Splitting, Cumulative Effects, Insufficient Conditions, and Characterization of Effects**

TWN remains particularly concerned with the continued splitting and separate review of Tilbury projects, including the TMJ Project and associated marine shipping activities, despite these projects being operationally connected and contributing collectively to increased industrialization, vessel traffic, and emissions within our territory. From TWN's perspective, this project-by-project approach does not reflect how impacts are experienced within our territory and limits a full understanding of cumulative effects on fisheries, marine access, cultural and spiritual practices, culturally important species and places, archaeological sites, and the meaningful exercise of TWN's rights and stewardship responsibilities.

TWN is also concerned with the increasing reliance on broad or flexible language in the Revised Application, Certified Project Description (CPD), and proposed conditions, leaving room for discretionary loopholes, future amendments, or additional activities without requiring a fulsome reassessment of impacts or renewed consultation. This includes potential future in-water works, dredging, marine vessel

activities, demolition, hydrostatic test water discharge, and transportation-related impacts that may later proceed through amendments, permitting, or Post-Certificate approvals without adequate review or consultation. In TWN's view, many proposed measures lack the certainty, detail, enforceability, and accountability necessary for the protection of TWN's rights and interests.

TWN further remains concerned with the heavy reliance on post-certificate planning, future permitting, non-binding measures, and provincial mechanisms to address potentially significant effects, as only two federal conditions have been proposed for the Project. Significant effects include impacts related to fish and fish habitat, marine shipping, Indigenous health, cumulative effects, air quality, GHG emissions, and Indigenous rights. From TWN's perspective, this approach does not provide the level of certainty, oversight, accountability, monitoring, or compliance required to address matters involving federal jurisdiction and potential impacts on Indigenous rights. TWN is particularly concerned that these issues are increasingly being deferred to provincial processes or future planning stages that may not involve comprehensive consultation with affected Indigenous Nations.

TWN also remains concerned that several conclusions regarding negligible or non-significant residual effects rely heavily on future management plans and mitigation measures that have not yet been developed or validated. This includes conclusions related to fish habitat quality, groundwater contamination, hydrostatic test water discharge, air quality, GHG emissions, and cumulative effects. From TWN's perspective, the assessment process relies too heavily on adaptive management and Post-Certificate discretion rather than requiring a fulsome assessment and enforceable mitigation measures prior to the potential approval of the Project.

### **Good Faith Participation and Misleading Information**

TWN has engaged in good faith throughout the EA process and has consistently provided detailed comments and feedback within the timelines established by the Crown and regulators. Despite these efforts, TWN remains concerned that engagement and consultation activities to date have been inadequate and, from TWN's perspective, have contributed to an incomplete and at times inaccurate understanding of the Project's potential effects. TWN has repeatedly raised concerns regarding the use of promotional or unverifiable claims related to the Project's GHG emissions and climate benefits. From TWN's perspective, some of this information has been relied upon or reflected throughout the assessment despite ongoing uncertainties, carrying forward of unresolved issues, and requests for further evidence and clarification.

Many of these issues are not new and have been consistently raised throughout the EA process with both the EAO and the IAAC, including through consensus-seeking tables, issues tracking tables, technical review comments, and formal consultation correspondence. This includes concerns related to project splitting, changing or selective scoping, exclusion of marine shipping and downstream adverse effects, unsupported environmental claims, outdated GHG lifecycle analysis, omission of methane slip, and the lack of sufficiently transparent, accurate, and evidence-based information needed to enable informed decision making. As outlined in TWN's consultation letter to IAAC and the EAO (August 5, 2025) regarding outstanding information requests and unresolved issues, TWN remains concerned that these issues have not been sufficiently addressed despite repeated requests for clarification, additional evidence, and a more fulsome assessment.

## Priority Project Designation and Impartiality

Tsleil-Waututh Nation's unresolved issues are further compounded by the Province's designation of the Project as a "priority project" under the Province's "Look West" strategy.<sup>24</sup> From TWN's perspective, this raises additional concerns regarding the neutrality and impartiality of the assessment process, particularly where significant uncertainties and outstanding concerns remain unresolved. Where Project approval may already appear aligned with broader provincial priorities, TWN is concerned about whether regulators can fully exercise independent due diligence throughout the EA process, including the Post-Certificate phase.

## Lack of Meaningful Consultation and FPIC

Meaningful consultation and the implementation of FPIC require that Indigenous Nations have access to complete, accurate, and sufficiently detailed information to understand the potential impacts of projects and to make informed decisions regarding projects that may affect their territories and rights. TWN does not consider that this standard has been met in the context of this Project.

The regulatory and consultation issues collectively limit TWN's ability to fully assess the potential impacts of the Project on TWN's rights and interests, constrain TWN's meaningful participation throughout the EA process, and prevent TWN from making an informed decision regarding the Project.

## 5. Assessment Boundaries

Tsleil-Waututh Nation's Assessment boundaries establish the temporal and spatial scopes for evaluating the Project through a holistic lens. This approach goes beyond biophysical factors to include cultural health, while also examining cumulative impacts on TWN's rights and interests.

### 5.1 Temporal

The temporal scope of TWN's Assessment examines conditions across multiple timeframes, from pre-contact times, through the colonial era to the present, and into a 'foreseeable' future layered with industrial projects.

These timeframes include:

- Where we came from: the pre-contact era until the late 18th century.
- Where we are now: reflects the cumulative effects of past impacts from the late 18<sup>th</sup> century to the present.
- Where we are going (a future with the Project): a future that imagines the Project in a vacuum in order to isolate incremental project effects.
- Where we are going (a future with the Project and other reasonably foreseeable projects, activities, and climate change): a future that builds on existing conditions and includes the Project along with other reasonably foreseeable projects, activities, and forecasted climate change.

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<sup>24</sup> Province of British Columbia. (2026). Look West Update. Building on early momentum, B.C. accelerates growth by nearly doubling priority major projects. Retrieved from: <https://news.gov.bc.ca/releases/2026PREM0020-000479>

By examining past, current, and reasonably foreseeable future conditions, TWN's Assessment seeks to identify how our rights and interests have been affected and if/how the Project may continue to affect them.

## 5.2 Spatial

Tsleil-Waututh Nation's geographic scope generally corresponds to our territory, which can include cultural practices that are undertaken within TWN's Consultation Area and beyond. Consistent with the temporal scope, the spatial scope of TWN's Assessment is holistic. For the purposes of assessing the Project's effects, nested spatial scopes are applied.

This approach ensures that multiple spatial scales are considered, beginning with a smaller assessment area nested within progressively larger ones. In doing so, both direct and indirect effects are meaningfully assessed to reflect the full range of potential effects pathways and their significance to our rights and interests.

The smallest "Local" scope is the study area developed for TWN's Traditional Use Study for the Project (TUS Study Area). The TUS Study Area falls within TWN's Consultation Area. It was defined using natural ecological boundaries and traditional modes of travel, based on a two-hour travel radius by foot and canoe from the Project.

The TUS Study Area is nested within the "Regional" scope, which includes scé-łən habitat and the Metro Vancouver airshed. The "Beyond Regional" scope includes migratory species routes and global climate systems. These broader spatial scales help demonstrate the full extent of potential effects pathways and their relevance to our rights, interests, and way of life.

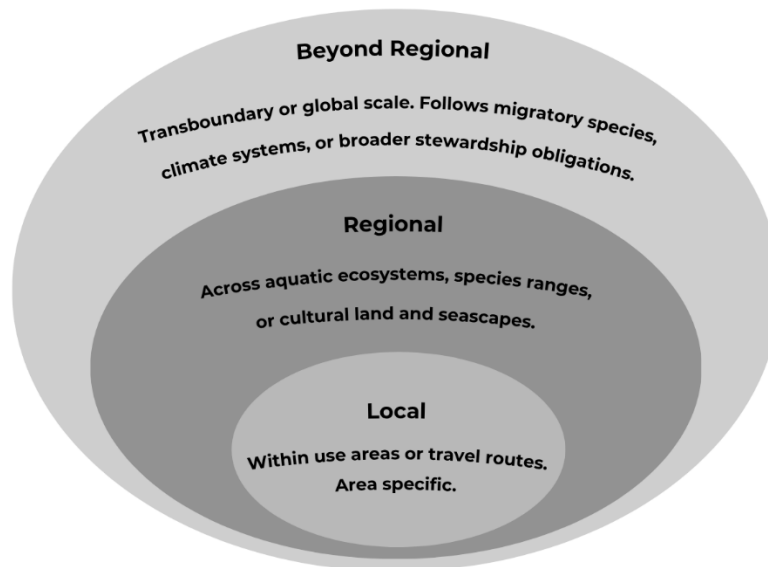


Figure 2. TWN Nested Scope

## 6. TWN's Assessment Methods and Rights-Based Approach

This Assessment applies a rights-based methodology developed by TWN to evaluate how the Project may affect our sacred obligations, Section 35 rights, and internationally affirmed rights (under the UNDRIP). Consistent with TWN's Stewardship Policy, TWN's Assessment considers the following guiding questions:

1. What impact does the Project have on the natural and cultural resources?
2. What impact does the Project have on the socio-economic conditions of TWN Members?
3. Does the Project jeopardize, prejudice, or otherwise compromise TWN rights or interests?
4. What does the Project contribute to the cumulative effects of past land-use decisions?
5. Does the Project have the potential to deprive future generations of TWN of the control and benefit of our lands and waters?
6. Does the Project represent the best use of lands and resources for the present and future?

TWN's approach to assessing impacts on TWN's rights, recognizes that the exercise of rights is realized through relationships with specific places, species and cultural practices, referred to as "**interests**." As such, this assessment begins by identifying key TWN interests likely to be affected by the Project and uses those interests as entry points to assess broader rights impacts.

Each interest is assessed using a structured, **8-step process** that integrates TWN's knowledge systems, legal orders, planning, and community-defined values. This process allows us to articulate how environmental changes translate into impacts on rights, sacred obligations, health and well-being.

### Step 1: Selection and Justification of an Interest

The assessment begins with the identification of a TWN interest likely to be affected by the Project's activities. The selected interest is directly connected to TWN's constitutionally and internationally recognized rights, and this connection is detailed in TWN's Assessment. The relevance of the interest is justified in the context of the Project and the broader exercise of TWN's stewardship obligations.

### Step 2: Discussion of Pre-Contact Baseline Conditions

This step describes the pre-contact conditions under which the selected interest became integral to TWN's way of life. These conditions reflect the environmental, economic, cultural, social, and health conditions that sustained our interest prior to European contact.

Information is derived from both Indigenous Knowledge sources and supporting technical and scientific materials, including:

- Indigenous Knowledge shared by TWN Cultural Advisors, Knowledge Holders, Harvesters, and TWN Members;
- TWN's Traditional Use Study (TUS) database and community-based information;
- TWN stewardship policies and previous TWN submissions and assessments;
- Scientific studies and technical reports, including reports co-authored by TWN;

- Baseline field studies, archaeological studies, and environmental monitoring data;
- Academic research, government reports, and other supporting literature relevant to pre-contact conditions;
- Cumulative effects and health-related studies where relevant to the assessment of TWN rights and interests.

### **Step 3: Discussion of Future Aspirations**

TWN's future aspirations for the selected interest are described in alignment with the pre-contact conditions. This step reflects TWN's legal and moral imperative to restore and revitalize our way of life.

Sources of information include:

- Regular engagement with Cultural Advisors,
- TWN Cumulative Effects Monitoring Initiative,
- Official TWN reports and planning documents,
- TWN Community Harvesting Survey.

### **Step 4: Description of Cumulative Effects to Date (Existing Conditions/Context)**

The existing conditions for the selected interest are evaluated through the lens of cumulative effects since European contact. This assessment describes how colonization, industrial development, and shifting regulatory regimes have altered the conditions necessary for TWN's interest and associated rights to thrive.

By analyzing these historical stressors, we assess whether existing conditions (i.e., the context) enable TWN's interest and associated rights. As illustrated in Figure 3, context is characterized along a spectrum, ranging from conditions that enable TWN's interest and the full exercise of associated rights in accordance with səlilwətał law, to conditions that limit or prevent the exercise of TWN's rights.

The way TWN uses the spectrum in Figure 3 to characterize context is by asking the following question:

**Do existing conditions enable TWN to meaningfully exercise the Section 35 rights associated with the selected interest, in accordance with səlilwətał law and TWN's way of life?**



We then determine where the answer falls on the following scale:



Allows the exercise of rights in alignment with TWN law: Conditions enable the interest and the full exercise of the associated rights in accordance with səlilwətał law and way of life. The interest is healthy, accessible, and abundant/available enough to sustain desired uses into the future.

Does not limit the exercise of rights: Conditions do not constrain the interest or the meaningful exercise of the associated rights. There is an unfettered ability to access and use the interest safely and appropriately, and practice associated rights.

Limits the exercise of rights: Conditions constrain the interest and the meaningful exercise of the associated rights, but some practice remains possible. Exercise may be reduced, require workarounds, or be inconsistent over time.

Prevents the exercise of rights: Conditions prevent the ability to access or use the interest and meaningfully practice the associated rights. The interest may be unavailable, unsafe, inaccessible, or otherwise incompatible with the exercise of associated rights. Cumulative effects to date have exceeded what is allowable under səlilwətał law.

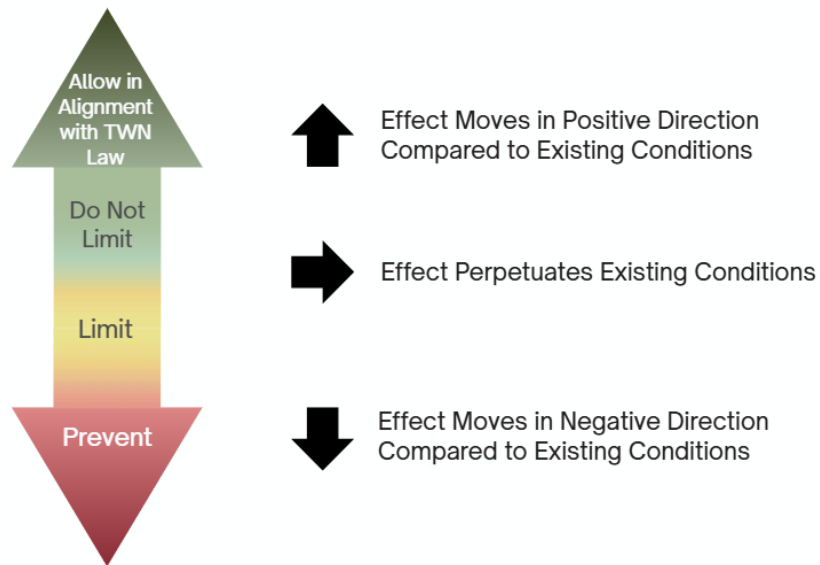
**Figure 3. TWN Existing Conditions Spectrum for Characterizing Context**

### Step 5: Identification of Residual Effects on TWN's Interest and Pathways to TWN's Rights

This step identifies specific project activities and the resulting effects that could affect TWN's selected interest. For each relevant effect, we assess its direction (positive, perpetuating, or negative). We use the term "**project effects**" here to include both positive and adverse effects. We do not refer to "residual effects" at this stage because project effects are considered residual only after mitigation measures have been considered. Residual effects are the adverse effects that remain after mitigation measures are applied, including where mitigation may be ineffective or insufficient.

The direction of the project effect is illustrated in Figure 4 and described as follows:

- A project effect moves in a positive direction if it improves existing conditions in a way that enables the interest and the exercise of associated rights.
- A project effect moves in a perpetuating direction if it does not materially change existing conditions; existing constraints remain in place or may be reinforced.
- A project effect moves in a negative direction if it introduces new or additional limitations on the interest and the meaningful exercise of associated rights.



**Figure 4. Direction of Project Effects**

A project effect is labeled as an ‘**adverse effect**’ if it moves in a negative direction or perpetuates existing conditions where these conditions already limit or prevent TWN’s interest and rights.

For ‘adverse effects,’ we further assess:

- The effectiveness of mitigation measures proposed by the proponent to avoid or minimize the adverse effect;
- Circumstances where no mitigation measures were proposed, as the adverse effect was predicted by the proponent to be indiscernible from existing conditions;
- The adverse ‘**residual effect**’ likely to remain after mitigation or without the application of mitigation measures.

We also clearly describe the pathway linking adverse ‘residual effects’ to potential impacts on TWN’s interest and associated rights.

#### **Step 6: Characterization of Residual Effects on TWN’s Interest and Associated Rights**

Each adverse residual effect on TWN’s interest and associated rights is characterized using criteria drawn from both conventional impact assessment methods and TWN’s knowledge and experience. Table 1 outlines the criteria used and how these are defined.

TWN applies Nation-specific definitions to ensure effects are assessed in a manner that reflects TWN law, values, and the conditions required to meaningfully exercise constitutionally protected rights. TWN’s approach is grounded in pre-contact conditions, future aspirations and səlilwətał law. It accounts for cumulative effects that already limit or infringe TWN’s rights and ensures that project effects are not understated where conditions are already degraded and constraining.

TWN’s characterization of residual effects is key in informing the overall significance of the impacts on TWN’s rights (see Step 8).

**Table 1. TWN Criteria and Definitions for Characterizing Residual Effects on TWN's Interest and Associated Rights**

| Criteria and General Description                                                                                                                                                                                                                                                                                                                                                                                                                                              | Assessment Definitions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Context:</b> Represents existing conditions, which refer to the current health of the different systems upon which TWN's way of life depends, including ecological, socio-economic, cultural and spiritual systems, and legal and governance systems.</p> <p>Existing conditions reflect projects and activities since European contact, as well as natural and human-caused trends that influence present-day conditions for TWN's interest and associated rights.</p> | <p><b>Allows:</b> Conditions enable the interest and the full exercise of the associated rights in accordance with səlilwətał law and way of life. The interest is healthy, accessible, and abundant/available enough to sustain desired uses into the future.</p> <p><b>Does Not Limit:</b> Conditions do not constrain the interest or the meaningful exercise of the associated rights. There is an unfettered ability to access and use the interest safely and appropriately and practice associated rights.</p> <p><b>Limits:</b> Conditions constrain the interest and the meaningful exercise of the associated rights, but some practice remains possible. Exercise may be reduced, require workarounds, or be inconsistent over time.</p> <p><b>Prevents:</b> Conditions prevent the ability to access or use the interest and meaningfully practice associated rights. The interest may be unavailable, unsafe, inaccessible, or otherwise incompatible with the exercise of associated rights. Cumulative effects to date exceed what is allowable under səlilwətał law.</p> |

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| <p><b>Magnitude:</b> The severity or degree to which a residual effect perpetuates or changes existing conditions in ways that affect TWN's interest and the ability to exercise associated rights.</p> <p><u>Magnitude assesses both:</u></p> <ol style="list-style-type: none"> <li>1. The extent to which existing conditions "Allow", "Do not limit", "Limit", or "Prevent" TWN's interest and the exercise of associated rights.</li> <li>2. The direction of the adverse residual effect, including whether it perpetuates existing conditions, or places further limitation on, or prevention of, the exercise of associated rights associated with TWN's interest.</li> </ol> |  <p><u>Negligible:</u> Residual effect perpetuates conditions that enable TWN's interest and "Allow" the exercise of associated rights in alignment with səlilwətał law. Systems remain capable of sustaining interest for future generations.</p> <p><u>Low:</u> Residual effect perpetuates conditions that "Do not limit" TWN's interest and the exercise of associated rights or shifts conditions from "Allow" to "Do not limit" rights. Introduces early warning signs without constraining TWN's interest and associated rights.</p> <p><u>Moderate:</u> Residual effect perpetuates conditions that "Limit" TWN's interest and the exercise of associated rights or the residual effect creates a material constraint on the meaningful practice of rights, shifting conditions into a "Limit" state.</p> <p><u>High:</u> Residual effect perpetuates conditions that "Prevent" TWN's interest and the exercise of associated rights or the residual effect shifts conditions to a "Prevent" state, where rights cannot be meaningfully practiced.</p> |
| <p><b>Extent:</b> Geographic scope of a residual effect in relation to TWN's interest and associated rights.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p><u>No Spatial Overlap:</u> Residual effect has no direct or indirect pathway affecting TWN's interest.</p> <p><u>Local:</u> Residual effect is within current and/or past use areas, including harvesting and cultural use areas, or travel routes. Effect may interfere with area-specific exercise of rights.</p> <p><u>Regional:</u> Residual effect is across aquatic ecosystems, species ranges, or cultural land and seascapes. May affect ecological or cultural systems that support the exercise of associated rights across generations.</p> <p><u>Beyond Regional:</u> Residual effect extends beyond the Regional Assessment Area (e.g., transboundary or global scale). May affect migratory species, climate systems, or broader stewardship obligations.</p>                                                                                                                                                                                                                                                                                                                                                                   |
| <p><b>Duration:</b> Length of time a residual effect persists in relation to TWN's interest and associated rights.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p><u>Short-term:</u> Residual effect is felt temporarily during the construction or decommissioning phases only. Or the effect occurs for less than two years in operations.</p> <p><u>Medium-term:</u> Residual effect is felt during construction, operations and decommissioning phases.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|                                                                                                                                                                                                                                      | <p><u>Long-term</u>: Residual effect is felt during the entire Project lifecycle and beyond decommissioning but is not permanent.</p> <p><u>Permanent</u>: Potential residual effect is enduring throughout and beyond the life cycle of the project with no foreseeable recovery, including beyond one generation.</p>                                                                                                                                                                                                                                                                                                                                                                                    |
| <p><b>Reversibility</b>: Whether or not the residual effect on TWN's interest and associated rights can be reversed once the project activity causing the effect stops and/or mitigation measures take effect.</p>                   | <p><u>Partially Reversible</u>: TWN's interest and the exercise of associated rights may partially recover from the residual effect.</p> <p><u>Irreversible</u>: TWN's interest and the exercise of associated rights will not likely recover from the residual effect.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p><b>Frequency</b>: How often a residual effect occurs, including alignment with culturally or ecologically sensitive periods.</p>                                                                                                  | <p><u>Once</u>: Residual effect is confined to one discrete event.</p> <p><u>Regular</u>: Residual effect occurs at predictable intervals (e.g., seasonal, annual) and/or Project phases.</p> <p><u>Irregular</u>: Residual effect occurs sporadically or unpredictably.</p> <p><u>Constant</u>: Residual effect is ongoing/continuous.</p>                                                                                                                                                                                                                                                                                                                                                                |
| <p><b>Affected Populations</b>: Refers to how residual effects are experienced across TWN sub-populations, including whether certain groups experience greater impacts, barriers, or inequities in exercising associated rights.</p> | <p><u>Evenly Distributed</u>: Residual effect is experienced similarly across TWN, with no group disproportionately affected in terms of severity, duration, or ability to exercise associated rights.</p> <p><u>Disproportionate</u>: Residual effect is concentrated among specific TWN sub-populations (e.g., Elders, youth, Knowledge Holders, active harvesters), who experience greater severity, duration, or barriers to exercising associated rights. The effect creates or reinforces inequities within TWN.</p>                                                                                                                                                                                 |
| <p><b>Uncertainty</b>: Degree of confidence in predictions regarding the residual effect and the effectiveness of proposed mitigation measures.</p>                                                                                  | <p><u>Low Uncertainty</u>: High confidence in predictions, supported by Indigenous knowledge, robust and relevant data, and well-established methods. The effectiveness of proposed mitigation is clearly demonstrated and verifiable through both technical and community-based evidence.</p> <p><u>Moderate Uncertainty</u>: Moderate confidence in predictions due to some gaps in data, variability, or reliance on assumptions. The effectiveness of proposed mitigation is not fully demonstrated or aligns only partially with Indigenous knowledge.</p> <p><u>High Uncertainty</u>: Low confidence in predictions due to significant gaps in information, modelling limitations, or unverified</p> |

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|                                                                                                                                                                                                                                                                                                                                                                                                                            | assumptions. Mitigation measures are unproven, contradict Indigenous knowledge, or are deferred beyond the EA process.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p><b>Risk:</b> Reflects the potential for a residual effect to result in serious or irreversible harm to TWN's interest and associated rights, particularly under conditions of uncertainty or where outcomes are difficult to predict or mitigate. Risk is informed by the severity of potential consequences, the endurance of the effect, and the degree of uncertainty, rather than probability-based likelihood.</p> | <p><u>Low Risk:</u> Residual effect is limited in severity, duration, and extent, and well understood. Effect is unlikely to result in lasting impacts to TWN's interest or associated rights and can be effectively avoided, mitigated, or reversed.</p> <p><u>Moderate Risk:</u> Residual effect may result in meaningful but recoverable impacts to TWN's interest or associated rights. There may be some uncertainty regarding outcomes or mitigation effectiveness, and effects could contribute to cumulative impacts if realized.</p> <p><u>High Risk:</u> Residual effect could result in serious, long-term, or irreversible impacts to TWN's interest or associated rights. This includes effects that:</p> <ul style="list-style-type: none"> <li>- Impact areas of high cultural importance,</li> <li>- Have high endurance (limited recovery or irreversible),</li> <li>- Are concentrated on key sub-populations,</li> <li>- Involve significant uncertainty or unproven mitigation.</li> </ul> <p>A high risk rating may be assigned even where the probability of occurrence is uncertain or low, where the consequences would be severe.</p> |

## Step 7: Cumulative Effects Assessment

Step 7 addresses cumulative effects into the future and evaluates:

- Existing conditions and residual Project effects;
- Other reasonably foreseeable projects and activities;
- Anticipated climate change impacts (using TWN's *Climate Vulnerabilities Report* and regional climate projections).

The analysis considers whether future cumulative conditions will likely allow the exercise of rights in alignment with səlilwətaʔ law, not limit, limit, or prevent TWN's interest and associated rights.

## Step 8: Final Significance Determination of Impacts on TWN's Rights

The final step in TWN's assessment methodology is to determine the significance of residual and cumulative effects on TWN's Nation-specific interest and associated Section 35 rights.

**Significance** is the overall determination of whether effects are acceptable under səlilwətaʔ law and whether they result in an infringement of TWN's rights. This determination integrates information from all previous assessment steps.

Significance reflects the extent to which adverse effects limit or prevent the meaningful exercise of TWN's rights. It is assessed relative to TWN-defined rights-enabling conditions informed by səlilwətał law, pre-contact conditions, and future aspirations.

TWN applies the following significance thresholds:

- Not Significant: Effects do not perpetuate, or result in, a meaningful limitation on, or infringement of, TWN's interest and associated rights.
- Significant: Effects perpetuate, or result in, a meaningful limitation on TWN's interest and associated rights. Effects may reduce access, quality, continuity, or cultural integrity, but do not fully prevent the exercise of rights.
- Highly Significant: Effects perpetuate, or result in, a substantial limitation on TWN's interest and effective prevention of TWN's ability to exercise rights. This includes situations where rights are no longer meaningfully exercisable, where effects entrench existing infringement conditions, or where restoration and future exercise are foreclosed. These effects are inconsistent with səlilwətał law and require avoidance or structural redress.

## 7. Effects Assessment

### 7.1 Step 1: Selection and Justification of an Interest

#### Disclaimer on Assessment Focus

While this assessment focuses on Lower Fraser River scé·łən (salmon) as a representative interest, TWN affirms that scé·łən are not the only species, or interest, that could be adversely impacted. The Project has the potential to adversely affect a much broader range of rights and interests within səlilwətał territory. This includes harvesting, hunting, gathering, and cultural use associated with waterfowl, berries, plants, eulachon, crab, herring, prawns, shellfish, and other culturally important species and resources identified through the Project TUS and community knowledge. TWN holds inherent obligations to protect and steward our territory, including lands, waters, air, resources, species, and ecosystems, under səlilwətał law.

All potentially affected species are important to TWN, and the health of our territory as a whole is central to our identity, culture, wellbeing, and responsibilities. However, for the purposes of this effects assessment, Lower Fraser River scé·łən have been selected as one focus area due to their strong and multi-dimensional connection to TWN's constitutionally protected and internationally recognized rights, including:

- Cultural Rights (UNDRIP Articles 11 and 31): scé·łən are central to TWN cultural expressions, ceremonies, seasonal practices, oral histories, and identity.
- Spiritual and Religious Rights (UNDRIP Article 12 and 25): TWN spiritual beliefs and ceremonial life are directly connected to the scé·łən cycle and seasonal returns. Sacred relationships with scé·łən and the Lower Fraser River are tied to TWN's distinctive spiritual relationship with our lands, waters, and resources, and to our responsibilities to future generations.
- Language and Cultural Transmission (UNDRIP Article 13): Knowledge of scé·łən, harvesting techniques, protocols, stories, and place names are transmitted intergenerationally through language and water-based practices.



- Right to Self-Determination and Self-Government (UNDRIP Articles 3, 4, and 5): TWN's ability to manage and make decisions regarding scé·łən stewardship reflects self-determination in environmental, cultural, and food governance.
- Rights to Lands, Territories, and Resources (UNDRIP Article 26): scé·łən depend on healthy aquatic ecosystems. Projects that degrade the Lower Fraser River ecosystem may infringe on TWN's rights to our traditional territory and the resources within it.
- Environmental Protection and Stewardship Rights (UNDRIP Article 29): TWN has a sacred responsibility to steward and restore TWN's territory, including protecting scé·łən habitat, supporting food sovereignty, and exercising environmental governance.
- Right to Food Security and Traditional Livelihoods (UNDRIP Articles 20 and 21): scé·łən are foundational to TWN food systems, harvesting practices, and traditional livelihoods, and support community wellbeing, cultural continuity, and intergenerational resilience.

These rights are recognized and upheld under Section 35 of the *Constitution Act, 1982* and in the UNDRIP. Damage to scé·łən habitat, species abundance, or harvesting access, may therefore infringe upon multiple interrelated rights and obligations, including TWN's responsibility to care for future generations and fulfill our sacred trust to the land and waters.

In this sense, scé·łən functions as a key indicator of broader ecological and cultural impacts. Effects on this interest are likely to signal more systemic harms to our territory, rights, well-being, and way of life.

### **Selected Interest: scé·łən from the Lower Fraser River**

For this assessment, scé·łən from the Lower Fraser River have been identified as a central interest likely to be adversely affected by the Project. This reflects the Project's proximity to one of TWN's key FSC fishery areas, and the Project's potential to affect scé·łən habitat and health, as well as the health and well-being of TWN Members.

In addition to FSC harvesting, TWN holds communal commercial fishing licences through the Allocation Transfer Program in areas adjacent to the Project. These include licences for crab, herring, prawn, sockeye, and other scé·łən species. TWN also participates in commercial fisheries through Salish Seas Limited Partnership, a joint enterprise with Musqueam Indian Band and Tla'amin Nation, harvesting species such as halibut, sablefish, prawn, crab, herring, and scé·łən.

Within səliwətał territory, there are no alternative sources of sockeye and Chinook outside the Lower Fraser River and its approaches. Access to these areas is already highly constrained by intensive shipping activity and competition with other fisheries, further limiting TWN's ability to meaningfully exercise our harvesting rights.

scé·łən are not only ecologically significant within TWN's territory, they are foundational to our economy, culture, food sovereignty, self-determination, and sacred obligations. Among all scé·łən species, sockeye from the Lower Fraser River remain one of the most important traditional foods TWN can still access. scé·łən are integral to səliwətał seasonal rounds, əmeħ t ǎ snəw əyət (braiding generational knowledge), and communal harvesting practices.

Currently, the Project's TUS Study Area is one of two highly significant TWN fishing areas on the Lower Fraser River,<sup>25</sup> and oral histories and archaeological findings document the importance of Fraser River scé·łən through time:

"About 90% of our diet was once derived from Burrard Inlet and the Fraser River..." (p. 2)  
"Salmon have been some of the most important populations of interest to Tsleil-Waututh communities for millennia, for food, social, and ceremonial purposes..." (p. 6)<sup>26</sup>

Archaeological research at the səlilwətał village site at temtemix̓'ten (Belcarra Park) further confirms long-term sustainable scé·łən stewardship. Chinook and sockeye remains were found in the midden, despite these species not being abundant in Burrard Inlet, suggesting they originated from the Fraser River.<sup>27</sup>

These longstanding relationships, encoded in səlilwətał law, confer sacred obligations to protect and care for scé·łən and the ecosystems they depend on. The Project's TUS also notes that the health of the Lower Fraser has significantly declined from pre-contact conditions, and that ongoing industrial development further threatens already vulnerable scé·łən populations. TWN Members continue to follow scé·łən along the Lower Fraser River, making scé·łən movement and habitat conditions within the entire TUS Study Area directly relevant to our ability to practice harvesting rights.

Lower Fraser River scé·łən, therefore, represent a primary interest in this assessment. Impacts to this interest will be examined in relation to our inherent, constitutional, and international rights. Where Project effects interfere with these rights and responsibilities, such effects may constitute infringements—even if indirect, cumulative, or residual.

## 7.2 Step 2: Discussion of Pre-Contact Baseline Conditions

To understand the impacts of a project on TWN, it is essential to begin with the conditions that shaped our way of life prior to European contact. These baseline conditions—ecological, cultural, legal, economic, and social—allowed the full and uninterrupted exercise of our inherent rights in accordance with səlilwətał law.

### Relationships to Territory and Resources

Prior to contact, səlilwətał lived in dynamic relationship with the lands and waters of our territory, traveling seasonally throughout the region in accordance with the availability of key resources. səlilwətał law and cultural systems evolved in deep alignment with these patterns. As stated in the TWN Annual Report (2024-2025):

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<sup>25</sup> Tsleil-Waututh Nation, Treaty, Lands and Resources Department. (2023). *Ethnohistoric review and summary of Tsleil-Waututh Nation's rights and interests in relation to the FortisBC Tilbury LNG Phase 2 Expansion Project*.

<sup>26</sup> Efford, M., Taft, S., Morin, J., George, M., George, M., Cavers, H., Hilsden, J., Paskulin, L., Loewen, D., & Zhu, J. (2023). *Archaeology demonstrates sustainable ancestral Coast Salish salmon stewardship over thousands of years*. *PLOS ONE*, 18(8), e0289797. <https://doi.org/10.1371/journal.pone.0289797>

<sup>27</sup> Ibid., pp. 12-13.

“Our Ancestors traveled throughout our territory, keeping villages in many locations, living wherever seasonal resources were plentiful. Our lands and waters have shaped our culture and will continue to be central to our way of life.” (p. 1)<sup>28</sup>

Eastern Burrard Inlet was the primary focus of səliwətaʔ settlement, but seasonal rounds extended far beyond, including the Lower Fraser River. In the late summer, səliwətaʔ would move to the Lower Fraser River to mass-harvest and dry sockeye, and in the spring, they would also move to the Lower Fraser River to mass-harvest and dry eulachon.<sup>29</sup> The preserved fish were brought back to the primary səliwətaʔ settlements in Burrard Inlet, where they were consumed during winter months. While the sockeye and eulachon fisheries were the most important to səliwətaʔ, sturgeon, chum, pink and chinook scé-ʔən, as well as steelhead were also fished on the Lower Fraser River.

TWN’s presence in the Lower Fraser was not sporadic or opportunistic; it was based on long-standing kinship ties and carefully observed Coast Salish protocols that allowed for access to key harvesting areas, including the Lower Fraser River. These kinship ties allowed səliwətaʔ families to lawfully access and harvest scé-ʔən, eulachon, crab, sturgeon and other species in the Fraser River, reflecting a shared and relational understanding of resource governance and collective responsibility.<sup>30</sup>

### Traditional Fishing Practices

Scé-ʔən were not only critical dietary staples, but also foundational to our spiritual, economic, and social systems. Archaeological studies at təmtəxʷtən (Belcarra Park) show that scé-ʔən vertebrae dominate the faunal remains, underscoring both the abundance of scé-ʔən and their foundational role in Ancestral diets.<sup>31</sup>

Historical records further demonstrate the intensity and sustainability of our scé-ʔən harvesting practices. The Fort Langley Journals (1827–1830) document hundreds of canoes traveling along the Fraser River for the sockeye fishery. TWN was one of many Coast Salish Nations who partook in one of the richest fisheries in the world. səliwətaʔ families regularly returned to Burrard Inlet with hundreds of kilograms of smoked scé-ʔən, affirming both the abundance of scé-ʔən and the cultural infrastructure required to process, preserve, and distribute it across the territory.<sup>32</sup>

Recent archaeological analysis affirms our deep relationship with scé-ʔən over millennia. Efford et al. (2023) found that səliwətaʔ harvested chum salmon for at least 3,000 years, representing about 100 generations of sustainable harvest and ecological stewardship. DNA analysis of chum salmon remains at təmtəxʷtən reveals that this harvesting was sex-selective, with a focus on harvesting males during the late fall spawning season. Male chum, whose appearance changes dramatically during spawning, were easier to identify and catch, allowing more females to continue upstream to spawn. This practice reflects a sophisticated and intentional resource management system, one that enabled sustained

<sup>28</sup> Tsleil-Waututh Nation (2024-2025). Annual Report.

<sup>29</sup> Morin, Jesse (2015) *Tsleil-Waututh Nation's History, Culture and Aboriginal Interests in Eastern Burrard Inlet*. Prepared for Gowlings, Lafleur, Henderson LLP. Submitted to the National Energy Board.

<sup>30</sup> Tsleil-Waututh Nation, Treaty, Lands and Resources Department. (2023). *Ethnohistoric review and summary of Tsleil-Waututh Nation's rights and interests in relation to the FortisBC Tilbury LNG Phase 2 Expansion Project*.

<sup>31</sup> Efford, M., de la Puente, S., George, M., George, M., Testani, A., Taft, S., Morin, J., Hilsden, J., Zhu, J., Chen, P., Paskulin, L., Toniello, G., Christensen, V., & Speller, C. (2024). A fish-focused menu: An interdisciplinary reconstruction of ancestral Tsleil-Waututh diets. *Journal of Ethnobiology*, 44(3), 247–263. <https://doi.org/10.1177/02780771241261235>

<sup>32</sup> Tsleil-Waututh Nation, Treaty, Lands and Resources Department. (2023). *Ethnohistoric Review and Summary of Tsleil-Waututh Nation's Rights and Interests in Relation to the FortisBC Tilbury LNG Phase 2 Expansion Project*.

salmon abundance and aligned with səliwətaʔ legal principles rooted in respect, reciprocity, and responsibility toward the land and waters.<sup>33</sup>

TWN emphasizes that, to effectively evaluate the conditions required for the səliwətaʔ way of life, it is necessary to understand the conditions under which it developed. These baseline conditions, healthy, functioning habitats; abundant and accessible scé-ʔən; and strong inter-Nation relationships, sustained our people physically, culturally, and spiritually.

This understanding is not limited to the past; it is foundational to our future aspirations. The conditions that once enabled a thriving way of life continue to guide our aspirations for revitalization, restoration, and the exercise of rights in accordance with səliwətaʔ law and sacred responsibilities.

### 7.3 Step 3: Discussion of Future Aspirations

For Tsleil-Waututh Nation, future aspirations are guided by Ancestral law and the restoration of pre-contact conditions; when scé-ʔən were abundant, safe to consume, and accessible for sustainable harvest throughout our territory. These aspirations include the full and unhindered realization of our rights to self-determination, stewardship, culture, and harvesting.

Scé-ʔən are not merely a food source. They are central to our identity, spiritual life, legal obligations, governance, and intergenerational knowledge transmission. TWN's 2024–2025 Annual Report affirms:

“We maintain a sacred trust, a responsibility to care for and restore our traditional territory to its former state. Our stewardship of the land, air, and water is deeply ingrained in our culture because we understand that the health of our people is interconnected with our environment.” (pg.1).

Through our stewardship protocols and cumulative effects work, we seek to protect and restore the ecological systems that sustain scé-ʔən and other culturally significant species. This vision aligns with rights affirmed in the UNDRIP (see Effects Assessment, Step 1).

TWN's aspirations reflect the restoration of constitutionally protected and internationally affirmed rights. These aspirations are essential to our cultural continuity, health, governance, and survival as a distinct people. TWN's ability to fulfill these responsibilities, by restoring the ecological conditions that enable scé-ʔən, will directly shape the well-being of present and future generations.

Community perspectives reinforce the centrality of these aspirations. From February 18 to March 31, 2025, TWN conducted a community-wide survey to better understand current and desired harvesting, processing, and consumption of traditional wild foods. All TWN Members over the age of 13 were invited to participate, with additional questions tailored for Elders and a separate art-based activity for younger students at the səliwətaʔ school. The project was led by TWN's Cumulative Effects

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<sup>33</sup> Efford, M., Taft, S., Morin, J., George, M., George, M., Cavers, H., Hilsden, J., Paskulin, L., Loewen, D., & Zhu, J. (2023). *Archaeology demonstrates sustainable ancestral Coast Salish salmon stewardship over thousands of years*. PLOS ONE, 18(8), e0289797. <https://doi.org/10.1371/journal.pone.0289797>

Management team, with support from Treaty Lands and Resources programs. More than 200 Members participated.

The results demonstrate a strong and widespread desire to restore harvesting practices. Eighty-seven percent (87%) of respondents indicated they want to harvest more wild foods. Seventy-six percent (76%) expressed a desire to harvest more sockeye scé·łən specifically. When all scé·łən species were considered together, scé·łən was the top wild food that community Members wish to harvest in greater quantities.

Thus, the restoration of scé·łən abundance in the Lower Fraser River is not simply an environmental objective. It is a present-day community priority and an intergenerational aspiration grounded in law, culture, and lived experience.

#### **7.4 Step 4: Cumulative Effects to Date (Existing Conditions/Context)**

The current condition of Lower Fraser River scé·łən populations reflects more than a century of layered and interacting impacts, including industrial development, habitat alteration, colonial regulations, contamination, and climate change. These cumulative effects have substantially limited TWN's ability to harvest, trade, and rely upon scé·łən as a cornerstone of food security, culture, and identity.

Historically, scé·łən and forage fish were central to səliłwətał diets, governance systems, seasonal rounds, and trade networks. Archaeological evidence and oral histories confirm their foundational role in spiritual and economic life. Today, that relationship is under immense pressure.

##### **Long-Term Population Decline and Restricted Access**

TWN holds FSC allocations of sockeye and Chinook from the DFO's established Fishery Areas, within the Study Area of the Project's TUS. However, we are rarely able to access the full allocation due to poor returns. The 2020 Fraser sockeye return was the lowest on record, continuing a long-term trend of decline. In most years, meaningful harvest opportunities occur only during strong cyclical returns, typically once every four years. Even then, the harvest must be shared among a growing səliłwətał population, resulting in fewer fish per person.

While TWN continues to rely on Nation-to-Nation trade, kinship ties, and ceremonial sharing protocols to meet community needs, these adaptive practices do not replace direct, sustained access to healthy and abundant scé·łən populations.<sup>34</sup> More than half of Fraser River salmon populations are now listed as threatened or endangered.<sup>35</sup>

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<sup>34</sup> Tsleil-Waututh Nation, Treaty, Lands and Resources Department. (2023). *Ethnohistoric Review and Summary of Tsleil-Waututh Nation's Rights and Interests in Relation to the FortisBC Tilbury LNG Phase 2 Expansion Project*.

<sup>35</sup> Raincoast Conservation Foundation, *Addressing the systemic, anthropogenic threats causing the decline of wild salmon* (May 12, 2023), <https://www.raincoast.org/2023/05/addressing-threats-causing-decline-of-wild-salmon>

## Habitat Loss and Contamination

The Lower Fraser River system is already critically degraded. Approximately 85% of the historical floodplain, and roughly 1,700 km of stream length have been lost.<sup>36</sup> This has removed or fragmented key feeding, rearing, and migration habitat for and access routes for First Nations.

Widespread contamination in the remaining Lower Fraser River fish habitat presents a significant obstacle to səlilwətał harvesters. In the 2025 TWN Community Harvesting Survey, the most frequently cited industrial impacts that limit TWN harvesting were:

- Pollutants and contaminants, and
- Oil refineries and terminals.

Recent sampling has identified hundreds of pollutants in Lower Fraser surface and groundwater, including excess nutrients, metals, fecal coliform, hydrocarbons, pesticides, pharmaceuticals, perfluorinated compounds, and tire-related chemicals.<sup>37</sup> Of particular concern is 6PPD-quinone (6PPD-q), a toxic byproduct associated with tire wear particles in urban stormwater runoff. 6-PPDQ is highly toxic to scé·lən at extremely low concentrations and has been linked to acute mortality events in urban streams. While coho scé·lən was the first to be identified as highly vulnerable, further studies have now found other species to be acutely sensitive including Chinook salmon, rainbow trout/steelhead, brook trout, and coastal cutthroat trout.<sup>38, 39</sup>

The proponent's Revised Application confirms that the waters in fish habitats adjacent to the Project already exceed multiple safety thresholds for fish and fish habitat:

- The Fraser River exhibits exceedances of B.C. and CCME water quality guidelines for several metals, particularly during high turbidity and sediment load conditions during freshet.
- Tilbury Slough is characterized by low dissolved oxygen, elevated summer temperatures, low pH, and exceedances of B.C. and CCME freshwater guidelines for metals, including aluminum, copper, cadmium, iron, manganese, and zinc, as well as total phosphorus.
- The slough receives roadway and industrial runoff, and limited flushing due to tidal gate operations that may allow contaminants to persist long-term.
- Metals and PAHs associated with transportation and diesel combustion are already present in the receiving environment and are known to impair fish health, particularly under low dissolved oxygen and high temperature conditions.
- Light extractable petroleum hydrocarbon (LEPH) exceedances have been identified in groundwater.

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<sup>36</sup> Finn, R. J. R., Chalifour, L., Gergel, S. E., Hinch, S. G., Scott, D. C. & Martin, T. G. (2021). Quantifying lost and inaccessible habitat for Pacific salmon in Canada's Lower Fraser River. *Ecosphere*, 12(7), e03646. <https://doi.org/10.1002/ecs2.3646>

<sup>37</sup> Raincoast Conservation Foundation, *Addressing the systemic, anthropogenic threats causing the decline of wild salmon* (May 12, 2023), <https://www.raincoast.org/2023/05/addressing-threats-causing-decline-of-wild-salmon>

<sup>38</sup> Brinkman, M., Montgomery, D., Selinger, S., Miller, J.G.P., Stock, E., Alcaraz, A. Greer, J., Challis, J.K., Weber, L., Janz, D., Hecker, M., and Wiseman, S. (2022) *Acute Toxicity of the Tire Rubber-Derived Chemical 6-PPD-Quinone to Four Fishes of Commercial, Cultural, and Ecological Importance*. *Environmental Science and Technology*, 9 (4),333-338. <https://doi.org/10.1021/acs.estlett.2c00050>

<sup>39</sup> French, B. F., Baldwin, D. H., Cameron, J., Prat, J., King, K., Davis, J. W., McIntyre, J.K. and N. L. Scholz. (2022) *Urban Roadway Runoff is Lethal to Juvenile Coho, Steelhead, and Chinook Salmonids, But Not Congeneric Sockeye*. *Environmental Science & Technology Letters* 2022 9 (9), 733-738, <https://doi.org/10.1021/acs.estlett.2c00467>

- Arsenic-contaminated soils are present within the Project footprint.

These documented exceedances confirm that environmental thresholds intended to protect fish and fish habitat are already being surpassed.

### Climate Change as a Compounding Stressor

Between 1950 and 2015, average temperatures in the Fraser River Basin increased by approximately 1 °C. This warming has doubled the number of summer days when river temperatures exceed 20 °C. Water temperatures above 18 °C are highly stressful for migrating scé·tən and can result in increased mortality, particularly among females, with direct consequences for reproductive success and overall population abundance.<sup>40</sup> According to the Province of British Columbia (BC), 886,300 hectares burned during the 2025 wildfire season, well above the provincial 10-year average.<sup>41</sup> Wildfires introduce additional contaminants and eroded materials into scé·tən streams, further degrading water quality and habitat.<sup>42</sup>

Increasingly frequent extreme rainfall events during winter, including recurrent atmospheric rivers, generate large volumes of runoff and sudden high flows in scé·tən streams. These conditions can significantly reduce survival of fall-run scé·tən incubating in the Fraser River.

At the same time, trends indicate that snowpack melt and freshet are occurring earlier in the spring. As a result, early high-flow conditions may negatively affect early spring scé·tən runs, while drought-like conditions may occur during late spring and summer runs. As noted by the Q'ul-Ihanumutsun Aquatic Resources Society:

“In extreme drought, waterways can become disconnected and fragmented, or even completely dewatered.”<sup>43</sup>

Once scé·tən enter the Salish Sea and Pacific Ocean, rising sea surface temperatures reduce ocean mixing and alter the timing of seasonal productivity. This can create mismatches between the timing of scé·tən outmigration and the availability of plankton in nearshore marine environments. Ocean acidification further affects plankton communities, potentially reducing food availability for scé·tən. Acidification has also been shown to impair scé·tən olfaction, a critical sense for effective migration and homing.<sup>44</sup>

TWN has directly experienced the impacts of climate change on scé·tən in both the Lower Fraser River and the Indian River Watershed. We have seen the Indian River dry up more frequently and earlier in

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<sup>40</sup> Hinch, S. G., Bett, N. N., Eliason, E. J., Farrell, A. P., Cooke, S. J., & Patterson, D. A. (2021). *Exceptionally high mortality of adult female salmon: A large-scale pattern and a conservation concern*. *Canadian Journal of Fisheries and Aquatic Sciences*, 78(6), 639–654. <https://doi.org/10.1139/cjfas-2020-0385>

<sup>41</sup> British Columbia Wildfire Service. *Wildfire Season Summary*. Government of British Columbia. Last updated January 2, 2026. <https://www2.gov.bc.ca/gov/content/safety/wildfire-status/about-bcws/wildfire-history/wildfire-season-summary>

<sup>42</sup> Gómez Isaza DF, Cramp RL, Franklin CE. (2022). *Fire and rain: A systematic review of the impacts of wildfire and associated runoff on aquatic fauna*. *Global Change Biology*. 28(8):2578–2595. doi: <https://doi.org/10.1111/gcb.16088>.

<sup>43</sup> Q'ul-Ihanumutsun Aquatic Resources Society. (n.d.). *How human activities impact salmon*. QARS. <https://www.qars.ngo/post/how-human-activities-impact-salmon>

<sup>44</sup> Williams, C. R., Dittman, A. H., McElhany, P., Busch, D. S., Maher, M. T., Bammler, T. K., MacDonald, J. W., & Gallagher, E. P. (2019). *Elevated CO<sub>2</sub> impairs olfactory-mediated neural and behavioral responses and gene expression in ocean-phase coho salmon (Oncorhynchus kisutch)*. *Global Change Biology*, 25(3), 963–977. <https://doi.org/10.1111/gcb.14532>



the year. In September 2023, our Treaty, Lands and Resources fisheries crew had to respond quickly when low-flow drought conditions caused the Indian River to dry up, preventing spawning pink scé·łən from moving upstream to access spawning habitat. As the fish began to congregate in large numbers in the remaining water, dissolved oxygen levels dropped rapidly to dangerously low levels. The crew acted swiftly, working with DFO and the Pacific Salmon Foundation to restore freshwater flow. Through this emergency response, the crew saved tens of thousands of scé·łən.<sup>45</sup>

### **Colonial Regulatory and Access Barriers**

Beyond ecological degradation, TWN's ability to harvest scé·łən has been constrained by colonial regulatory systems that criminalized Indigenous harvesting, appropriated lands and waters, and imposed externally controlled fisheries management regimes. These regulatory barriers form part of the cumulative effects context and continue to shape access to fisheries today.

### **Implications for Effects Assessment**

The Lower Fraser River and Tilbury Slough are overburdened systems in which scé·łən populations have declined immensely since European contact and TWN's harvesting and cultural rights are significantly constrained. These declines also have cascading cultural impacts, as reduced scé·łən availability diminishes a key food source for SRKW, a species that is foundational to səliłwətał culture.

Within this context, Project effects that perpetuate or exacerbate degraded conditions, via contaminant loading, habitat disturbance, emissions, or sediment mobilization, cannot be dismissed as negligible simply because they may be difficult to discern from existing conditions. From TWN's perspective, where cumulative effects already significantly constrain the exercise of rights, the addition of further adverse effects is not diminished in importance; rather, the existing strain heightens their significance.

## **7.5 Step 5: Identification of Residual Effects on TWN's Interest and Pathways to TWN's Rights**

TWN has identified several Project activities that could result in adverse effects. After reviewing the proponent's proposed mitigation measures, we identified the adverse 'residual effects' likely to remain after mitigation is applied (or where mitigation is unclear or not fully described) and the pathways through which those residual effects could impact TWN's interest and associated rights.

Residual effects pathways that could lead to impacts on TWN's rights include, but are not limited to:

- Pathways to scé·łən and scé·łən habitat,
- Pathways to access to scé·łən,
- Pathways to tangible cultural heritage,
- Pathways to intangible cultural heritage,
- Pathways to TWN health and wellbeing.

Here, the plural dimensions of scé·łən as a Nation-specific interest become clear: for TWN, Lower Fraser River scé·łən are not merely a biophysical resource, but a foundational Nation-Specific Interest tied directly to the current conditions for Indigenous rights (habitat quantity and quality; and access to, health, and abundance of scé·łən), the Ancestral exercise of those rights (tangible cultural heritage from

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<sup>45</sup> Nicholas, G., Tsleil-Waututh Nation (2023). Urgent Drought Response Work by TLR to Save Salmon in Indian River Watershed. <https://twnation.ca/tlr-drought-response-work-at-indian-river-watershed-on-september-15-16-2023/>

seasonal rounds and harvesting conducted through kinship ties), and the future exercise of those rights (the ability to engage in and maintain desired cultural practices and identity). How the Project, and even the consultation process, may affect past, present or future rights will ultimately impact the health and wellbeing of our Members.

The tables below summarize the direction of potential Project effects, the pathways through which post-mitigation residual effects could impact TWN's interests, and the rights that could be affected through those pathways. The text following the tables provides more detailed descriptions of the proponent's mitigation measures, the residual effects that may remain, and how those residual effects could affect TWN's interest and associated rights.

## Residual Effects Pathways to scé-łən and scé-łən Habitat

**Table 2. TWN Summary of Residual Effects Pathways to scé-łən and scé-łən Habitat**

| Relevant Project Phase(s)                | Project Effect Direction | Residual Effect Pathway                                                                                                                                                                                                                                                     | Impact on TWN Interest                                                                                                              | Impacted TWN Rights                       |
|------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| Construction, Operation, Decommissioning | Negative                 | <b>(a) Contamination</b> of scé-łən and scé-łən habitat via use of trucks and equipment; hydrostatic test water discharge; deposition of SO <sub>2</sub> , Nox, dust and particulate matter emissions; and Project construction mobilizing groundwater or soil contaminants | Reduction in scé-łən habitat quality, increased risk to scé-łən health and mortality, changes in scé-łən distribution and abundance | Cultural                                  |
|                                          | Negative                 | <b>(b) Underwater noise</b> in scé-łən habitat via upland construction, operation and Decommissioning activities                                                                                                                                                            |                                                                                                                                     | Spiritual and religious                   |
|                                          | Negative                 | <b>(c) Greenhouse gasses</b> emitted by the Project may reduce scé-łən habitat quality and quantity by contributing to climate change                                                                                                                                       |                                                                                                                                     | Language and cultural transmission        |
| Construction                             | Negative                 | <b>(d) Marine shipping</b> of Project modules for assembly of liquefaction trains may result in contamination, underwater noise, physical disturbance and habitat disruption, and pathogen spread                                                                           |                                                                                                                                     | Self-determination and self-governance    |
|                                          |                          |                                                                                                                                                                                                                                                                             |                                                                                                                                     | Lands, territory, resources               |
|                                          |                          |                                                                                                                                                                                                                                                                             |                                                                                                                                     | Environmental protection and stewardship  |
|                                          |                          |                                                                                                                                                                                                                                                                             |                                                                                                                                     | Food security and traditional livelihoods |

### (a) Contamination

The Project may result in contamination of scé-łən and scé-łən habitat via use of trucks and equipment, hydrostatic test water discharge, and deposition of acid, nitrogen, dust and/or particulate matter. Project construction could also mobilize existing ground water or soil contamination.

### Truck and Equipment Use

The Revised Application estimates that construction truck traffic will consist of 26,369 truckloads total. With “a nominal of 1,800 truckloads per month from July 2025 to July 2026, the Tilbury project site could expect to receive about 90 truckload deliveries everyday during the overall T2 Expansion Project construction period” (Appendix R, pg. 23). These on-road trucks are expected to travel over a million kilometers (1,080,000 km) (Appendix N, pg. 23), and construction equipment use will consist of around 178,132 hours of operation (Appendix N, pg. 20–22). The Revised Application does not provide information on truck and equipment use during the operations or decommissioning phases.

Heavy duty trucks and equipment are known to release 6PPD-quinone from tire wear, particulate matter (PM), polycyclic aromatic hydrocarbons (PAH), and trace Metals. Contaminants from the Project’s significant scale of construction activity could be picked up from the Project site by stormwater that could enter the City of Delta’s storm sewer system, which drains to the Tilbury Slough. The Tilbury Slough is tidally influenced and connected to the Fraser River, so this creates a plausible pathway for contaminants to reach fish-bearing waters.

However, the Revised Application does not assess potential effects to fish and fish habitat from truck and equipment use on the basis that Project-related traffic would represent approximately 0.6% of total traffic volume and approximately 5% of commercial vehicles. From TWN’s perspective, the relative percentage of overall traffic volume is not an ecologically relevant criterion for screening out the assessment of aquatic effects. In the context of existing cumulative water quality stressors for a culturally significant species, like scé·lən, this pathway warrants an assessment.

The Revised Application also omits evidence to support the assumption that capturing stormwater in sumps will reduce contact-water and sedimentation effects to “negligible,” and therefore, no residual effects assessment was needed. The Revised Application also does not clearly show how climate change is considered in runoff and erosion analysis. In a system where water and sediment quality guidelines are already exceeded, even small additional inputs may add to cumulative stress on juvenile and migrating scé·lən.

TWN repeatedly requested an assessment of the effects of truck and equipment use on fish and fish habitat to uphold the principle of FPIC and ensure a sufficient impact analysis on TWN’s rights. Despite repeating these requests in consensus-seeking meetings with the IAAC and the EAO, the EAO accepted the Revised Application without this information.

### Hydrostatic Test Water Discharge

The Revised Application concludes that hydrostatic test water discharge is not expected to change Tilbury Slough water quality or cause erosion at stormwater outlets. This conclusion is based on commitments to treat the water to meet B.C. Water Quality Guidelines (WQGs) before discharge and to limit discharge to a maximum of 11 cubic metres per minute. However, much of this conclusion depends on future permitting, an agreement with the Corporation of Delta, and monitoring and erosion-control measures that have not yet been described in detail and are intended to be finalized during permitting. Appendix Q of the Revised Application acknowledges this gap, stating that “the runoff volume capacity and hydraulics of the Tilbury Slough are not part of this technical memorandum and as such they must be confirmed prior to finalizing the actual hydro-test discharge flowrate” (pg. 11). In TWN’s view, this

means important information needed to understand how the Tilbury Slough will respond to the discharge has not yet been assessed.

TWN also emphasizes that hydrostatic test water could contain many contaminants; that the discharge could total approximately 100 million litres of water; and that additional hydrostatic testing may be required for liquefaction trains and piping systems.

scé-tən are particularly sensitive to changes in turbidity, dissolved oxygen, temperature, hydrocarbons, and metals.<sup>46, 47, 48</sup> Juvenile rearing habitat inside channels and sloughs may be especially vulnerable to localized or short-term concentration spikes associated with storm events or discharge pulses.

TWN repeatedly requested a fulsome assessment regarding the discharge of approximately 100 million litres of hydrostatic test water to fish and fish habitat. TWN maintains that it is essential to uphold the principle of FPIC and ensure a sufficient impact analysis on TWN's rights. Despite repeating these requests in consensus-seeking meetings with IAAC and the EAO, the EAO accepted the Revised Application without this information.

#### Acid and Nitrogen Deposition

For combustion activities during all phases of the Project, sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) are likely to be emitted. These emissions can settle and deposit in scé-tən habitat. Nitrogen and acid deposition to fish habitat has the potential to damage aquatic life, alter habitat chemistry, and disrupt food webs.

According to Appendix K of the Revised Application, nitrogen and acid deposition could exceed provincial screening thresholds over the Fraser River adjacent to the Project.

TWN is also concerned that Appendix K assessed effects only during the Project's operations phase, and that no nitrogen or acid deposition study was completed for the construction or decommissioning phases, despite the significant use of trucks and equipment likely to occur during those phases.

Appendix K was also written in 2024, and yet it used baseline data from 2013–2015 thereby omitting nearly a decade of cumulative effects in a heavily industrialized area.

In addition, the assessment relied on ammonia concentration assumptions drawn from Alberta-based guidance. This introduces significant **uncertainty** into the results, particularly since the assessment indicates that most nitrogen deposition in the affected area occurs in a form that is strongly influenced by ammonia availability.

TWN is also concerned about the timing and disclosure of Appendix K. This appendix was not included in the original Application's Air Quality Technical Data Report. TWN received Appendix K for the first time

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<sup>46</sup> Berli BI, Gilbert MJH, Ralph AL, Tierney KB, Burkhardt-Holm P. (2014). *Acute exposure to a common suspended sediment affects the swimming performance and physiology of juvenile salmonids. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology*. 176:1–10. doi:<https://doi.org/10.1016/j.cbpa.2014.03.013>.

<sup>47</sup> Richter A, Kolmes SA. 2005. *Maximum Temperature Limits for Chinook, Coho, and Chum Salmon, and Steelhead Trout in the Pacific Northwest. Reviews in Fisheries Science*. 13(1):23–49. <https://doi.org/10.1080/10641260590885861>.

<sup>48</sup> Williams C. (2013). *Effects of cadmium on olfactory mediated behaviors and molecular biomarkers in coho salmon (Oncorhynchus kisutch) [Master's thesis, University of Washington School of Public Health]*. <https://deohs.washington.edu/edge/blog/cadmiu-mexposure-affects-coho-salmon-ability-smell-and-why-it-matters>

on October 31, 2025, after key consultation stages had already occurred. Therefore, TWN was unable to include comments on these issues in the Issues Tracking Table.

Overall, these gaps mean that the Application's assessment of nitrogen and acid deposition to fish and fish habitat does not reliably describe potential effects on scé-łən or on TWN's associated rights.

#### Dust and Particulate Matter

Construction and operation of the Project may generate emissions of dust and PM (PM<sub>2.5</sub> and PM<sub>10</sub>) that could be transported to scé-łən habitat.

Several air contaminants of concern are already present at elevated concentrations within the Local and Regional Assessment Areas. Deposition of fine particulates and associated contaminants into the Tilbury Slough and the Fraser River may contribute to bioaccumulation and stress in scé-łən.

The Revised Application defers the selection of dust-specific control measures to the post-certification Construction Environmental Management Plan (CEMP). Without identifying the specific measures, performance standards, and measurable targets, it is not possible to validate the proponent's conclusion that residual effects related to dust will be low.

TWN is also deeply concerned about the total absence of assessment for **demolition of the 1971 Base Plant**. As documented in the 2022 Detailed Project Description (DPD): "

"The demolition of the Base Plant is a key component of the Tilbury LNG Storage Expansion project, which is the subject of a Certificate of Public Convenience and Necessity (CPCN) Application that was filed with the British Columbia Utilities Commission (BCUC) in December 2020" (pg. 1-1).<sup>49</sup>

While the BCUC focused its review on economic, financial, and public convenience aspects of that application, environmental and human health impacts (e.g., dust, particulate matter and deposition) fall squarely under the jurisdiction of this EA process managed by the BC EAO.

FortisBC itself has acknowledged this regulatory sequencing, noting that the BCUC's issuance of the CPCN merely paved the way for next steps:

"Right now, our focus is on the Environmental Assessment process with the B.C. Environmental Assessment Office for the Tilbury Phase 2 LNG Expansion project. Approval at this critical stage is required before construction can begin on the **Tilbury LNG Storage Expansion project, which is part of Phase 2**. Phase 2 also includes additional liquefaction equipment to produce LNG for marine fueling."<sup>50</sup>

Consequently, TWN expects the EAO to regulate this demolition as an interconnected component of the Project to safeguard human health and Indigenous rights. The Crown's current emphasis on expediting

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<sup>49</sup> FortisBC Energy Inc., Tilbury Phase 2 LNG Expansion Project: Detailed Project Description (January 2022) at 1-1, prepared for the BC Environmental Assessment Office, online (pdf): BC Environmental Assessment Office Epic Portal [https://projects.eao.gov.bc.ca/api/public/document/61d61dc5733ef50022683d05/download/FortisBC\\_Tilbury\\_DPD\\_Final\\_Jan\\_2022.pdf](https://projects.eao.gov.bc.ca/api/public/document/61d61dc5733ef50022683d05/download/FortisBC_Tilbury_DPD_Final_Jan_2022.pdf).

<sup>50</sup> FortisBC, "Storage expansion approval for Tilbury LNG project means more reliable energy" (5 December 2025), Talking Energy (blog), online: <https://talkingenergy.ca/stories/storage-expansion-approval-tilbury-lng-project-means-more-reliable-energy>.

project timelines and avoiding "regulatory duplication" has instead created a regulatory gap: at present, no regulatory body is assessing the environmental impacts of this demolition or mandating necessary protective mitigation measures.

Demolishing legacy industrial infrastructure from the 1970s presents severe, localized risks regarding the release of hazardous dust and particulate matter, including asbestos, lead, and other legacy contaminants. Airborne and waterborne releases of these toxins could have profound, detrimental impacts not only on *scé·łən*, but also on Indigenous health and the meaningful exercise of rights within the Project's vicinity.

#### Groundwater–Surface Water Interaction

The Revised Application acknowledges that the unconfined aquifer beneath the Project site is hydraulically connected to both the Tilbury Slough and the Fraser River. However, contaminant transport between groundwater and surface water has not been fully assessed in the Revised Application.

Potential risks related to groundwater contamination include:

- Mobilization of potential petroleum hydrocarbons in groundwater during excavation or dewatering;
- Contaminated groundwater transport to surface water or infiltration of contaminated surface runoff to groundwater;
- Movement of contaminated waters to the Tilbury Slough/Fraser River.

In a tidally influenced system, groundwater and surface water can exchange contaminants, increasing complexity and **uncertainty**. Without quantitative modelling or conditions for monitoring, potential pathways of contaminated groundwater to *scé·łən* and *scé·łən* habitat cannot be omitted.

#### Contaminated Soils

The Revised Application notes that soil and water on the site are already contaminated and that construction could expose additional hazardous materials.

Activities that could increase the risk of contamination include:

- Excavating and handling contaminated soil and sediment;
- Managing "contact water" (water that has touched contaminated surfaces); and
- Storing and transporting hazardous soils.

If these materials are not tightly controlled, contaminants could spread into the surrounding environment, including *scé·łən* habitat.

At this phase of the EA process, detailed plans to manage these risks are being deferred until after Project approval. Deferring these details makes it harder to confirm that contamination controls will be effective in practice.

## **(b) Underwater Noise**

Construction activities, heavy truck traffic, and ongoing industrial operations associated with the Project could increase ambient noise in nearby waterways and along the shoreline. Increased nearshore noise can:

- Change scé·łən migration behaviour;
- Trigger scé·łən stress responses; and
- Disrupt scé·łən feeding or rearing in nearshore habitats.

Even if noise does not cause mortality, it can lead to behavioural disturbance. For example, it can increase energy use, reduce predator avoidance, and change habitat use. These effects are especially important for scé·łən populations that are already under stress.

TWN has a high **uncertainty** about the underwater noise that may be generated during upland construction due to the unavailability of information on the demolition of the 1971 Base Plant.

## **(c) Greenhouse Gases**

The Project would emit greenhouse gas (GHG) emissions during construction and operation, and likely in decommissioning. These emissions would come from burning fuel, flaring, releasing CO<sub>2</sub> from the natural gas feedstock, acquiring energy, and from unplanned gas releases (i.e., ‘fugitive’ emissions). These emissions will likely occur across multiple Project components that connect to other Tilbury projects.

After reviewing the Revised Application, submitting comments, and participating in meetings with the IAAC, the EAO and other regulators, TWN still has major questions regarding the Project’s GHG emissions. These unanswered questions will be discussed at length under the subsection “(d) Misrepresentation of Climate Risks”. Regardless of these uncertainties, the Application acknowledges that the Project will add net GHG emissions to Metro Vancouver, British Columbia, and Canada’s overall GHG inventories.

Climate change caused by GHGs is already affecting the Fraser River watershed and scé·łən populations, and key risks include:

- Warmer river and estuary water temperatures;
- Changes to water flow patterns;
- More frequent and more severe extreme weather events; and
- Marine heatwaves and other ocean changes that affect scé·łən survival in the ocean.

As noted in the “Cumulative Effects to Date” section, scé·łən are sensitive to water temperature and flow at multiple life stages. Warmer river temperatures are linked to higher pre-spawn mortality, lower migration success, greater susceptibility to disease, and reduced reproductive success. Changes in the timing and volume of river flows can reduce spawning habitat, affect juvenile rearing conditions, and lower survival during smolt outmigration. Ocean warming and acidification can also change food webs and reduce survival at sea.<sup>51</sup>

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<sup>51</sup> Q’ul-Ihnumutsun Aquatic Resources Society. (n.d.). *How human activities impact salmon*. QARS. <https://www.qars.ngo/post/how-human-activities-impact-salmon>



The Project would add GHG emissions to an already warming climate. Many ecological limits are already being reached or exceeded.

TWN emphasizes that natural gas (NG) and liquefied natural gas (LNG) are predominantly fracked fossil methane. Methane is a potent GHG that drives strong near-term warming, which is particularly relevant for scé·lən because water temperatures in freshwater and estuarine areas are already close to, or above, harmful thresholds during key migration and spawning periods. Even small increases in warming could worsen conditions for scé·lən survival, threatening the meaningful exercise of TWN harvesting rights and near-term aspirations.

TWN further emphasizes that these climate effects extend well beyond the life of the Project. Fugitive methane leaks drive intense near-term warming, and after atmospheric oxidation, methane is converted to carbon dioxide, a portion of which remains in the atmosphere for centuries to millennia. Accordingly, methane and carbon dioxide emissions from the Project result in an effectively **permanent** residual effect when viewed through the lens of human decision-making timelines.

#### (d) Marine Shipping

The Process Order for the Project includes cargo vessels carrying large liquefaction modules from Sand Heads Lighthouse to the Project Site. Even if the modules are transferred to an off-site location (such as Lynnterm Terminal in Burrard Inlet) for subsequent ground transport to the Project site, that marine transport remains a Project activity. TWN understands these modules may be shipped from China or the United States before potentially arriving in Burrard Inlet.

Although the exact route is unclear, these cargo vessels could add to existing marine pressures, including contamination of fish and fish habitat, underwater noise, physical disturbance, habitat disruption, and the spread of pathogens. This shipping would also result in GHG emissions; however, TWN has included that effect under subsection “(c) Greenhouse Gases”.

Due to these well-documented effects of marine shipping and TWN's interest in scé-ŧan, as well as ǵŧŧalámæcæn (killer whales, including SRKW), TWN repeatedly asked for information about the route that would likely be used to transport the liquefaction modules through TWN territory.

TWN also notes that the EAO's *Environmental Assessment Certificate Policy* states that CPDs should describe all project components and activities authorized for the Project (pg. 17). However, the EAO has not clearly included these construction activities in the CPD. TWN also raised concerns with IAAC and the EAO at a meeting on May 7, 2026, because the draft CPD stated that "construction activities will include but are not limited to..." (pg. B-4) which leaves the Project scope open for future changes.

TWN requested that the CPD be revised to reduce uncertainty and clearly identify all relevant project components and activities, including the cargo vessels delivering the large modules. This information is needed to support informed decision-making and to assess potential effects on the marine environment and on TWN's interest and rights.

## Residual Effects Pathways to TWN Access to scé·łən

**Table 3. TWN Summary of Residual Effects Pathways to TWN Access to scé·łən**

| Relevant Project Phase(s)                | Project Effect Direction | Residual Effect Pathway                                                                                                                                                                                            | Impact on TWN Interest                                                                                       | Impacted TWN Rights                                                                                                                                                                                                                         |
|------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction, Operation, Decommissioning | Negative                 | <b>(a) Industrialization, discharges and emissions</b> (e.g., air contaminants, dust, noise, visual disturbance, and vibration) may result in real and/or perceived risks to health and wellbeing while harvesting | Functional or perceived loss in ability to access scé·łən, or reduced quality of experience while harvesting | Cultural<br>Spiritual and religious<br>Language and cultural transmission<br>Self-determination and self-governance<br>Lands, territory, resources<br>Environmental protection and stewardship<br>Food security and traditional livelihoods |

### (a) Industrialization, Discharges and Emissions

In addition to effects on scé·łən and other harvested species, the Project could make it harder for TWN Members to safely access the Fraser River near Tilbury Island and to meaningfully exercise our Indigenous Rights there.

During construction, operation, and decommissioning, the Project would release air pollutants, including nitrogen oxides (NO<sub>x</sub>), sulphur dioxide (SO<sub>2</sub>), and particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), as well as other regulated air contaminants.

Air quality modelling in the Revised Application indicates the following:

- Ambient pollutant levels including nitrogen dioxide (NO<sub>2</sub>), may already be above health-based standards in the area surrounding the Project.
- Project emissions would add to these levels, which could increase health risks for Members who are fishing or taking part in cultural activities nearby.
- There is no air quality monitoring station on Tilbury Island, so TWN Members cannot confirm whether air quality conditions near the Project site are safe or access real-time information.

The Project would also likely emit irritants like noise, dust, pollution and vibration, and lead to increased commercial truck traffic and visual impacts. These disturbances can create practical barriers that discourage Members from using traditional places to access scé·łən. Even when scé·łən are present, Members may avoid the area because of:

- Worries about breathing polluted air and being close to heavy industrial traffic.
- A shoreline and river corridor that feels less safe, welcoming, or suitable for traditional use.
- The cumulative burden of adding another major industrial project to an area that is already heavily impacted.

For harvesting rights to be meaningful, Members must be able to exercise them safely and without unreasonable barriers. When environmental conditions are degraded—or when there is a reasonable fear of contamination—people may choose not to fish or practice culture in that area. In practice, this can limit the exercise of rights even if legal access remains.

Inaccessibility of scé·łən may also **disproportionately** affect TWN Members and exacerbate existing inequities. Individuals who do not currently have the resources, skills, and/or connections required to access a boat for fishing, would be further marginalized when fishing areas begin to feel less safe.

## Residual Effects Pathways to Tangible Cultural Heritage

**Table 4. TWN Summary of Residual Effects Pathways to Tangible Cultural Heritage**

| Relevant Project Phase(s)                | Project Effect Direction | Residual Effect Pathway                                                                                                                                                                                                                                 | Impact on TWN Interest                                          | Impacted TWN Rights                                                       |
|------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------|
| Construction                             | Negative                 | <b>(a) Destruction or damage</b> of tangible cultural heritage may result from site preparation, ground disturbance, and infrastructure development                                                                                                     | Direct loss of cultural heritage                                | Cultural<br>Spiritual and religious<br>Language and cultural transmission |
| Construction, Operation, Decommissioning | Negative                 | <b>(b) Industrialization, discharges and emissions</b> (e.g., air contaminants, dust, noise, light, and vibration) may result in increased sensory disturbance resulting in a reduced quality of experience and avoidance of areas of cultural heritage | Functional loss of desired access to tangible cultural heritage | Self-determination and self-governance<br>Lands, territory, resources     |

### (a) Destruction or Damage

As noted in the Archaeological Heritage chapter of the BC EAO's Assessment Report:

“DgRs-17 is known as a cultural site of high significance to several Indigenous nations. The Revised Application noted sources referencing the site and information about the site was received from Musqueam Indian Band, Quw'utsun Nation, Ts'uubaa-asatx, Tsawwassen First Nation, Tsleil-Waututh Nation, Kwantlen First Nation, Semiahmoo First Nation, and Stó:lō communities. First Nations also shared that when there is a village site on one side of a river, there is often a related site on the other side, which could include the location of Tilbury Phase 2” (pg. 2).

Thus, while TWN acknowledges site conditions and the Archaeological Impact Assessments that were conducted, based on Indigenous Knowledge, TWN has concerns that the Project's construction activities, such as site preparation, ground disturbance, and infrastructure development, could result in the direct and even **permanent** loss of tangible cultural heritage.

## (b) Industrialization, Discharges and Emissions

The Project's industrial footprint and environmental effects could also restrict the meaningful exercise of TWN cultural rights, as Project emissions and industrial disturbance would deter TWN Members from accessing cultural heritage areas.

Without site-specific air quality monitoring, TWN Members lack the information needed to ensure it is safe to conduct cultural activities on or adjacent to Tilbury Island.

Industrial intensification—including noise, dust, truck traffic, and visual impacts— would exacerbate “practical barriers” to accessing areas of tangible cultural heritage. TWN Members may thereby be deterred from practicing rights due to:

- Increased traffic and industrial operations that limit safe entry to shoreline areas.
- Concerns over contamination that discourage the use of the river corridor for cultural purposes.
- The further industrializing of the area already heavily impacted, diminishing its value for spiritual and traditional use.

For cultural rights to be meaningful, Members must be able to access heritage areas safely and without undue burden. When industrial conditions degrade the environment, it creates a functional barrier to the exercise of those rights.

Inaccessibility of tangible cultural heritage areas may also impact TWN Members **disproportionately** and exacerbate existing inequities. While some individuals possess the mobility, health and resources to visit areas of cultural significance, those with limited access—such as Elders or individuals with compromised health—are further marginalized when areas of cultural significance feel even less safe to visit due to increased industrialization.

## Residual Effects Pathways to Intangible Cultural Heritage

**Table 5. TWN Summary of Residual Effects Pathways to Intangible Cultural Heritage**

| Relevant Project Phase(s)                | Project Effect Direction | Residual Effect Pathway                                                                                                   | Impact on TWN Interest                                                                                                                     | Impacted TWN Rights                                                                                                 |
|------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Construction, Operation, Decommissioning | Negative                 | <b>(a) Stewardship and/or restoration impediments</b> due to further degradation and industrialization of scé-tən habitat | Reduced ability to make decisions concerning territory and resources and to engage in and maintain desired cultural practices and identity | Cultural<br>Spiritual and religious<br>Language and cultural transmission<br>Self-determination and self-governance |
| Operation                                | Negative                 | <b>(b) Self-governance impediments</b> due to Project's extreme demands on BC hydroelectricity and the committing region  | Reduced ability to make decisions concerning land use and self-governance over matters such as climate change                              | Lands, territory, resources<br>Environmental protection and stewardship                                             |

|  |  |                               |  |                                           |
|--|--|-------------------------------|--|-------------------------------------------|
|  |  | to fracked fossil methane use |  | Food security and traditional livelihoods |
|--|--|-------------------------------|--|-------------------------------------------|

### (a) Stewardship and/or Restoration Impediments

Tilbury Slough and the Lower Fraser River are already heavily burdened by industrialization, water quality exceedances, habitat fragmentation, and climate-related stressors. At the same time, Tilbury Slough has been identified as a high-priority site for habitat reconnection and restoration under initiatives funded by Fisheries and Oceans Canada.<sup>52</sup>

Any incremental degradation or additional contaminant loading associated with the Project may not only affect present-day scé·lən populations but also constrain future habitat recovery and restoration potential.

For TWN, restoring scé·lən harvest in accordance with səliwətaʔ law is not an abstract environmental objective, it is a clearly articulated community priority grounded in culture, stewardship, and intergenerational responsibility. Community-wide engagement conducted in 2025 demonstrated overwhelming support for increasing the harvesting of traditional foods, particularly scé·lən. These aspirations reflect TWN's intention to rebuild abundance, restore harvesting practices, and strengthen cultural continuity.

Strengthening harvesting practices directly supports TWN Members' ability to maintain cultural identity and community wellbeing. In the 2025 Community Harvesting Survey, the top reasons participants gave for wanting to harvest more were:

- Community and family connection,
- Spending time together,
- Sharing stories and lessons while the work is done,
- Processing food together,
- Togetherness.

Where residual Project effects incrementally contribute to cumulative stressors in the Lower Fraser River and perpetuate degraded conditions, they constrain TWN's ability to harvest and engage in these cultural practices. These effects may also:

- Limit or prevent the ecological conditions necessary for scé·lən population recovery.
- Increase the scale of restoration required to achieve community-identified goals.
- Foreclose or delay habitat reconnection opportunities.
- Undermine TWN's ability to determine and implement our stewardship objectives.

These effects extend beyond immediate biophysical impacts and directly engage TWN's inherent right of self-determination, including the authority to restore, manage, and sustain scé·lən for future generations.

<sup>52</sup> Resilient Waters, "Site Assessment Data: Fish, Water Quality, and Genetic Analysis at Priority Sites Affected by Flood Infrastructure," <https://www.resilientwaters.ca/research/siteassessments>

Residual effects may also **disproportionately** impact certain TWN subpopulations by increasing barriers to stewardship knowledge and harvesting participation. According to TWN's 2025 survey results:

- No youth (under 18) or Elders (71+) selected "Yes, I know about [harvesting practices] in detail."
- The highest proportion of respondents reporting detailed knowledge were between ages 19–35.
- Detailed knowledge increased with higher levels of formal education.
- A higher proportion of TWN employees reported knowledge of section 35 rights.

This demonstrates that barriers to harvesting and stewardship are not experienced equally across the community. Adverse residual Project effects therefore risk not only perpetuating limitations on TWN's rights but also exacerbating inequities within the Nation itself.

In this way, Project effects contribute to and reinforce an already stressed system, interfering not only with present harvesting rights, but with TWN's long-term capacity to govern, restore, and revitalize those rights in accordance with our laws, aspirations, and way of life.

### **(b) Self-Governance Impediments**

Bold action is required to mitigate climate change and reduce GHG emissions to help protect Valued Components (VC) and Nation-specific interests, like scé-łən. That is why TWN has our own 2023 *Community Energy Plan*, which contains 'net-zero ready' targets. Nevertheless, TWN's GHG reduction objectives depend on the Province and federal government meeting or exceeding their own net-zero commitments. However, at both the provincial and federal levels, the Crown is failing to make meaningful progress toward these targets.

As stated in the federal government's own report on Canada's 2030 *Emissions Reduction Plan*:

"The government has not treated emissions reduction with the seriousness it demands. In recent months, it has weakened or reversed several of its own climate policies. While it continues to describe climate change as a threat, its actions do not reflect the urgency such language implies. The evidence before the committee points to a stark and troubling conclusion, which is the government's decisions are not aligned with its stated commitments" (p. 49).<sup>53</sup>

As stated in the provincial 2025 *Climate Change Accountability Report*:

"Total [oil and gas] sector emissions are projected to rise as natural gas production growth continues to increase and new sources of emissions from Liquefied Natural Gas are included in the results (p.19)."<sup>54</sup>

TWN is concerned about the Project's demand on the Province's limited hydroelectric supply. Using renewable energy to process fossil fuels, rather than prioritizing local decarbonization is a significant concern during the climate crisis. TWN's concerns can be summarized as follows:

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<sup>53</sup> House of Commons Standing Committee on Environment and Sustainable Development, Canada's 2030 Emissions Reduction Plan: Federal Climate Policy at a Crossroads (Ottawa: House of Commons, 2024), available at: [ourcommons.ca/Content/Committee/451/ENVI/Reports/RP14043687/envirp03/envirp03-e.pdf](https://ourcommons.ca/Content/Committee/451/ENVI/Reports/RP14043687/envirp03/envirp03-e.pdf)

<sup>54</sup> British Columbia, 2025 Climate Change Accountability Report (Victoria: Government of British Columbia, 2025), available at: [www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/2025\\_climate\\_change\\_accountability\\_report.pdf](https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/2025_climate_change_accountability_report.pdf)

- The Project could require a quarter of Site C Dam’s annual capacity.<sup>55</sup>
- This diversion is expected to reduce the availability of renewable power and increase electricity costs for TWN Members.
- If more renewable energy projects must be built at a rapid pace to accommodate fossil fuel production, those “clean” energy projects may result in their own set of adverse effects on Indigenous rights.
- Diverting renewable energy to fossil fuel processing undermines the Crown’s climate targets and threatens TWN’s ability to meet our own GHG reduction objectives.

The Project would also commit the region to long-term natural gas (i.e., fracked fossil methane) combustion and introduce a major shift toward using LNG as a marine fuel. This shift should require a neutral and verifiable assessment of downstream GHG emissions. Specifically, the assessment must address methane slip, which has a significantly higher warming potential than CO<sub>2</sub> over a 20-year period. While TWN repeatedly requested such an assessment since the Early Engagement phase of the EA process, that request remains outstanding. Please see subsection “(d) Misrepresentation of Climate Risks” for further discussion.

## Residual Effects Pathways to TWN Health and Well-being

Table 6. TWN Summary of Residual Effects Pathways to TWN Health and Well-being

| Relevant Project Phase(s)                | Project Effect Direction | Residual Effect Pathway                                                                                                                                                                                                                                   | Impact on TWN Interest                                                                                                            | Impacted TWN Rights                                                              |
|------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Construction, Operation, Decommissioning | Negative                 | <b>(a) Barriers to accessing cultural heritage</b> imposed by the Project                                                                                                                                                                                 | Decline in TWN Member health and well-being due to limited access to scé-łən and potential loss of cultural heritage              | Cultural<br><br>Spiritual and religious                                          |
|                                          | Negative                 | <b>(b) Industrialization, discharges, and emissions</b> (e.g., dust, DPM, PM <sub>10</sub> , PM <sub>2.5</sub> , NO <sub>2</sub> , SO <sub>2</sub> , and VOCs) may reduce air quality adjacent to the project footprint where TWN Members practice rights | Increase in prevalence or severity of heart and/or respiratory symptoms, and potential exacerbation of existing health conditions | Language and cultural transmission<br><br>Self-determination and self-governance |
|                                          | Negative                 | <b>(d) Greenhouse gases</b> emitted by the Project may intensify TWN’s climate vulnerabilities                                                                                                                                                            | Reduced health and well-being due to impacts of climate change                                                                    | Lands, territory, resources                                                      |

<sup>55</sup> Times Colonist. (2023, April 3). Delta LNG plant fits in new energy framework: FortisBC. Times Colonist. <https://www.timescolonist.com/resources-agriculture/delta-lng-plant-fits-in-new-energy-framework-fortisbc-6803324>



|                                                               |          |                                                                                                     |                                                      |                                                                                           |
|---------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------|
| EA Process,<br>Construction,<br>Operation,<br>Decommissioning | Negative | <b>(c) Misrepresentation of climate risks</b> associated with the Project may cause mental distress | Reduced health and well-being due to mental distress | Environmental protection and stewardship<br><br>Food security and traditional livelihoods |
|---------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------|

### (a) Barriers to Accessing Cultural Heritage

TWN maintains that our diets should include local, traditional foods to enable both personal health and a sustained relationship with the lands and waters of our territory. As TWN's Food Sovereignty Policy states:

“Health for Tsleil-Waututh People is inseparable from health of the water and land. We have a sacred trust to ensure the health of the lands and waters within the unceded, traditional territory now and for generations to come <sup>56</sup>.”

Sockeye scé-łən is essential to community life and a staple food at large gatherings.<sup>57</sup> It is particularly important when hosting other First Nations, where serving traditional foods is a cultural requirement. Where TWN's access to scé-łən is limited, TWN's ability to host such events in a culturally appropriate manner is significantly constrained.

In addition, sockeye holds important ceremonial and spiritual roles. səliwətał ritualists conduct seasonal burning ceremonies to care for Ancestors and supernatural beings, in which local traditional foods are offered.<sup>58, 59, 60</sup> These foods are understood to be necessary because they are what Ancestors and spirits know and recognize. Sockeye and Chinook have been central to these ceremonies in recent years. Without access to Lower Fraser River scé-łən, TWN cannot fully fulfill these cultural and spiritual obligations.

Furthermore, if the construction of the Project damages or destroys tangible cultural heritage, and/or Project emissions discourage TWN Members from visiting culturally significant areas, this would harm the health and well-being of səliwətał and the community.

Cultural places and materials support identity and the transfer of teachings between generations. When those places are damaged or avoided because they feel unsafe, TWN Members may lose opportunities to practice culture, spend time on the land and water, and maintain community connections. Over time,

<sup>56</sup> Tsleil-Waututh Nation. (2024). TWN Food Sovereignty Policy 2024-2028. Pg. 3

<sup>57</sup> Morin, Jesse (2015) Tsleil-Waututh Nation's History, Culture and Aboriginal Interests in Eastern Burrard Inlet. Prepared for Gowlings, Lafleur, Henderson LLP. Submitted to the National Energy Board. pp. 364, 389-391.

<sup>58</sup> Kew, Michael (1970) Coast Salish Ceremonial Life: Status and Identity in a Modern Village. Unpublished PhD dissertation, Department of Anthropology, University of Washington, Seattle. Pp. 210-230.

<sup>59</sup> McHalsie, Albert (Sonny) (2007) *We Have to Take Care of Everything That Belongs to Us. In Be of Good Mind: Essays on the Coast Salish*, edited by B. Miller, pp. 82-130. UBC Press, Vancouver. pp. 119-120.

<sup>60</sup> Morin, Jesse (2015) Tsleil-Waututh Nation's History, Culture and Aboriginal Interests in Eastern Burrard Inlet. Prepared for Gowlings, Lafleur, Henderson LLP. Submitted to the National Energy Board. pp. 364, 389-391.

this can contribute to stress and grief, as well as negatively impact knowledge transmission, cultural identity, cultural continuity, and sense of place.

### **(b) Industrialization, Discharges and Emissions**

The Project would release a range of air emissions during all phases of its life cycle. These emissions could reduce air quality on and near the Project site, including in areas where TWN Members may travel, fish, or practice cultural rights.

Key air pollutants of concern for human health include:

- Dust (from ground disturbance, demolition, and material handling)
- Diesel particulate matter (DPM) from trucks and heavy equipment
- Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>)
- Nitrogen dioxide (NO<sub>2</sub>)
- Sulphur dioxide (SO<sub>2</sub>)
- Volatile organic compounds (VOCs)

Many of these pollutants can irritate lungs and airways, trigger asthma symptoms, and worsen existing heart and respiratory conditions. Fine particles (especially PM<sub>2.5</sub> and DPM) are of particular concern because they can penetrate deep into the lungs and may contribute to longer-term health effects with repeated exposure<sup>61</sup>.

TWN noted the following concerns with the Revised Application through the Issues Tracking Table, and consensus seeking meetings held with IAAC and the EAO on March 17 and 24, 2026:

- Table 7.2-9 of the Revised Application lists dust mitigation as a future commitment to “develop dust-control measures” in a CEMP. This is too general to support the conclusion that construction dust effects will be negligible to low, especially given concerns about dust from transportation and the demolition of the 1971 Base Plant.
- The Revised Application does not describe what dust controls will be used or how they will be checked (what will be monitored, where, how often, and what levels would trigger changes). Without this information, TWN cannot adequately assess whether the measures will protect air quality or support conclusions about effects on Indigenous health and the meaningful exercise of TWN’s rights in an already overburdened area.
- Section 7.2, p. 43 of the Revised Applications Air Quality Assessment, characterizes NO<sub>2</sub> residual effects as “negligible,” but the modelling results do not clearly support this. Using the applicable regulatory statistic (the 98th percentile for 1-hour NO<sub>2</sub>), predicted concentrations exceed air quality objectives in both the Base Case and the Application Case, including within 50 m of the Project site. The proponent defines “negligible” as no exceedance of applicable objectives, so it is unclear how a negligible rating is appropriate when exceedances occur in both cases. The rating appears to rely in part on assumptions that future ambient NO<sub>2</sub> levels will decline, which adds uncertainty. Where current NO<sub>2</sub> levels already exceed standards, any additional Project contribution would result in a more-than-negligible adverse effect on air quality and human health.

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<sup>61</sup> Xing, YF, Xu, YH, Shi, MH, Lian, YX. (2016) *The impact of PM2.5 on the human respiratory system. J Thorac Dis.* 2016 Jan;8(1):E69-74. doi: 10.3978/j.issn.2072-1439.2016.01.19

Nitrogen dioxide (NO<sub>2</sub>) is a “non-threshold” contaminant, meaning there is no safe level of exposure. As NO<sub>2</sub> concentrations increase, the risk of health effects, especially for people with asthma or other respiratory conditions, also increases<sup>62</sup>, creating **disproportionate** effects.

TWN also notes that the Revised Application does not clearly identify what emissions-control technology was assumed in modelling the Project’s criteria air contaminant (CAC) emissions. Furthermore, except for requiring a fully enclosed ground flare, the EAO’s conditions do not appear to require specific technology choices. This creates significant **uncertainty** about whether the Project design will effectively minimize harmful CAC emissions.

### (c) Greenhouse Gases

The GHGs emitted by the Project would contribute to climate change and in turn may impact the health of TWN Members. Earlier in this Assessment, we described how climate is and may continue to impact scé:łən, but it is essential to elaborate on how climate change exacerbated by this Project could impact səlilwətał more broadly.

As stated in TWN’s 2023 *Climate Change & Community Health Action Plan*:

“TWN community Members are already experiencing impacts of extreme summer heat, intense rainfall and more extreme winter storms, reduced air quality from wildfire smoke, coastal and overland flooding, shoreline erosion, and changing oceanic conditions. Many of these changes to our climate and natural environment are happening faster than were thought to be possible” (pg. 9).<sup>63</sup>

By contributing to climate change, the Project also has the capacity to adversely impact TWN’s cultural health. As emphasized in TWN’s 2019 *Climate Change Vulnerability Assessment Summary Report*:

“Climate change has the potential to profoundly impact the Tsleil-Waututh Nation and many key aspects of community life. It influences the ability of our community to harvest some wild foods and medicinal plants, how we access the shoreline and marine waters, and how we connect with Nature. It poses community health risks, influences our ability to practice spiritual and cultural ceremonies, and share cultural teachings” (pg. 6).<sup>64</sup>

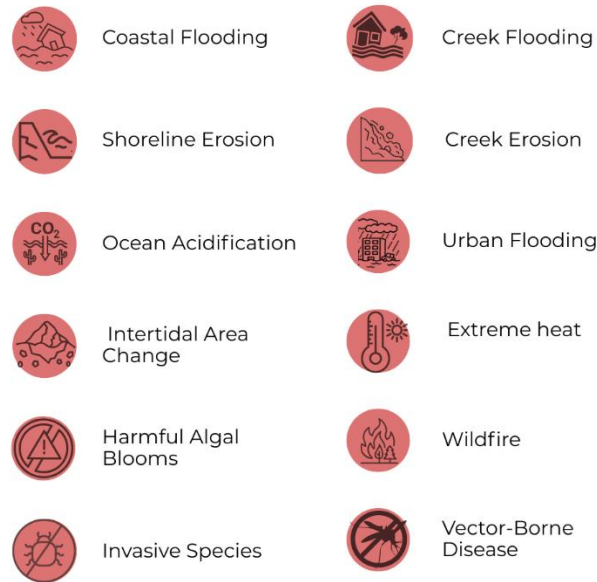
In 2019, the TWN *Climate Change Vulnerability Assessment Summary Report* further outlined the key risks for TWN in the face of climate change as shown in Figure 5.

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<sup>62</sup> Saini, D. K. (2026). *Synergistic Effects of NO<sub>2</sub>, SO<sub>2</sub>, and Particulate Matter on Plant Physiology and Human Respiratory Health*. J. Mater. Environ. Sci., 17 (5), 774, 792.

<sup>63</sup> Tsleil-Waututh Nation, *Community Climate Change and Health (CCCH) Health Plan: Summary Report*, (North Vancouver: Tsleil-Waututh Nation, 2023), [https://twnation.ca/wp-content/uploads/2025/08/TWN\\_CCCH-Health-Plan-Summary-Report-17July2023-PP.pdf](https://twnation.ca/wp-content/uploads/2025/08/TWN_CCCH-Health-Plan-Summary-Report-17July2023-PP.pdf).

<sup>64</sup> Tsleil-Waututh Nation, *Climate Change Vulnerability Assessment: Summary Report*, (North Vancouver: Tsleil-Waututh Nation, 2020), [https://twnation.ca/wp-content/uploads/2025/08/TWN\\_CCVA-SUMMARY-FINAL-VERSION-Jan-2020-PP.pdf](https://twnation.ca/wp-content/uploads/2025/08/TWN_CCVA-SUMMARY-FINAL-VERSION-Jan-2020-PP.pdf).



**Figure 5. TWN Climate Change Vulnerabilities**

Any Project that adds GHGs to regional, provincial, and national GHG inventories after the application of mitigation measures contributes to climate change. Accordingly, those emissions should be treated as an adverse residual project effect, rather than merely as background context.

#### **(d) Misrepresentation of Climate Risks**

If an EAC is issued for the Project, the Project would join several LNG projects expected to proceed in BC in the near term. Like the proponent's Application, the Crown has promoted not only the Project, but also LNG Canada, Cedar LNG, Woodfibre LNG, Ksi Lisims LNG as providing the "lowest carbon-emitting LNG"<sup>65</sup> without clearly defining what that means or allowing that claim to be independently tested.

At present, LNG Canada is the only major LNG export terminal in BC providing a real-world point of comparison between these claims and actual GHG performance. In 2025, LNG Canada reportedly flared approximately 350 million cubic metres of gas, more than the estimated highest LNG flaring source in the world in 2024.<sup>66, 67</sup> While the Project differs from LNG Canada, this reality calls into question both Crown and proponent claims regarding "low carbon LNG."

Recent studies reinforce TWN's concerns regarding the adequacy of existing LNG project assessments and monitoring frameworks. EAs and regulatory reviews have consistently underestimated or excluded emissions associated with LNG startup and commissioning flaring, despite evidence that these phases

<sup>65</sup> British Columbia Ministry of Jobs, Trade and Technology, Look West: British Columbia's Asia-Pacific Strategy, (Victoria: Government of British Columbia), <https://www2.gov.bc.ca/assets/gov/employment-business-and-economic-development/look-west-strategy/lookwest.pdf>.

<sup>66</sup> Matt Simmons, "LNG Canada burned more gas in 2025 than the world's biggest LNG flarer did in 2024," The Narwhal (2026), available at: [thenarwhal.ca/lng-canada-burned-gas/](https://thenarwhal.ca/lng-canada-burned-gas/)

<sup>67</sup> Lauren Krugel, "LNG Canada Equipment Problems, Flaring Violations Detailed in Report," CBC News, May 12, 2026, <https://www.cbc.ca/news/canada/british-columbia/lng-canada-flaring-problems-9.7196886>.

can result in prolonged and significant emissions events.<sup>68</sup> Existing assumptions and modelling approaches used in LNG assessments may not fully reflect real-world operational conditions, potentially underestimating impacts to air quality, climate, and human health. TWN emphasizes that we raised questions about emissions associated with commissioning of the Project in the Issues Tracking Table (codes: TWN-APP-200, TWN-APP-288) and that these questions remain unaddressed.

TWN also questions why the Government of Canada's 2020 Strategic Assessment of Climate Change (SACC) explicitly excludes downstream emissions from its GHG assessment guidance. This omission diverges from international GHG accounting standards, which require calculations of upstream, midstream, and downstream emissions to support informed decision-making. As a result, the Project's climate assessment remains incomplete and presents a potentially misleading representation of its true emissions profile.

Although the proponent commissioned a 2022 lifecycle GHG assessment for the TMJ project,<sup>69</sup> TWN has raised significant concerns regarding continued reliance on that study in the Revised Application. Key concerns include:

- The study relies on outdated FuelEU Maritime methane slip values, which are now widely recognized as underestimating actual methane emissions from LNG engines.
- The 2022 study lacks the neutrality expected in the EA process, as it was funded by the proponent and was not independently peer reviewed.
- The Application uses the study's conclusions to characterize LNG as a beneficial marine fuel while failing to assess the adverse effects of LNG shipping and bunkering.

Additional unresolved concerns regarding the Revised Application's GHG assessment include:

- Appendix N provides a facility-wide estimate of fugitive emissions using scaled-up data from Tilbury Phase 1A (TP1A) but does not explain how the substantial increase in scale for the Project was accounted for, or which Project-specific activities were included. TWN requested clarification, but the response was inadequate and the issue remained unresolved through consensus-seeking with the IAAC and the EAO.
- TWN raised concerns regarding the proponent's statement that emissions are not expected during maintenance and cleaning. This is unusual in the LNG sector and requires supporting evidence.
- The assessment did not include fugitive methane emissions from leaks during regasification of the Project's LNG for local use or from leaks during marine vessel loading.
- TWN requested information regarding refrigerant leaks associated with commissioning, pressure testing, and system adjustments. Given that the Project's storage tank is a cryogenic tank with a capacity exceeding 142,000 cubic metres, refrigerant leakage should reasonably be anticipated and assessed. No clear response was provided.

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<sup>68</sup> Minet, L. et al. (2025). Analysis of Flaring Activity at Liquefied Natural Gas (LNG) Export Facilities Worldwide. Environmental Science & Technology. American Chemical Society. <https://doi.org/10.1021/acs.est.5c03755>

<sup>69</sup> Affinity (Shipping) LLP, Study on the Air Quality Benefits to the Port of Vancouver by Adopting LNG as a Marine Fuel, prepared for Tilbury Jetty Limited Partnership and FortisBC, April 2022, <https://tilburypacific.ca/wp-content/uploads/2022/10/Affinity-Study-Vancouver-Air-Quality-Report-02.09.2022.pdf>.

These unresolved issues, combined with the continued use of contestable claims regarding the Project's LNG as a "lower carbon" energy source, create distress and imposes mental and physical burdens on TWN. As acknowledged in the Revised Application itself, "fears and anxieties can affect health status, whether they are perceived or real (pg. 7-809)," and concerns related to climate change, air quality, traffic, and environmental degradation can adversely affect health and quality of life. The Revised Application further recognizes that "the proposed Project may incrementally and cumulatively elevate the risk of fear and anxiety within the public about public safety and adequate climate action" (pg. 7-826).

TWN emphasizes that these effects extend beyond public concern and directly affect Indigenous wellbeing, particularly in relation to climate anxiety. Indigenous communities have faced ongoing existential threats resulting from colonization, displacement, and systemic injustice. As a result, climate anxiety may be experienced more acutely and **disproportionately** within Indigenous communities.

While the Revised Application states that risk perception will be mitigated through "ongoing, transparent communications" (pg. 7-810), the proponent's approach to assessing GHG emissions has not met TWN's transparency standard. As detailed in the Issues Tracking Table, TWN's repeated requests for clarification remain unresolved. Rather than addressing TWN's substantive concerns regarding the proponent's portrayal of the Project's GHG profile, the proponent repeatedly relied on the non-technical, non-regulated marketing term "lower-carbon" fuel, which has no legally defined meaning under Canadian law.<sup>70</sup> This approach exacerbates climate anxiety, undermines informed decision-making, and trivializes legitimate concerns regarding cumulative climate risk.

Overall, TWN is concerned that the Revised Application does not include a sufficiently comprehensive or independent health assessment capable of evaluating the full range of potential health impacts associated with LNG projects like this, including barriers to cultural heritage, air quality impacts, prolonged flaring events, and climate-related mental health impacts. Existing monitoring and mitigation commitments cannot be considered adequate where the underlying assessment fails to fully characterize potential health risks or relies heavily on proponent claims that have not been independently validated.

## **7.6 Step 6: Characterization of the Residual Effects on TWN's Interest and Associated Rights**

Based on the detailed information provided in Step 5, TWN has characterized residual effects impacting the following:

- scé·tən and scé·tən habitat,
- Access to scé·tən,
- Tangible cultural heritage,
- Intangible cultural heritage,
- TWN health and wellbeing.

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<sup>70</sup> TWN's consultation letter sent to the EAO and IAAC on August 5, 2025.

**Table 7. TWN Characterization of Residual Effects on scé-lən and scé-lən habitat**

| Residual Effects Characterization | Contamination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Underwater Noise     | Greenhouse Gases                     | Marine Shipping         |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------|-------------------------|
| Context                           | <b>Limits:</b> The Lower Fraser River, connecting bodies of water, surrounding airshed, and global climate already reflect cumulative environmental pressures, with numerous environmental thresholds exceeded and ecosystems under stress. scé-lən habitat quality is already severely compromised relative to pre-contact baseline conditions, and scé-lən face a multitude of cumulative risks to health and survival. Accordingly, existing conditions constrain scé-lən distribution and abundance and limit the meaningful exercise of associated rights, although some limited practice remains possible. |                      |                                      |                         |
| Magnitude                         | Moderate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Moderate             | Moderate                             | Moderate                |
| Extent                            | Regional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Local                | Beyond Regional                      | Beyond Regional         |
| Duration                          | Long-term                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Medium-term          | Permanent                            | Short-term to Long-term |
| Reversibility                     | Partially Reversible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Partially Reversible | Partially Reversible to Irreversible | Partially Reversible    |
| Frequency                         | Constant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Regular              | Constant                             | Once                    |
| Affected Populations              | Disproportionate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Disproportionate     | Disproportionate                     | Disproportionate        |
| Uncertainty                       | High Uncertainty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | High Uncertainty     | High Uncertainty                     | High Uncertainty        |
| Risk                              | Moderate to High Risk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Moderate Risk        | High Risk                            | Moderate to High Risk   |

**Table 8. TWN Characterization of Residual Effects on Access to scé-lən**

| Residual Effects Characterization | Industrialization, Discharges, and Emissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Context                           | <b>Limits:</b> In addition to existing conditions that limit scé-lən distribution and abundance through environmental stressors, TWN's access to scé-lən is further constrained by the enduring impacts of colonization and ongoing regulatory barriers. These conditions differ immensely from pre-contact conditions, where access to scé-lən was governed by Indigenous laws, protocols, and kinship ties. TWN Members identified barriers such as limited access to boats, transportation, and knowledge, as well as contamination and cost, as current barriers to fishing. |
| Magnitude                         | Moderate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Extent                            | Local                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Duration                          | Medium-term                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Reversibility                     | Partially Reversible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Frequency                         | Constant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Affected Populations              | Disproportionate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |



|             |                       |
|-------------|-----------------------|
| Uncertainty | High Uncertainty      |
| Risk        | Moderate to High Risk |

**Table 9. TWN Characterization of Residual Effects on Tangible Cultural Heritage**

| Residual Effects Characterization | Destruction or Damage                                                                                                                                                                                                                                | Industrialization, Discharges, and Emissions |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Context                           | <b>Limits:</b> TWN's access to tangible cultural heritage associated with past harvesting areas is currently constrained by the enduring impacts of colonization and extensive industrialization and development in the Lower Fraser River corridor. |                                              |
| Magnitude                         | High                                                                                                                                                                                                                                                 | Moderate                                     |
| Extent                            | Local                                                                                                                                                                                                                                                | Local                                        |
| Duration                          | Permanent                                                                                                                                                                                                                                            | Medium-term                                  |
| Reversibility                     | Irreversible                                                                                                                                                                                                                                         | Partially Reversible                         |
| Frequency                         | Regular                                                                                                                                                                                                                                              | Constant                                     |
| Affected Populations              | Disproportionate                                                                                                                                                                                                                                     | Disproportionate                             |
| Uncertainty                       | High Uncertainty                                                                                                                                                                                                                                     | High Uncertainty                             |
| Risk                              | High Risk                                                                                                                                                                                                                                            | Moderate to High Risk                        |

**Table 10. TWN Characterization of Residual Effects on Intangible Cultural Heritage**

| Residual Effects Characterization | Stewardship and/or Restoration Impediments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Self-Governance Impediments          |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Context                           | <b>Limits to Prevents:</b> Existing conditions already limit TWN's ability to exercise self-determination and self-governance in relation to our stewardship obligations, greenhouse gas reduction targets, and climate action. At present, the federal and provincial governments are not on track to meet their climate commitments, undermining TWN's climate objectives. Certain existing Crown policies and policy reversals are also entrenching climate change in ways that may ultimately prevent TWN from meaningfully exercising a range of rights. |                                      |
| Magnitude                         | High                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | High                                 |
| Extent                            | Regional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Beyond Regional                      |
| Duration                          | Long-term                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Long-term                            |
| Reversibility                     | Partially Reversible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Partially Reversible to Irreversible |
| Frequency                         | Constant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Constant                             |
| Affected Populations              | Disproportionate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Disproportionate                     |
| Uncertainty                       | High Uncertainty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | High Uncertainty                     |
| Risk                              | High Risk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | High Risk                            |

**Table 11. TWN Characterization of Residual Effects on TWN Health and Wellbeing**

| Residual Effects Characterization | Barriers to Accessing Cultural Heritage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Industrialization, Discharges and Emissions | Greenhouse Gases                     | Misrepresentation of Climate Risks |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------------|------------------------------------|
| Context                           | <b>Limits to Prevents:</b> Existing conditions arising from industrialization, contamination, and climate change already limit TWN Members' access to cultural heritage and undermine health and wellbeing. At present, the proponent and Crown's representation of the Project LNG as "lower carbon LNG," despite several unaddressed information requests, contributes to mental distress. Certain existing Crown policies and policy reversals are entrenching climate change in ways that may ultimately prevent TWN from meaningfully exercising a range of rights, causing harm to TWN health and wellbeing. |                                             |                                      |                                    |
| Magnitude                         | High                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | High                                        | High                                 | High                               |
| Extent                            | Regional                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Regional                                    | Beyond Regional                      | Beyond Regional                    |
| Duration                          | Long-term to Permanent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Long-term                                   | Permanent                            | Medium-term                        |
| Reversibility                     | Partially Reversible to Irreversible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Partially Reversible to Irreversible        | Partially Reversible to Irreversible | Partially Reversible               |
| Frequency                         | Constant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Constant                                    | Constant                             | Regular                            |
| Affected Populations              | Disproportionate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Disproportionate                            | Disproportionate                     | Disproportionate                   |
| Uncertainty                       | High Uncertainty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | High Uncertainty                            | High Uncertainty                     | High Uncertainty                   |
| Risk                              | High Risk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | High Risk                                   | High Risk                            | High Risk                          |

## 7.7 Step 7: Assessment of Cumulative Effects

In Step 7 of TWN's Assessment, cumulative effects are projected into the future evaluated based on:

- Existing conditions and residual Project effects;
- Other reasonably foreseeable projects and activities; and
- Anticipated climate change impacts, informed by TWN's *Climate Vulnerabilities Report* and regional climate projections.

This analysis considers whether future conditions will allow the exercise of rights in alignment with səlilwətał law, or whether they will limit or even prevent TWN's Nation-specific interest and the exercise of associated rights.

### Cumulative Effects on scé·lən and scé·lən habitat

#### (a) Cumulative Contamination

The Lower Fraser River and the Tilbury Slough are already subject to significant cumulative contamination from industrial development, urban runoff, wastewater discharge, transportation corridors, agricultural inputs, dredging, and historical contamination. Existing conditions include exceedances of B.C. and CCME water and sediment quality guidelines for multiple metals, phosphorus,

and PAHs, as well as low dissolved oxygen, elevated temperatures, and poor flushing conditions in the Tilbury Slough.

Future cumulative contamination is expected to increase as additional industrial projects proceed along the Lower Fraser River corridor, including the Project and connected infrastructure such as the TMJ.

Project-related sources of additional contaminant loading include:

- Stormwater runoff from expanded industrial surfaces, roads, and paved areas;
- Atmospheric deposition of NO<sub>x</sub>, SO<sub>2</sub>, PM, trace metals, and PAHs from increased truck traffic, construction equipment, marine vessels, and facility operations;
- Hydrostatic test water discharge to the Delta storm sewer system and ultimately the Tilbury Slough;
- Disturbance and potential mobilization of historically contaminated soils and groundwater during excavation, dewatering, demolition, and ground improvement activities; and
- Accidental spills, leaks, or releases of fuels, chemicals, or contaminated contact water.

These contaminant pathways do not occur in isolation. In a tidally influenced and already degraded system such as the Tilbury Slough, contaminants may persist due to limited flushing, interact through mixture toxicity, and compound existing habitat stressors such as low dissolved oxygen and elevated temperatures. There is also uncertainty regarding the cumulative effects of combined contaminant exposures, including air deposition associated with industrial operations, marine traffic, and LNG-related activities, on aquatic ecosystems, shoreline environments, and culturally important species, such as scé-łən.

In addition to the Project, other foreseeable future projects and activities may contribute metals, hydrocarbons, suspended solids, nutrient loading, degraded water quality, and increased contaminant deposition to scé-łən habitat.

### **(b) Cumulative Underwater Noise**

The Lower Fraser River is already subject to substantial underwater noise from existing commercial shipping and marine traffic, dredging, terminal activities, and industrial river use. These existing conditions create a chronic acoustic disturbance environment within scé-łən habitat.

Reasonably foreseeable future projects—including the TMJ, LNG-related vessel movements, barge transport for T1B, dredging activities, and increased industrial marine traffic and construction throughout the Fraser River corridor—will contribute additional underwater noise and vibration to an already stressed aquatic environment.

### **(c) Cumulative Greenhouse Gases**

GHG emissions associated with the Project extend well beyond the scope selected by the EAO for the Application Information Requirements (AIR). The AIR did not require assessment of several significant sources of GHG emissions likely to result from the Project, including:

- Methane slip while fueling trucks with the Project's LNG;
- Methane slip while loading marine vessels with the Project's LNG;
- Methane slip while bunkering and shipping the Project's LNG;

- Fugitive leaks during distribution of the Project's LNG;
- Fugitive leaks and combustion emissions for the regasification of the Project's LNG;
- Combustion (end use) of the Project's LNG.

In addition to emissions directly associated with the Project, multiple existing and planned projects on Tilbury Island will also contribute cumulatively to climate change. These include:

- T1A, including liquefaction and storage capacity and two truck loading bays;
- T1B, including liquefaction, connection to TMJ and a 6 km power line;
- Three km gas line expansion;
- Demolition of the 1971 Base Plant; and
- TMJ.

Beyond Tilbury Island, significant industrial development is planned throughout the Lower Fraser River corridor. TWN has been, and continues to be, actively engaged in assessing several major projects in this region, each of which will contribute additional GHG emissions to the atmosphere.

Cumulative emissions add carbon dioxide and methane to the atmosphere, both of which are significant drivers of climate change. Climate change, in turn, adversely affects scé·tən and scé·tən habitat through warming waters, reduced dissolved oxygen, altered freshet timing, sea level rise, and increased ecosystem instability.

In this way, climate-related cumulative effects are directly connected to TWN's rights to harvest, steward, and restore scé·tən populations.

#### **(d) Cumulative Marine Shipping**

Cumulative effects must also consider the multiple adverse residual effects associated with the TMJ project, which would be functionally connected to the Project to facilitate the shipping and bunkering of LNG produced by the Project.

Shipping and bunkering associated with the Project are expected to result in:

- Underwater noise;
- GHG emissions;
- Air contaminants that may deposit into fish habitat;
- Habitat disturbance and shoreline effects;
- Increased vessel wake and navigation pressures; and
- The potential spread of pathogens and invasive species.

Since the Early Engagement phase of the EA process, TWN consistently requested information regarding vessel transport associated with the Project, including marine shipping of liquefaction modules for construction, LNG bunkering, and downstream LNG transport.

During Process Planning, TWN requested clear information regarding both construction-related marine deliveries and LNG shipping. The EAO acknowledged that Project scope and consideration of the TMJ project's bunkering information would be addressed during scoping. However, despite repeated requests in consultation letters dated July 6, 2022; February 6, 2024; and August 5, 2025, the Revised Application still does not provide sufficient or transparent information regarding vessel movements within the Fraser River, Burrard Inlet, or Salish Sea.

TWN specifically requested that if downstream benefits associated with LNG use as a marine fuel were included in the Application, downstream adverse effects, particularly those associated with shipping, bunkering, and vessel traffic, must be assessed.

Ultimately, cumulative effects from shipping associated with the Project, TMJ, and all other shipping currently active on, or planned for, the Lower Fraser River, are expected to cause immense pressure on scé-łən and scé-łən habitat.

In conclusion, where contaminants persist over the long term in aquatic environments, or where underwater noise, climate change, and shipping (individually or cumulatively) push ecological systems beyond recovery thresholds, cumulative effects may degrade scé-łən and scé-łən habitat to the point of triggering temporary or prolonged fishery closures. Such closures could **prevent** TWN from meaningfully exercising the section 35 rights listed in Table 2.

## **Cumulative Effects on Access to scé-łən**

### **(a) Cumulative Industrialization, Discharges and Emissions**

The Project would add air emissions and industrial stressors, including noise, vibration, and visual disturbance, to the already heavily industrialized Lower Fraser River area, where existing LNG facilities, marine traffic, shoreline industry, and other reasonably foreseeable projects are expected to further degrade air quality and intensify industrial pressures.

The Revised Application identifies overlapping cumulative effects from projects including the TMJ, T1B, and other major industrial developments, with cumulative modelling showing exceedances of NO<sub>2</sub> air quality objectives near the TMJ, particularly from bunkering activities (Air Quality VC Chapter, pg. 7.2-50).

In conclusion, cumulative air pollution could make Lower Fraser River scé-łən inaccessible, by not only reducing the quality of the harvesting experience, but by making conditions unsafe for harvesting. Air pollution affects TWN Members' meaningful access to harvesting areas by making culturally significant places along the river feel increasingly industrialized, unhealthy, and inconsistent with TWN's stewardship responsibilities. In this way, cumulative air quality effects may **prevent** TWN's ability to access to scé-łən, thereby impacting TWN's rights listed in Table 3.

## **Cumulative Effects on Tangible Cultural Heritage**

### **(a) Cumulative Destruction or Damage**

Reasonably foreseeable projects near the Project include TMJ and T1B. Given Tilbury Island's proximity to known archeological sites, construction of these projects could risk destruction of tangible cultural heritage.

Furthermore, cumulative marine traffic and vessel wake along the Lower Fraser River may also contribute to erosion of known archaeological sites and culturally significant shorelines, resulting in permanent and irreversible loss of tangible cultural heritage. These effects are cumulative, where shoreline instability is already being driven by industrialization, dredging, vessel traffic, and climate-related changes, such as sea level rise and altered river hydrology.

## **(b) Cumulative Industrialization, Discharges and Emissions**

In addition, pollution and industrialization diminish the experience of accessing tangible cultural heritage areas and may even prevent access to culturally significant places due to safety concerns.

In conclusion, cumulative effects in the Lower Fraser River corridor arising from planned industrialization, increased pollution, marine traffic, and shoreline disturbance could not only **prevent** access to places of cultural significance but could also destroy tangible cultural heritage. In this way, cumulative effects on tangible cultural heritage could adversely affect TWN's rights listed in Table 4.

## **Cumulative Effects on Intangible Cultural Heritage**

### **(a) Cumulative Stewardship and/or Restoration Impediments**

The Tilbury Slough has been identified as a high-priority site for habitat reconnection and restoration under federal initiatives led by DFO.<sup>71</sup> Its restoration potential is particularly significant for juvenile salmon habitat, including Chinook and chum salmon, which are culturally important to TWN and ecologically critical as prey for qəłələməcən (SRKW).

Incremental degradation from the Project, when added to existing pressures and future cumulative effects, may foreclose future habitat recovery opportunities in the Tilbury Slough and adjacent fish-bearing environments and undermine TWN's long-term aspirations for scé-tən abundance and harvesting.

### **(b) Cumulative Self-Governance Impediments**

As of mid-2026, the Crown is accelerating the expansion of LNG projects. Federally, LNG Canada Phase 2 and Ksi Lisims LNG are being advanced through the *Building Canada Act* (Bill C-5), which prioritizes expedited approvals for 'Projects of National Interest'.<sup>72, 73</sup> Provincially, BC's *Look West: Jobs and Prosperity for a Stronger BC and Canada* similarly designates priority projects to expand LNG extraction, processing, and export.<sup>74</sup>

The Province has justified this expansion by claiming that BC is providing the "lowest carbon-emitting LNG," relying heavily on LNG facilities using hydroelectric power rather than fossil fuel combustion to make these claims.<sup>75</sup>

If major LNG projects, including LNG Canada, Cedar LNG, Woodfibre LNG, Ksi Lisims LNG, and the Project, were all to rely on hydroelectricity for major operations, the cumulative demand on BC's finite electricity supply would be enormous. Meeting that demand would require major expansion and fast-

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<sup>71</sup> Resilient Waters, "Site Assessment Data: Fish, Water Quality, and Genetic Analysis at Priority Sites Affected by Flood Infrastructure," <https://www.resilientwaters.ca/research/siteassessments>

<sup>72</sup> Office of the Prime Minister, "Prime Minister Carney announces first projects to be reviewed by the new Major Projects Office," Government of Canada, September 11, 2025, <https://www.pm.gc.ca/en/news/news-releases/2025/09/11/prime-minister-carney-announces-first-projects-be-reviewed-new>.

<sup>73</sup> John Paul Tasker, "Carney unveils major projects he wants fast-tracked, including new mines, LNG and hydro development," *CBC News*, November 13, 2025.

<sup>74</sup> British Columbia, Ministry of Jobs and Economic Growth. *Look West: Jobs and Prosperity for a Stronger BC and Canada*. Victoria, BC, 2025. <https://www2.gov.bc.ca/assets/gov/employment-business-and-economic-development/look-west-strategy/lookwest.pdf>.

<sup>75</sup> Ibid. pg. 32

tracking of hydroelectric generation and transmission infrastructure, creating further impacts to Indigenous heritage, lands, waters, and rights.

Furthermore, the “lowest carbon-emitting” LNG claims are not based on real-world data, since most of these LNG projects have not been built yet. Instead, these claims are based on proponent-led GHG forecasts following the requirements of Canada’s *Strategic Assessment of Climate Change* (SACC). Unlike well-established GHG accounting methodology typically used for major decision-making, Canada’s strategic assessment requirements exclude all downstream emissions (typically the largest source of emissions across a project’s lifecycle) and all upstream emissions below a certain threshold.

As previously described, TWN’s GHG reduction objectives depend on the Province and federal government meeting, or exceeding, their own net-zero commitments, and it appears increasingly unlikely that the Crown will meet those targets. TWN is also concerned that the cumulative electricity demand created by multiple LNG projects could place significant pressure on BC’s hydroelectric supply, potentially increasing the cost and reducing the accessibility of renewable energy for TWN Members. Using renewable electricity to process fossil fuels, rather than prioritizing local decarbonization and resilience, is a significant concern during the climate crisis.

Regardless of whether LNG facilities rely primarily on fossil fuels or large-scale electrification, the Province is deepening long-term dependence on methane extraction through fracking, LNG infrastructure, and fossil fuel combustion, while shifting significant cumulative burdens onto Indigenous Nations. This includes committing the Province to continued use of fossil methane and the ongoing risk of fugitive methane leaks throughout extraction, liquefaction, transport, regasification, and end use. Methane has a significantly higher warming potential than carbon dioxide over a 20-year period, making this long-term reliance particularly concerning in the context of accelerating climate change.

In conclusion, the cumulative impacts of industrialization on the Lower Fraser River may prevent TWN’s ability to make decisions concerning our territory and resources and to engage in and maintain desired cultural practices and identity. Similarly, the Crown’s policy decisions and fast-tracking of LNG projects may prevent TWN’s ability to make decisions concerning land use and self-governance over matters such as climate change. The intensity of industry and Crown policy decisions could thereby **prevent** TWN from meaningfully exercising our rights listed in Table 5.

## **Cumulative Effects on TWN Health and Well-being**

### **(a) Cumulative Barriers to Accessing Cultural Heritage**

As previously described, cumulative effects from pollution, industrialization, construction, vessel wake, and increased marine and road traffic may not only prevent TWN Members’ access to scé-lən and places of cultural significance but may also result in the destruction and permanent loss of tangible cultural heritage.

These effects can adversely impact TWN Members’ health and well-being by disrupting the ability to practice culture, ensure cultural continuity, and fulfill responsibilities to Ancestors, family, and future generations. Access to harvesting sites (both past and present), travel corridors, and places of spiritual and historical importance is directly connected to identity, belonging, and community wellness. When these places become unsafe, inaccessible, or physically damaged, the impacts are not only environmental, they are social, cultural, emotional, and spiritual.



Loss of access to scé·lən and harvesting places also weakens food security, traditional teaching opportunities, and the daily exercise of stewardship responsibilities that support both individual and collective well-being. For TWN, the inability to safely access and care for these places undermines relationships with the land and water and contributes to cumulative stress, grief, and cultural displacement.

In this way, cumulative effects on tangible and intangible cultural heritage are also cumulative effects on health and well-being, with impacts extending across generations.

### **(b) Cumulative Industrialization, Discharges and Emissions**

The Project is being added to an already heavily industrialized airshed. The Revised Application Air Quality VC Chapter acknowledges that the Lower Fraser River and Tilbury Island area are already subject to CAC emissions from existing operations, including the existing T1A facility and the cumulative effects analysis confirms that the Project would operate within a landscape where multiple overlapping LNG, marine, transportation, and industrial projects are contributing to chronic air pollution.

The Revised Application identifies five reasonably foreseeable projects with overlapping air quality effects, including the TMJ, T1B, the Delta Grinding Facility, the Roberts Bank Terminal 2 project, and the Vancouver Airport Fuel Delivery project. However, only TMJ and T1B were explicitly modelled. The three other projects were excluded from quantitative modelling because of insufficient information, despite being acknowledged as relevant contributors to cumulative effects. This creates uncertainty and likely understates total cumulative impacts.

Most significantly, the cumulative modelling predicts that hourly NO<sub>2</sub> concentrations exceed both Metro Vancouver and federal air quality objectives, with exceedance zones centred around the TMJ project and strongly influenced by LNG bunkering activities. Even annual NO<sub>2</sub> concentrations slightly exceed current objectives near the TMJ.

From TWN's perspective, air quality effects are directly connected to Section 35 rights and responsibilities, and poor air quality affects TWN Members' health when trying to practice their rights on the Lower Fraser River.

### **(c) Cumulative Greenhouse Gases**

GHG emissions from the Project, together with existing and reasonably foreseeable LNG, marine, transportation, and industrial projects throughout the Lower Fraser River corridor, and the province, will likely further exacerbate climate change and intensify TWN's existing climate vulnerabilities.

These GHG emissions extend beyond the scope assessed in the Revised Application and include marine loading, bunkering, shipping, regasification, fugitive methane leaks, and end-use combustion of the Project's LNG, in addition to emissions from related projects such as T1A, T1B, TMJ, gas and power line expansions, and other major provincial developments.

For TWN, climate change is not an abstract future risk, it is already creating direct impacts on Nation-specific interests and rights. As climate change is perpetuated, sea level rise and storm intensity worsen coastal flooding, shoreline erosion, creek flooding, and urban flooding, threatening waterfront infrastructure, archaeological sites, burial grounds, canoe storage, and culturally significant places. Coastal squeeze and intertidal habitat loss reduce access to shellfish, fish habitat, and important food

harvesting areas. The warmer waters, reduced dissolved oxygen, ocean acidification, harmful algal blooms, and invasive species further degrade scé-łan habitat and marine ecosystems that support TWN harvesting and stewardship responsibilities.

Extreme heat, wildfire smoke, and vector-borne disease also create direct risks to TWN community health, cultural practice, and food security, while increased pressure on BC's finite hydroelectric supply may reduce access to affordable renewable energy for TWN Members.

Regardless of whether LNG facilities rely on fossil fuels or large-scale electrification, the Province is deepening long-term dependence on methane extraction and LNG infrastructure while shifting significant cumulative burdens onto Indigenous Nations. These cumulative climate effects could prevent TWN's ability to harvest, steward, restore, and maintain relationships with lands, waters, and species in accordance with səliłwətał law. In turn, this multitude of effects will likely impact TWN health and well-being.

#### **(d) Cumulative Misrepresentation of Climate Risks**

TWN remains concerned that the climate risks associated with LNG development in BC are consistently understated while speculative "lower-carbon" or "best-in-class" claims are emphasized to justify continued expansion of fossil methane infrastructure.

Recent studies and regulatory reviews have shown that LNG assessments frequently underestimate emissions by excluding or minimizing major sources such as startup and commissioning flaring, fugitive methane releases, and downstream combustion. Researchers have specifically warned that assumptions used in LNG assessments often fail to reflect real-world operating conditions and may significantly underestimate impacts to air quality, climate, and human health.<sup>76</sup>

In the federal review of the Project (Appendix 15 of the EAO's Assessment Report), the Project is described as "best in class" for carbon intensity because of electrically driven compression. However, when TWN requested that the EAO identify the specific, enforceable conditions and project-level monitoring, reporting, and verification framework that would substantiate the Proponent's emissions claims, the EAO directed TWN to the Greenhouse Gas Industrial Reporting and Control Act (GGIRCA). Relying on GGIRCA as a primary oversight mechanism introduces severe regulatory blind spots. GGIRCA enforces a highly restrictive boundary that excludes lifecycle impacts, capturing only direct (Scope 1) facility emissions. Furthermore, the framework relies on accounting using generalized, mathematical emission factors rather than continuous, real-world GHG measurement. This reliance systematically underreports fugitive methane leaks and irregular operational venting.

TWN requested a clear and enforceable Project-wide GHG Monitoring and Reporting System that would apply to commissioning through decommissioning, quantify direct and indirect emissions, incorporate real-world methane detection technologies, and provide annual reporting that TWN could review. Without such requirements, there is no meaningful mechanism to verify emissions intensity claims or distinguish actual operational performance from accounting assumptions or offsets.

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<sup>76</sup> Minet, L. et al. (2025). Analysis of Flaring Activity at Liquefied Natural Gas (LNG) Export Facilities Worldwide. Environmental Science & Technology. American Chemical Society. <https://doi.org/10.1021/acs.est.5c03755>

The absence of these enforceable requirements contributes to cumulative mental distress for TWN. The Crown continues to promote BC LNG as “lowest carbon-emitting” while expanding long-term dependence on fossil methane extraction. When climate risks are trivialized and accountability mechanisms are minimized, TWN is left to carry uncertainty about future harm to lands, waters, scé-łən, cultural continuity, and community wellbeing. This creates ongoing stress and intergenerational anxiety regarding whether the Crown is meaningfully protecting the future of our people and territory or merely using climate language to justify further industrialization.

In conclusion, the cumulative impacts of prevented access to culture, air pollution, intensification of TWN’s climate vulnerabilities, and mental distress caused by misrepresentation of LNG facility climate risks all culminate to impact TWN health and wellbeing. This harm to health and wellbeing could thereby **prevent** TWN from meaningfully exercising our rights listed in Table 6.

## 7.8 Step 8: Final Significance Determination

The final step in TWN’s assessment is to determine the significance of residual and cumulative effects on TWN’s Nation-specific interest and associated Section 35 rights.

**Significance** is the overall determination of whether effects are acceptable under səlilwətał law and whether they result in an infringement on TWN’s rights. This determination integrates information from all previous steps.

Significance reflects the extent to which adverse effects limit or prevent the meaningful exercise of TWN’s rights. It is assessed relative to TWN-defined rights-enabling conditions informed by səlilwətał law, pre-contact conditions, and future aspirations. TWN applies the following significance thresholds:

- Not Significant: Effects do not perpetuate, or result in, a meaningful limitation on, or infringement of, TWN’s interest and associated rights.
- Significant: Effects perpetuate, or result in, a meaningful limitation on TWN’s interest and associated rights. Effects may reduce access, quality, continuity, or cultural integrity, but do not fully prevent the exercise of rights.
- Highly Significant: Effects perpetuate, or result in, a substantial limitation on TWN’s interest and effective prevention of TWN’s ability to exercise rights. This includes situations where rights are no longer meaningfully exercisable, where effects entrench existing infringement conditions, or where restoration and future exercise are foreclosed. These effects are inconsistent with səlilwətał law and require avoidance or structural redress.

### Overall Summary of Impacts to TWN’s Rights and Interests

Based on TWN’s characterization of residual effects, the Project would contribute to existing cumulative effects that already constrain the meaningful exercise of TWN’s rights and stewardship responsibilities throughout our territory. The Lower Fraser River and surrounding area is already under significant ecological, cultural, and governance stress due to ongoing industrialization, marine shipping, habitat degradation, contamination, and climate change.

Within this context, even incremental residual effects may result in meaningful additional impacts where existing conditions already limit or prevent the exercise of rights. TWN therefore concludes that several residual Project effects, particularly those related to scé-łən, cultural continuity, stewardship

obligations, and cumulative marine and climate-related pressures, are significant and, in many cases, highly significant or unacceptable under səlilwətaʔ law.

**Table 12. TWN Final Significance Determination and Summary of Residual and Cumulative Effects on TWN Rights and Interests**

| Key Residual Effects                                                 | Residual Effects Characterization                                                                                                                                                                                                                                                                                                   | Cumulative Effects Context                                                                                                                                            | Significance Determination for Residual Effects | Significance Determination for Cumulative Effects |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|---------------------------------------------------|
| <b>Pathways to scé-tən and scé-tən Habitat</b>                       |                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                       |                                                 |                                                   |
| <b>Contamination</b><br><br>Section 7.5,<br>Table 2,<br>Table 7.     | <b>Context:</b> Limits<br><b>Magnitude:</b> Moderate<br><b>Extent:</b> Regional<br><b>Duration:</b> Long-term<br><b>Reversibility:</b> Partially Reversible<br><b>Frequency:</b> Constant<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> High Risk                        | scé-tən and scé-tən habitat near the Project footprint are already subject to significant cumulative pressures including degraded water quality, chronic              | <b>Significant to Highly Significant</b>        | <b>Highly Significant</b>                         |
| <b>Underwater Noise</b><br><br>Section 7.5,<br>Table 2,<br>Table 7.  | <b>Context:</b> Limits<br><b>Magnitude:</b> Moderate<br><b>Extent:</b> Local<br><b>Duration:</b> Medium-term<br><b>Reversibility:</b> Partially Reversible<br><b>Frequency:</b> Regular<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> Moderate Risk                      | underwater noise, and ongoing climate-related stressors. The Project and other foreseeable projects and activities throughout the                                     | <b>Significant</b>                              | <b>Highly Significant</b>                         |
| <b>Greenhouse Gasses</b><br><br>Section 7.5,<br>Table 2,<br>Table 7. | <b>Context:</b> Limits<br><b>Magnitude:</b> Moderate<br><b>Extent:</b> Beyond Regional<br><b>Duration:</b> Permanent<br><b>Reversibility:</b> Partially Reversible to Irreversible<br><b>Frequency:</b> Constant<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> High Risk | Lower Fraser corridor will likely add further contamination, underwater noise, vessel disturbance, and climate-related stress. Incremental Project contaminants could | <b>Highly Significant</b>                       | <b>Highly Significant</b>                         |
| <b>Marine Shipping</b><br><br>Section 7.5,<br>Table 2,<br>Table 7.   | <b>Context:</b> Limits<br><b>Magnitude:</b> Moderate<br><b>Extent:</b> Beyond Regional<br><b>Duration:</b> Short-term to Long-term<br><b>Reversibility:</b> Partially Reversible<br><b>Frequency:</b> Once<br><b>Affected Populations:</b> Disproportionate                                                                         | foreclose Tilbury Slough as fish habitat. Cumulative impacts could prevent section 35 rights.                                                                         | <b>Significant</b>                              | <b>Highly Significant</b>                         |

|                                                                                                |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                  |                           |                           |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------|
|                                                                                                | <b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> Moderate to High Risk                                                                                                                                                                                                                                              |                                                                                                                                                  |                           |                           |
| <b>Pathways to Access to scé-tən</b>                                                           |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                  |                           |                           |
| <b>Industrialization, Discharges and Emissions</b><br><br>Section 7.5,<br>Table 3,<br>Table 8. | <b>Context:</b> Limits<br><b>Magnitude:</b> Moderate<br><b>Extent:</b> Local<br><b>Duration:</b> Medium-term<br><b>Reversibility:</b> Partially Reversible<br><b>Frequency:</b> Constant<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> Moderate to High Risk | TWN's access to scé-tən is already constrained. Foreseeable projects and activities would add further access barriers in an industrialized area. | <b>Significant</b>        | <b>Highly Significant</b> |
| <b>Pathways to Access to Tangible Cultural Heritage</b>                                        |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                  |                           |                           |
| <b>Destruction or Damage</b><br><br>Section 7.5,<br>Table 4,<br>Table 9.                       | <b>Context:</b> Limits<br><b>Magnitude:</b> High<br><b>Extent:</b> Local<br><b>Duration:</b> Permanent<br><b>Reversibility:</b> Irreversible<br><b>Frequency:</b> Regular<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> High Risk                            | TWN's access to tangible cultural heritage associated with Lower Fraser River harvesting areas is already constrained. The Project and other     | <b>Highly Significant</b> | <b>Highly Significant</b> |
| <b>Industrialization, Discharges and Emissions</b><br><br>Section 7.5,<br>Table 4,<br>Table 9. | <b>Context:</b> Limits<br><b>Magnitude:</b> Moderate<br><b>Extent:</b> Local<br><b>Duration:</b> Medium-term<br><b>Reversibility:</b> Partially Reversible<br><b>Frequency:</b> Constant<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> Moderate to High Risk | Foreseeable projects and activities could create cumulative risks of damage, erosion, and permanent loss of tangible heritage.                   | <b>Significant</b>        | <b>Highly Significant</b> |
| <b>Pathways to Intangible Cultural Heritage</b>                                                |                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                  |                           |                           |
| <b>Stewardship and/or Restoration Impediments</b><br><br>Section 7.5,<br>Table 5,<br>Table 10. | <b>Context:</b> Limits to Prevents<br><b>Magnitude:</b> High<br><b>Extent:</b> Regional<br><b>Duration:</b> Long-term<br><b>Reversibility:</b> Partially Reversible<br><b>Frequency:</b> Constant<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> High Risk    | TWN's ability to exercise self-determination and stewardship is already constrained. The Project may prevent restoration. The Project and        | <b>Highly Significant</b> | <b>Highly Significant</b> |
| <b>Self-Governance Impediments</b><br><br>Section 7.5,<br>Table 5,                             | <b>Context:</b> Limits to Prevents<br><b>Magnitude:</b> High<br><b>Extent:</b> Beyond Regional<br><b>Duration:</b> Long-term                                                                                                                                                                                            | Crown policies accelerating LNG expansion may prevent TWN from fulfilling GHG                                                                    | <b>Highly Significant</b> | <b>Highly Significant</b> |

|                                                                                           |                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                       |                           |                           |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------|
| Table 10.                                                                                 | <b>Reversibility:</b> Partially Reversible to Irreversible<br><b>Frequency:</b> Constant<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> High Risk                                                                                                                                       | emissions reduction objectives.                                                                                                                                       |                           |                           |
| <b>Pathways to TWN Health and Well-being</b>                                              |                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                       |                           |                           |
| <b>Barriers to Accessing Cultural Heritage</b><br><br>Section 7.5, Table 6, Table 11.     | <b>Context:</b> Limits to Prevents<br><b>Magnitude:</b> High<br><b>Extent:</b> Regional<br><b>Duration:</b> Long-term to Permanent<br><b>Reversibility:</b> Partially Reversible to Irreversible<br><b>Frequency:</b> Constant<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> High Risk | TWN's constrained or prevented access to cultural heritage, including worsening scé-lən habitat conditions, undermines community health and well-being. Air pollution | <b>Highly Significant</b> | <b>Highly Significant</b> |
| <b>Industrialization, Discharges and Emissions</b><br><br>Section 7.5, Table 6, Table 11. | <b>Context:</b> Limits to Prevents<br><b>Magnitude:</b> High<br><b>Extent:</b> Regional<br><b>Duration:</b> Long-term<br><b>Reversibility:</b> Partially Reversible to Irreversible<br><b>Frequency:</b> Constant<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> High Risk              | exceedances could cause irreversible health impacts. GHGs emitted by the Project and other foreseeable projects could exacerbate climate-driven vulnerabilities       | <b>Highly Significant</b> | <b>Highly Significant</b> |
| <b>Greenhouse Gases</b><br><br>Section 7.5, Table 6, Table 11.                            | <b>Context:</b> Limits to Prevents<br><b>Magnitude:</b> High<br><b>Extent:</b> Beyond Regional<br><b>Duration:</b> Permanent<br><b>Reversibility:</b> Partially Reversible to Irreversible<br><b>Frequency:</b> Constant<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> High Risk       | further harming community health and well-being. The proponent and Crown's claim that BC LNG is "low carbon emitting" without clear, enforceable verification creates | <b>Highly Significant</b> | <b>Highly Significant</b> |
| <b>Misrepresentation of Climate Risks</b><br><br>Section 7.5, Table 6, Table 11.          | <b>Context:</b> Limits to Prevents<br><b>Magnitude:</b> High<br><b>Extent:</b> Beyond Regional<br><b>Duration:</b> Medium-term<br><b>Reversibility:</b> Partially Reversible<br><b>Frequency:</b> Regular<br><b>Affected Populations:</b> Disproportionate<br><b>Uncertainty:</b> High Uncertainty<br><b>Risk:</b> High Risk                      | ongoing mental distress. Stress caused by trivializing TWN's substantive concerns can significantly impact health and well-being.                                     | <b>Highly Significant</b> | <b>Highly Significant</b> |

## 8. TWN's Recommended Conditions

Throughout the EA, TWN provided targeted condition recommendations via the Issues Tracking Table, consensus-seeking meetings, and formal comment periods. TWN has consistently emphasized that conditions should be issued, overseen, and enforced by the respective jurisdiction, rather than deferred to other jurisdictions, future permitting processes, or non-binding mechanisms. This is particularly important for areas such as air quality management, where responsibilities are often fragmented across jurisdictions or deferred to future permitting stages, creating uncertainty around accountability, enforceability, and cumulative effects management. The following summary focuses, non-exhaustively, on critical conditions and concerns that remain unresolved in the proposed provincial and federal draft conditions:

### 8.1 TWN-Led Cultural Continuity and Stewardship Program

To address the Project's residual and cumulative effects on TWN's cultural heritage, stewardship responsibilities, cultural continuity, and the meaningful exercise of Section 35 rights, TWN recommends:

- A binding condition requiring the development and implementation of a TWN-led Cultural Continuity and Stewardship Program.
- In collaboration with TWN, the proponent must develop, implement, and maintain a TWN-led Cultural Continuity and Stewardship Program for the life of the Project.
- The Program must:
  - a) Be co-developed with TWN and informed by səlilwətał law, TWN knowledge systems, cultural practices, and TWN-defined cultural continuity indicators, where identified by TWN;
  - b) Include secure, long-term, and sustained funding from the proponent sufficient to enable TWN's participation, at TWN's discretion, in activities related to the Program throughout all phases of the Project lifecycle;
  - c) Establish mechanisms for monitoring and reporting on Project-related impacts to cultural continuity, stewardship practices, cultural use, access, and intergenerational knowledge transmission, with funding available to support TWN participation at TWN's discretion;
  - d) Be reviewed and updated periodically throughout the life of the Project.

### 8.2 Greenhouse Gas Inventories and Lifecycle Assessments

While TWN acknowledges the utility of macro-level provincial frameworks like the GGIRCA and the BC Output-Based Pricing System, the EAO's deference to these mechanisms introduces significant regulatory gaps. By design, these high-level administrative regimes utilize narrow accounting boundaries that de-scope the vast majority of a project's lifecycle emissions, artificially minimizing its true carbon footprint. Deferring exclusively to these systems fails to address the specific cumulative climate impacts that directly infringe upon TWN's rights and territory. The EAO has a distinct mandate under the EA Act to assess cumulative effects and establish Project-specific mitigations; substituting this duty with general carbon pricing frameworks constitutes an improper deferral of regulatory oversight. To ensure transparency and robust Project-specific carbon accounting TWN recommends:

- The Proponent must conduct annual, Project-level GHG inventories quantifying actual emissions compiled during the preceding calendar year across all active Project phases. These inventories



must encompass Scope 1 (direct), Scope 2 (acquired energy), and Scope 3 (upstream supply chain and downstream marine transport/combustion) emissions.

- To ensure data integrity and prevent the distortion of baseline data, annual inventories must strictly adhere to Canada's GHG Quantification Requirements, the 2006 IPCC Guidelines, and ISO 14064-1 standards, including the mandatory, full disclosure of data gaps and methodological uncertainties.
- The Proponent must provide a third-party verified, cradle-to-grave Lifecycle Assessment (LCA) every three years, or upon material changes to the upstream supply chain, to accurately calculate the Project's evolving Carbon Intensity. This LCA should utilize the lifecycle accounting methodologies established under the federal Clean Fuel Regulations and the B.C. Low Carbon Fuel Standard but extend the physical boundary to include international marine transit and foreign end-use combustion.
- Carbon offsets must only be applied to mitigate verified, technically unavoidable residual emissions identified in the annual inventory. Offsets must not be applied to alter or artificially lower the baseline calculations within the Lifecycle Assessments.
- Annual GHG Inventories and periodic Lifecycle Assessments must use both the standard 100-year Global Warming Potential and the 20-year timescale to show the near-term climate impacts of fugitive methane.
- Annual GHG Inventories, periodic Lifecycle Assessments, and all underlying raw data must be submitted to TWN upon request.
- The Proponent must analyze, update, and implement feasible pathways for transitioning the facility to cleaner alternative fuels (such as hydrogen or ammonia) over the Project lifecycle to prevent asset stranding and lock-in of high-carbon infrastructure.

### **8.3 Greenhouse Gas Mitigation via Best Available Technology (BAT) and Independent Auditing**

To address a lack of project-specific design mandates, continuous fugitive methane tracking, and rigorous enforcement triggers in the draft EA conditions, TWN recommends:

- Mandatory low-leakage valves, closed-loop systems, and optimized compressor seals across all facility infrastructure.
- Prohibition of venting depressurized maintenance gas to the atmosphere. All such gases must be routed to a high-efficiency flare system or a vapor recovery unit for re-injection into the process line.
- Mandatory, multi-tiered continuous and aerial monitoring that entails:
  - Installation and operation of an automated network of real-time methane detectors across the facility, which trigger an alert if concentrations exceed background levels.
  - A minimum of four independent aerial or satellite-based emissions surveys per calendar year using high-resolution infrared spectroscopy or Light Detection and Ranging (LiDAR) technology.
  - Comprehensive ground-level Leak Detection and Repair (LDAR) surveys conducted a minimum of four times per calendar year, utilizing Optical Gas Imaging (OGI) cameras paired with quantification tools to measure leak mass flow rates.

- All Aerial/satellite and ground surveys, data analysis, and compliance reporting must be conducted and signed off by an independent, qualified third-party environmental professional. All audit results, continuous data streams, and imagery logs must be made public within 30 days of data collection.
- Any leak detected via monitoring must be logged instantly and repaired within seven calendar days.

#### 8.4 Transition Fuel Mandate and Feedstock Lifecycle Standards

To ensure that "net-zero" claims reflect absolute, source-level emissions avoidance rather than a reliance on creative carbon accounting or offsets, TWN recommends:

- RNG, or an approved transition fuel, is used for all facility combustion operations. Fracked fossil gas must not be used unless the Proponent demonstrates, through verifiable evidence, that compliant transition fuels are physically unavailable despite exhaustive efforts.
- Financial constraints, market price fluctuations, supply-chain premiums, or project profitability metrics must not constitute grounds for an exemption from the transition fuel mandate.
- Any "transition fuel" utilized by the Project must be defined strictly as a fuel possessing a low, zero, or net-negative lifecycle carbon **intensity**. Quantification of this intensity must encompass the full supply-chain footprint (e.g., hydrogen must not be classified as a transition fuel if it is produced using fossil-methane).

#### 8.5 Legacy Materials and Contaminant Controls

To protect human health and the local environment from the release of legacy industrial contaminants through demolition and other Project activities, TWN recommends:

- Prior to any dismantling activities, hazardous materials surveys must be conducted. A *Legacy Contaminant Management Plan* must be developed and implemented along with localized, continuous demolition air quality monitoring to identify, contain, manage and track historical industrial pollutants.
- Prior to demolition, excavation, or redevelopment activities, the Proponent must characterize the nature and extent of legacy contamination within areas that may be disturbed by the Project, including soil, groundwater, sediment, and existing infrastructure, and implement appropriate remediation or risk management measures where contamination exceeding applicable regulatory standards or posing risks to human health or ecological receptors.
- Any remediation, risk management, or demolition activities must be designed and implemented to prevent the mobilization of contaminants to Tilbury Slough, the Fraser River, adjacent habitats, and surrounding lands.
- Monitoring frameworks must enable independent, third-party validation of residual air quality, ensuring oversight of potential acute or chronic human health impacts.

#### 8.6 Facility-Wide Hydrostatic Testing Plan

To ensure comprehensive oversight and eliminate risks to local hydrology through the discharge of hydrostatic test water, TWN recommends:

- Regulating all piping, lines, and components undergoing hydrostatic testing (not just the storage tank).

- Mandatory opportunities for affected Indigenous Nations to review and approve the *LNG Hydrostatic Testing Plan*.
- Explicit restrictions on water sourcing to guarantee that volume withdrawals do not negatively impact fish habitat.
- Prohibiting the discharge of test water if established thresholds are exceeded, alongside mandatory biological toxicity testing to account for construction chemicals, biocides, and heavy metals.
- Strict, measurable stop-work orders for turbidity and erosion to actively prevent sediment re-suspension and bank scouring during discharge.

## **8.7 Aquatic Habitat Protection from Transportation and Equipment Contaminants**

To avoid the deposition of heavy metals, PAHs, and other transportation-related pollutants into fish habitats from heavy-duty Project traffic, TWN recommends:

- Identification and quantification of all transportation and equipment-related contaminant pathways to surface waters during Construction and Decommissioning.
- Enforceable integration of these pathways into management plans, defining explicit mitigation measures to prevent toxic roadway runoff from entering local waterways.
- Implementation of source-control, stormwater treatment, and runoff management measures designed to prevent Project-related heavy metals, PAHs, tire-wear contaminants (including 6PPD-quinone), and other transportation-related pollutants from entering fish-bearing waters and aquatic habitats.
- Establishment of water-quality monitoring and adaptive-management triggers to prevent Project-contributed pollution in low-oxygen, limited-flushing environments.
- Mandating that on-road and off-road vehicles and equipment used during Decommissioning be electric or otherwise zero-emission, wherever technically feasible at the time Decommissioning occurs.

## **8.8 Third-Party Air Quality Monitoring, Contaminant Attribution and Public Reporting**

To prevent regional data from masking the Project's specific contributions to cumulative airshed degradation, TWN recommends:

- Mandatory continuous air quality monitoring covering all Project emission sources.
- Explicitly mandating real-time monitoring on Tilbury Island, since short-range effects on air quality in the Project area are not readily measured by the current Metro Vancouver monitoring network.
- Requiring Project-specific thresholds for not only CACs but also GHGs (including methane).
- Where monitoring identifies exceedances of Project-specific thresholds or unanticipated Project-related air quality impacts, the Proponent must implement additional mitigation measures, operational modifications, or emissions reduction measures sufficient to return emissions and air quality conditions to acceptable levels.
- Requiring on-site air quality monitoring to begin before any Project activities occur and continue through decommissioning to ensure accurate attribution of Project emissions.

- Enforcement of a rigorous site-specific data framework designed to accurately isolate and attribute localized air quality impacts.
- Opportunities for affected Indigenous Nations to be notified when ambient air quality thresholds are exceeded on or near Tilbury Island.

## 8.9 Marine Traffic and In-water Works Condition

To address TWN's concern that future modifications (i.e., in-water works, dredging, or expanded water-based transportation) could be brought forward as "non-material amendments" or through secondary permits without adequate Indigenous consultation or a new assessment, TWN recommends:

- Enforceable regulations for any Project-related ocean-going cargo vessel transit routes and vessel timing in the Salish Sea, Fraser River, or Burrard Inlet, including potential cargo vessels delivering materials to marine based locations in TWN's territory (e.g., Lynnterm Terminal). This condition must be designed to mitigate impacts on TWN's rights and interests.
- Prohibiting future amendments that would enable vessel deliveries to the Project site, formalizing the proponent's non-binding commitment to eliminate barge deliveries and construction of the Material Offloading Facility (MOF).
- Prohibiting future amendments for in-water works, dredging, MOF construction, or upgrades to the existing MOF, reflecting that these activities have been removed from the Project scope.

## 8.10 Tilbury Slough Restoration Program

The long-term health of the Tilbury Slough is essential to scé·łən populations, aquatic ecosystem function, and the future exercise of TWN's rights. To help address the Project's potential exacerbation of chronic exceedances of BC and CCME guidelines for multiple heavy metals in the Slough, as well as potential adverse effects from the Project's emissions and discharges, TWN recommends:

- Requiring the Proponent to support fish habitat protection and restoration in Tilbury Slough, including funding a legally binding Tilbury Slough Restoration and Management Program in direct partnership with affected Indigenous Nations.

The summarized conditions above represent critical regulatory frameworks required to mitigate the Project's multi-scoped climate, environmental, health, and cultural impacts. TWN emphasizes that this is not an exhaustive list of our outstanding concerns. Rather, these recommendations highlight fundamental gaps where the Crown's proposed conditions and regulations currently fail to enforce absolute emissions reductions, protect and restore fish habitat, or protect Indigenous health and rights.

## 9. TWN's View on the Project's Contribution to Sustainability

TWN does not consider the Project to make a positive contribution to sustainability as required under the BC *Environmental Assessment Act* or the federal *Impact Assessment Act*.

While the sustainability assessment in Appendix 15 of the Assessment Report emphasizes economic benefits, energy supply, and industrial development, it does not meaningfully account for the long-term protection of TWN's Nation-specific interests, stewardship obligations, and Section 35 rights. In TWN's view, sustainability must include the protection and restoration of scé·łən, food sovereignty, cultural

resurgence, intergenerational wellbeing, climate resilience, and the ability of future generations to exercise their rights in accordance with səlilwətał law. Sustainability cannot be assessed solely through economic objectives, but must also consider cumulative ecological effects, cultural health, Indigenous rights, long-term stewardship responsibilities, and the risks associated with continued reliance on fossil fuel infrastructure.

The Project does not yet adequately demonstrate how these objectives will be achieved or maintained over the long term. Instead, it risks further pollution, habitat degradation, barriers to cultural heritage, and long-term dependence on fossil methane infrastructure during a climate crisis. TWN also remains concerned that broader provincial and federal policy objectives tied to LNG expansion may be narrowing the scope of what is considered “sustainable” or in the “public interest,” despite unresolved concerns regarding cumulative effects, climate risks, and impacts to Section 35 rights and cultural health.

### **Energy Resiliency and Long-Term Sustainability**

TWN notes a fundamental contradiction in the Project’s justification as an energy resilience measure for peak shaving. The Project is presented as necessary to ensure reliable natural gas supply during periods of high demand, yet the facility itself depends on substantial amounts of hydroelectricity to liquefy and store fossil gas.

This raises a critical question of sustainability and energy security: If significant renewable electricity is required to process, store, and ship LNG, why is that same hydroelectricity not prioritized for local decarbonization and community resilience rather than reinforcing long-term dependence on fossil gas infrastructure and potential LNG export?

TWN acknowledges that FortisBC Energy Inc. and the BCUC have identified domestic energy resiliency and system reliability as key justifications for the Project. However, from TWN’s perspective, a broader sustainability and public interest analysis must also consider whether alternative approaches to energy security could achieve similar objectives with fewer cumulative impacts on Indigenous rights, climate commitments, cultural health, and ecological systems. TWN remains concerned that the Revised Application and the Crown’s assessments have not sufficiently evaluated lower-impact alternatives or fully considered the long-term implications of deepening fossil gas dependence. Using finite renewable electricity to prolong reliance on fossil methane is not, in TWN’s view, a resilient or sustainable energy strategy.

### **Omission of Downstream Emissions and Methane Slip**

Despite TWN’s repeated requests since Early Engagement, the Revised Application does not adequately quantify downstream emissions associated with marine loading, bunkering, shipping, regasification, combustion, and methane slip.

For a project intended for marine fuel use and LNG export, these emissions represent the majority of the Project’s GHG profile. Their omission excludes the Project’s primary contribution to climate change and presents an incomplete and misleading emissions profile.

Furthermore, LNG is mostly composed of methane, and methane is a highly potent GHG. Reliance on a 100-year Global Warming Potential significantly understates near-term climate effects; over a 20-year timeframe, methane has more than 80 times the warming potential of carbon dioxide. This methodological choice minimizes impacts during the critical period for emissions reduction.

### **Lack of Enforceable Net-Zero Mechanisms**

Reliance on the proponent's stated "net zero by 2030" commitment is not sufficient without clear, enforceable legal mechanisms to ensure compliance.

TWN remains uncertain how emissions performance will be monitored, verified, or enforced over the life of the Project. Without binding conditions and transparent reporting, commitments to "best-in-class" emissions intensity or net-zero readiness, remain aspirational rather than reliable.

TWN agrees with the EAO's own conclusion that the Project is unlikely to contribute meaningfully to Canada's ability to meet its climate commitments.

### **Reliance on Offsets Rather Than Real Reductions**

The proponent has not demonstrated that its Net Zero Plan will achieve actual emissions reductions. Although the Application references the use of 100% renewable natural gas (RNG), it does not provide:

- Verified sources, volumes, or carbon intensities of RNG; or
- A credible, time-bound contingency plan if RNG is unavailable.

Without this information, the Net Zero Plan appears likely to rely heavily on carbon offsets rather than avoided emissions. Offsets do not eliminate emissions at source and do not provide the certainty required for a conservative and reasonably foreseeable assessment.

An unverifiable and unenforceable emissions strategy undermines TWN's own climate governance objectives and our ability to plan for long-term resilience.

### **Economic Sustainability Risk**

Claims that the Project supports long-term economic sustainability for the public and TWN are unpersuasive. During the Project's six-year construction period, the delivery portion of customer natural gas rates is projected to increase. More broadly, the long-term economic benefits of LNG expansion remain increasingly speculative in light of global market instability, armed conflict, climate risk, and growing liabilities associated with fossil gas infrastructure.

TWN is also concerned that the Project is being advanced within a broader policy context that increasingly prioritizes LNG expansion and industrial growth as matters of "provincial" or "national" interest, despite significant uncertainty regarding long-term LNG demand, climate transition pathways, and the long-term viability of methane-based infrastructure. From TWN's perspective, LNG expansion may not represent a durable or sustainable long-term energy solution, particularly given climate commitments and ongoing global decarbonization efforts.

True sustainability does not deepen dependence on fossil gas or transfer climate and infrastructure costs to the public, Indigenous Nations, and future generations. Expanding methane-based energy systems during a climate crisis risks imposing long-term financial burdens on TWN Members while undermining self-determination.

TWN concludes that the Project does not make a positive contribution to sustainability. Instead, it risks materially undermining TWN's climate goals, cultural resurgence, stewardship responsibilities, and long-term self-determination, while threatening the protection and restoration of culturally significant

species, access to harvesting practices, and obligations to future generations. From TWN's perspective, a sustainability assessment that excludes cumulative effects, cultural health, climate justice, and long-term stewardship is incomplete. Likewise, a public interest determination that prioritizes LNG development to benefit private sector capital growth over Indigenous rights, shared ecological systems, and intergenerational wellbeing cannot reflect a meaningful or holistic understanding of **sustainability** under səlilwətaʔ law.

## 10. Conclusion

Tsleil-Waututh Nation undertook this assessment pursuant to section 19(4) of the EA Act to evaluate the Project through TWN's own laws, governance responsibilities, knowledge systems, and assessment methodologies. This assessment reflects TWN's understanding of how the Project may affect TWN's constitutionally protected rights, interests, stewardship obligations, cultural continuity, and relationship with our territory.

**Through this assessment, TWN has identified significant concerns regarding both the regulatory process and the EA of the Project.** TWN remains concerned about significant uncertainty surrounding mitigation measures, Project components, GHG emissions, increased vessel traffic associated with the Tilbury projects, and broader cumulative pressures affecting TWN's rights and interests within the Lower Fraser River and surrounding territory.

TWN has already experienced significant impacts from decades of urbanization and industrialization, which have constrained our ability to meaningfully exercise rights, stewardship responsibilities, and cultural practices throughout our territory. From TWN's perspective, the Revised Application and the Crown's assessment of the Project do not sufficiently consider the combined effects of past, present, and reasonably foreseeable future projects and activities, including emissions, marine impacts, and ongoing industrialization throughout the region. While individual projects may appear incremental in isolation, together they continue to place increasing pressure on already stressed ecological, cultural, and governance systems.

TWN remains concerned that ill-defined mitigation measures will not meaningfully address the Project's adverse effects, and **if an EAC is issued for the Project as it stands, the Project would further contribute to the degraded conditions of the Lower Fraser River and Tilbury Slough, as well as ongoing cumulative pressures on cultural health, food systems, stewardship responsibilities, and the meaningful exercise of Section 35 rights.**

Based on the overall findings of TWN's 19(4) Assessment, including the summary of effects presented in

Table 12 above, TWN concludes that additional legally binding mitigation, monitoring, reporting, and accommodation measures are required to address impacts on TWN's rights and interests. TWN's Assessment identifies multiple interconnected pathways through which the Project may adversely affect the exercise of Section 35 rights, including air quality and health impacts, GHG emissions and climate-related risks, effects on fish and fish habitat, and barriers to tangible and intangible cultural heritage. These pathways must be understood within the broader cumulative context of ongoing industrial development on Tilbury Island and the Lower Fraser River.



TWN also remains concerned regarding unresolved information gaps, project splitting, and increasing reliance on Post-Certificate planning. These gaps have resulted in a lack of enforceable mitigation measures or means to confirm emissions performance once the Project is in operation. The Project is also being advanced within a broader policy context that increasingly prioritizes expedited approvals and “provincial” or “national interest” objectives, despite ongoing uncertainty regarding long-term LNG demand and whether LNG expansion represents a sustainable solution aligned with the Crown’s climate commitments.

**In TWN’s view, meaningful consultation and the implementation of FPIC require complete, accurate, transparent, and sufficiently detailed information before decisions are made. TWN does not consider that this standard has been met for this Project.**

TWN worked collaboratively and in good faith with the EAO, the proponent, and regulators throughout the assessment process. Although some areas of alignment were achieved, consensus was not reached on several key issues, including the assessment of GHG emissions, project splitting, marine shipping, insufficiency of the Application, and deferral of mitigation measures until after an EAC is issued. Therefore, where the EAO’s conclusions differ from those presented in TWN’s Assessment, Tsleil-Waututh Nation considers the conclusions in TWN’s 19(4) Assessment to best reflect the Project’s impacts on TWN’s rights, interests, and relationship with the territory.

From TWN’s perspective, moving forward to decision-making while significant concerns and unresolved issues remain outstanding does not reflect meaningful consultation or align with reconciliation commitments, DRIPA, UNDRIP, and the principles outlined in TWN’s Stewardship Policy. TWN expects provincial and federal decision-makers to carefully consider the findings, concerns, conclusions, and recommended conditions we have put forward throughout the EA process before making any decision, and to ensure that any decision is consistent with section 35 of the Constitution Act, 1982, and the Crown’s duty to meaningfully consult and accommodate Tsleil-Waututh Nation.

### 16.19.2 The EAO's Views

#### səlilwətał (Tsleil-Waututh) Nation's Assessment

Participating Indigenous nations have the opportunity under section 19(4) of the *Environmental Assessment Act* (2018) to carry out an assessment with respect to the potential effects of the Project on the Nation and its rights. Tsleil-Waututh Nation completed an effects assessment under section 19(4), as agreed upon in the Assessment Plan of the Process Order.

The EAO acknowledges and respects that Tsleil-Waututh Nation's section 19(4) assessment has been undertaken using its own laws, knowledge systems, and decision-making frameworks, and that the assessment reflects Tsleil-Waututh Nation's perspectives on the nature and severity of potential effects on its right and interests under Section 35 on the *Constitution Act, 1982* (Section 35 rights). The EAO also acknowledges that Tsleil-Waututh Nation's assessment methods may differ in some respects from EAO's assessment methods, and that any characterization of residual effects and determination of significance for Tsleil-Waututh Nation's 19(4) assessment is based on the methods that Tsleil-Waututh used.

#### Tsleil-Waututh Nation's Involvement in the Consultation Process

Tsleil-Waututh Nation identified as a participating Indigenous nation for the Project, was provided with opportunities to participate in the environmental assessment process, including through the development of the Process Order, Application Information Requirements, Assessment Plan, FortisBC's Application, EAO's Assessment Report and ongoing engagement with the EAO and FortisBC.

The EAO worked collaboratively with Tsleil-Waututh Nation throughout the environmental assessment process. Tsleil-Waututh Nation participated in technical discussions and iterative engagement opportunities to review project information, identify potential effects on its rights, and provide input on mitigation and accommodation measures to mitigate impacts on Tsleil-Waututh Nation's rights and title. The EAO and Tsleil-Waututh maintained ongoing dialogue throughout the process, including regular meetings and discussions to understand, assess, and respond to issues as they arose.

Through engagement during the Process Planning phase, it was identified that Tsleil-Waututh Nation would undertake its own assessment of the Project's effects on its rights and interests under section 19(4) of the Act.

#### Provincial Conditions and Federal Key Mitigation Measures

The EAO notes that Tsleil-Waututh Nation recommended additional specific mitigations, and those recommendations were considered and responded to in the development of provincial and federal conditions.

Provincial conditions and federal Key Mitigation Measures were developed to address potential impacts on Tsleil-Waututh Nation's Section 35 rights, including harvesting fish and fish habitat, and access to Fraser River sćé:lan (salmon), effects on tangible and intangible cultural heritage, health and well-being effects, and Tsleil-Waututh Nation's governance and stewardship. The following provincial conditions and federal Key Mitigation Measures also address the matters assessed by Tsleil-Waututh Nation in their section 19(4) assessment.

#### Impacts to Harvesting, Access, and Habitat (particularly sćé:lan/salmon)

The EAO identified the following proposed provincial conditions that would mitigate potential effects to harvesting, access and habitat, with any management plans from these conditions to be developed in consultation with Tsleil-Waututh Nation.

- Condition 10 (Community Feedback Process) creates a clear way for Tsleil-Waututh Nation to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of harvesting and cultural practices;

- Condition 12 (Construction Environmental Management Plan) requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. By reducing disturbance and protecting the environmental conditions that support fish, wildlife, and plants, this condition helps maintain the ability to access, harvest, and experience culturally important areas;
- Condition 13 (Operations Environmental Management Plan) requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Tsleil-Waututh harvesting and cultural practices;
- Condition 14 (Air Quality Management Plan) ensures the Project selects and applies effective emissions-control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support harvesting and cultural practices; and,
- Condition 17 (Dry Street Sweeping Report) helps assess whether dry street sweeping can reduce 6PPD-quinone on project-related roads, which may lower impacts on salmon and other fish important to Tsleil-Waututh Nation.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to harvesting:

- Migratory Bird Protections would require protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Tsleil-Waututh's harvesting practices and broader ecosystem conditions important to their way of life.

### **Cultural Sites and Use, Tangible and Intangible Cultural Heritage**

The EAO identified the following proposed provincial conditions that would mitigate potential effects to cultural sites, use, and tangible cultural heritage, with any management plans from these conditions to be developed in consultation with Tsleil-Waututh Nation.

- Condition 9 (Public Information and Flaring Notices) requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance;
- Condition 10 (Community Feedback Process) establishes a clear and structured mechanism for Tsleil-Waututh Nation to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- Condition 12 (Construction Environmental Management Plan) requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. By reducing disturbance and protecting the environmental conditions that support fish, wildlife, and plants, this condition helps maintain the ability to access and experience culturally important areas in ways that are consistent with Tsleil-Waututh values, supporting continuity of cultural practices and connection to place;
- Condition 13 (Operations Environmental Management Plan) requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation. Maintaining stable and predictable environmental conditions over time helps preserve the integrity of the area, supporting continued cultural use of the area, connection with sites, and knowledge transfer;

- Condition 14 (Air Quality Management Plan) ensures the selection and implementation of effective emissions-control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites; and
- Condition 15 (Chance Find Protocol) requires procedures to identify and protect archaeological or cultural materials discovered during project activities, to prevent additional cultural disturbance.

### **Tsleil-Waututh Governance and Stewardship**

The EAO identified the following proposed provincial conditions that would mitigate potential effects to Tsleil-Waututh governance and stewardship, with any management plans from these conditions to be developed in consultation with Tsleil-Waututh Nation.

- Condition 4 (Consultation) requires the Proponent to be available to meet with Tsleil-Waututh throughout all project phases and discuss issues or concerns related to the Project;
- Condition 3 (Document Development) requires that plans and programs include clear objectives, monitoring protocols, and reporting requirements, as well as provisions for evaluating mitigation effectiveness using baseline information (including Indigenous knowledge, where available). It also requires adaptive management where monitoring indicates that predicted outcomes are not achieved. These requirements are intended to support transparency, accountability, and ongoing refinement of mitigation measures over the Project lifecycle;
- Condition 10 (Community Feedback Process) ensures a clear and responsive pathway for Tsleil-Waututh Nation to raise and resolve concerns about project effects. By enabling early identification and timely resolution of issues such as noise, dust, light, or access disruptions, this allows Tsleil-Waututh more agency over these sensory concerns and,
- Condition 15 (Chance Find Protocol) requires procedures to identify and protect archaeological or cultural materials discovered during project activities, to prevent additional cultural disturbance.
- Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan) requires the development and implementation of a plan supporting economic participation of First Nations, and local communities, that would describe employment and contracting strategies and training practices. This plan supports Tsleil-Waututh Nation economic governance, ownership and self-determination.

### **Health and Well-being**

The EAO identified the following proposed provincial conditions that would mitigate potential effects to health and well-being, with any management plans from these conditions to be developed in consultation with Tsleil-Waututh Nation.

- Condition 10 (Community Feedback Process) provides Tsleil-Waututh with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance;
- Condition 12 (Construction Environmental Management Plan) requires mitigation measures to manage dust, noise, traffic, spills, surface water, erosion, and wildlife interactions during Construction. These measures help minimize construction-related disturbances that could affect Tsleil-Waututh community members' comfort, safety, health, and well-being;
- Condition 13 (Operations Environmental Management Plan) requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation, limiting long-term environmental disturbances;

- Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan) requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being;
- Condition 14 (Air Quality Management Plan) requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting physical health and overall well-being; and
- Condition 15 (Chance Find Protocol) requires procedures to identify and protect archaeological or cultural materials discovered during project activities. This condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Wellbeing:

- Accidents and Malfunctions Reporting would support mitigation of potential impacts on Tsleil-Waututh's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

From TWN's perspective, several draft federal and EAC conditions were overly discretionary or reactive, failing to proactively prevent impacts on TWN's rights. TWN also noted that the Crown's focus on avoiding regulatory duplication inadvertently created regulatory gaps.

To address these shortcomings, TWN requested ten clear, enforceable conditions designed to mitigate the Project's residual and cumulative effects on their cultural heritage, stewardship responsibilities, cultural continuity, and the meaningful exercise of Section 35 rights, as captured in TWN's assessment under section 19(4) of the EA Act. In developing the draft table of conditions, EAO considered TWN's proposed conditions and the concerns and effects identified in TWN's assessment, and incorporated measures intended to address those issues where appropriate and within EAO's regulatory mandate. Notwithstanding this, TWN remains concerned that its recommendations are not fully reflected in the current condition framework.

Regarding greenhouse gas (GHG) emissions, TWN acknowledged the utility of macro-level provincial frameworks like the GGIRCA and the BC Output-Based Pricing System. However, TWN emphasized that the EAO's post-certificate reliance on these mechanisms is based on narrow accounting boundaries that de-scope the vast majority of the Project's lifecycle GHG emissions, minimizing the Project's apparent emissions profile and significantly understating its overall carbon footprint.

### EAO Conclusion

Provincial conditions and federal Key Mitigation Measures were developed to address potential effects to First Nations' section 35 rights, and the EAO is of the view that the seriousness of potential effects on those rights would be reduced through implementation of the proposed provincial conditions and federal Key Mitigation Measures.

In consideration of the above analyses and the proposed provincial conditions, federal Key Mitigation Measures and follow-up programs, the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on the interests of Tsleil-Waututh has been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with Tsleil-Waututh Nation on Tilbury Phase 2, as outlined above, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult and accommodate Tsleil-Waututh Nation.

## 16.20 Ts'uubaa-asatx

### 16.20.1 Community Profile

Ts'uubaa-asatx (formerly Lake Cowichan First Nation) is a Hul'q'umi'num-speaking people who descended from Ditidaht and Hul'q'umi'num' ancestors, particularly the Somenos. They have a strong cultural, ethnic, and kinship ties across the Pacific coast of B.C., Lower Mainland, Vancouver Island, Washington, and northern Oregon.

The Ts'uubaa-asatx belong to the Hul'q'umi'num Treaty Group, which also includes Cowichan Tribes, Halalt First Nation, Lyackson First Nation, and Penelakut Tribe. Their traditional territory encompasses parts of south-eastern Vancouver Island, the southern Gulf Islands, a portion of the Lower Mainland, and waters of the Salish Sea to the Sunshine Coast including the lower portion of Howe Sound, Haro Strait, the Strait of Juan de Fuca and the south arm of the Fraser River up to Yale. Hul'q'umi'num Treaty Group has identified that within the area, there is a Core Traditional Territory within which Aboriginal title and related governance over Hul'q'umi'num lands is asserted, and a broader Marine Traditional Territory within which an Aboriginal right to fish and jurisdiction in fisheries management based in traditional law are asserted.

The Ts'uubaa-asatx community is located on a single reserve on the northeastern shore of Cowichan Lake, about 30 km west of Duncan, B.C., and 20 km east of Nitinat Lake on Vancouver Island. Historically, the community faced significant challenges, including a devastating smallpox epidemic in 1860 and the harmful impacts of government and church policies. Despite these difficulties, Ts'uubaa-asatx is working to build a strong and healthy community.

As of December 2022, Ts'uubaa-asatx had 30 registered members, with 18 residing on reserve lands. Additional membership requests suggest the population may be underreported. Traditionally, Ts'uubaa-asatx utilized lands and waters across the Salish Seas, engaging in resource gathering and trade. Key activities included trading for goat wool to create innovative winter clothing and conducting cultural and ceremonial events at significant sites, such as the Fraser River approaches.

Ts'uubaa-asatx assert Aboriginal rights to camp, fish, hunt, and gather food within their traditional territory but note limited current use due to concerns about the current environmental health and availability of traditional foods in the region, pollution, access, and conservation issues. Historical practices, such as following fish runs and hunting seals, continue to influence their cultural and environmental practices in hwi'alasmut tu mukw lhwet (taking care of everything).

The community is actively involved in initiatives to protect their resources, preserve cultural heritage, and reawaken their language, song, and dance traditions. Efforts include documenting traditional sites and signing a Memorandum of Understanding with the province for heritage site conservation. Ts'uubaa-asatx emphasizes its role as sh-hwi'alasmut (caregivers) of its traditional territory while fostering cultural revitalization.

### 16.20.2 Ts'uubaa-asatx Involvement in the Environmental Assessment

During the Early Engagement Phase, Ts'uubaa-asatx identified as a participating Indigenous nation, which afforded Ts'uubaa-asatx certain procedural rights under the Act, as outlined in [Section 5](#): Participating Indigenous Nations.

The EAO worked collaboratively with Ts'uubaa-asatx throughout the assessment process. As part of the TAC, Ts'uubaa-asatx participated in technical meetings throughout the EA for Tilbury Phase 2. Ts'uubaa-asatx and the EAO worked together through joint work planning, consensus-seeking and collaborative drafting of this section of the Report. Ts'uubaa-asatx and the EAO held semi-regular calls throughout the EA to discuss concerns related to Tilbury Phase 2 and to understand, address and resolve issues as they came up. The EAO and IAAC provided funding to support Ts'uubaa-asatx's engagement in the EA process. Through discussions with Ts'uubaa-asatx during the Process Planning phase, it was agreed upon that the EAO would assess project effects on Ts'uubaa-asatx's interests with input and iterative review from Ts'uubaa-asatx, as identified in the Assessment Plan.



The EAO used the following sources in drafting the assessment of Tilbury Phase 2 effects on Ts'uubaa-asatx's interests:

- FortisBC's (Proponent) Revised Application;
- Information submitted during the EA by the Proponent and Ts'uubaa-asatx;
- Conclusions from the EAO's assessment of VCs; and
- Section 11.08 of the Revised Application, along with the Proponent's Indigenous Engagement Report, provides a summary of the Proponent's engagement with Ts'uubaa-asatx.

Section 11.08 of the Revised Application includes a summary of FortisBC's engagement with Ts'uubaa-asatx, who have been involved in the process since July 2019. The section was co-developed with Ts'uubaa-asatx through regular meetings and joint drafting. The Revised Application also includes tables summarizing engagement activities with Ts'uubaa-asatx members, which are further detailed in the Indigenous Engagement Report.

### 16.20.3 Assessment Boundaries

#### Spatial Boundaries

The spatial assessment boundary for each Indigenous interest is the overlap of the First Nation's traditional territory with the combined LAAs and the RAAs defined for the VCs that are linked to the Indigenous interests.

Table 47: Indigenous Interests Assessment Area Boundaries

| Assessment Area            | Definition                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proposed Project Footprint | The Tilbury Phase 2 Footprint is the area directly disturbed by Construction activities, including associated physical works and activities                                                                                                                                                                                                    |
| Local Assessment Area      | The LAA is the combined LAAs defined for the VCs that are linked to the Indigenous interests. This is the area that potential direct and indirect effects from Tilbury Phase 2 on Indigenous interests are assessed.                                                                                                                           |
| Regional Assessment Area   | The RAA is the area of overlap between the Indigenous nation's traditional territory and the combined RAAs defined for the VCs that are linked to the Indigenous interests. This is the area that provides regional context and is the area from which potential cumulative effects from Tilbury Phase 2 on Indigenous interests are assessed. |

Some First Nations have reserves or community locations that are not located within the Indigenous interests' LAAs or RAAs. The LAAs and RAAs are based on the potential of Tilbury Phase 2 to interact with Indigenous interests.

### 16.20.4 Regional Context

Tilbury Phase 2 is located in the Tilbury Industrial Park on Tilbury Island, Delta, B.C. Tilbury Island is located within the south arm of the Fraser River in the regional district of Metro Vancouver, which lies within Hul'q'umi'num Treaty Group's traditional territory. The Hul'q'umi'num Treaty Group describes its Traditional Fishing Territory as including the Fraser River, from Strait of Georgia up Sawmill Creek, north of Yale. Also, the Hul'q'umi'num Treaty Group describes its Traditional Territory as including the South Arm of the Fraser River, including Canoe Pass, up to and including Douglas Island, with lands on the north shore of the South Arm up to Sapperton Channel (New Westminster), the islands in the South Arm of the Fraser River and the south bank of the Fraser River along Canoe Pass up to Deas Island. Ts'uubaa-asatx indicated that, in addition to the Hul'q'umi'num Treaty Group's definition, the territory also includes areas on the south bank of the Fraser River from Deas Island to Douglas Island, including surrounding islands.



### 16.20.5 Ts'uubaa-asatx Interests

The Proponent identified Ts'uubaa-asatx interests to be assessed in the Revised Application through:

- Reviewing guidance from the EAO, including Schedule C – AIR Table 6;
- Documenting Ts'uubaa-asatx interests based on provincial and federal frameworks; and
- Conducting engagement efforts with Ts'uubaa-asatx to gather information on their interests.

The Revised Application assessed the following potential effects to Ts'uubaa-asatx interests:

- **Fish and fish habitat:** Ts'uubaa-asatx is concerned about the potential negative effects of the Tilbury Phase 2 on fish and fish habitat, including the ability to access fishing sites, fish harvesting, and the protection of habitat. They are particularly concerned about the construction phase due to potential impacts from 6PPD-Quinone (6-PPDQ) releases from increased truck trips and noise. Ts'uubaa-asatx is a one-fifth owner in the Hul'q'umi'num' Fisheries Limited Partnership and has seen commercial fishing closures due to cumulative effects in the Fraser River. They are looking for net-positive effects on fish and fish habitat, not just no net loss;
- **Surface water quality:** Ts'uubaa-asatx is interested in preventing potential contamination and changes to surface water quality due to the Tilbury Phase 2, which could affect aquatic and terrestrial organisms, as well as human populations. They advocate for protection, restoration, enhancement, and innovative measures to increase fish habitat in the Fraser River region and are concerned about stormwater management;
- **Groundwater:** Ts'uubaa-asatx is concerned about Tilbury Phase 2's potential impact on aquifers and their connection to the Fraser River, as well as the potential release of contaminants and the need for effective spill response and recovery processes. They believe that cumulative effects from diking and paving in the Lower Mainland affect groundwater;
- **Vegetation:** Ts'uubaa-asatx has an interest in the health and availability of instream and riparian vegetation, as well as their right to gather plants for cultural and traditional uses. They are concerned about the introduction of invasive species from increased truck traffic and stormwater runoff affecting vegetation. They advocate for habitat protection, enhancement, and revegetation with traditional plants;
- **Air quality:** Ts'uubaa-asatx is interested in how Tilbury Phase 2 might affect air quality and subsequently impact their Aboriginal rights to harvest and practice traditional/cultural practices, their health and well-being, and contribute to sensory disturbances;
- **Acoustics:** Ts'uubaa-asatx is concerned about the noise levels from Tilbury Phase 2 and their potential effects on their Aboriginal right to harvesting, their health and well-being, and the habitat of harvested species. They advocate for noise and vibration reduction measures;
- **Soil:** Ts'uubaa-asatx is interested in the potential for soil contamination, erosion, and the impact on archaeological values. They note the cumulative effect of topsoil loss in the Lower Mainland; and
- **Wildlife and wildlife habitat:** Ts'uubaa-asatx is concerned about the health and availability of birds and mammals due to Tilbury Phase 2's construction and its potential impact on their right to harvest these species and their habitat. They advocate for habitat protection and involvement in monitoring programs.

#### Cultural and Heritage interests:

- **Archaeological and heritage resources:** Per Ts'uubaa-asatx knowledge the Tilbury Phase 2 site is located within the Tl'uqtiinus area, a major precontact trade center and community gathering place<sup>45</sup>. They are

<sup>45</sup> See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site

concerned about cumulative effects on archaeological and heritage resources in the Lower Mainland and advocate for no further loss of the archaeological record and avoidance of impacts to ancestral remains and sites. They also emphasize the need for culturally trained personnel during inground works, onsite investigations and the following of their archaeology protocol; and

- Culture: Ts'uubaa-asatx is concerned about the potential effects of the Tilbury Phase 2 on their governance and stewardship systems, customs, beliefs, values, language, intergenerational knowledge transfer, and community and cultural cohesion. They emphasize their connection to Tl'uqtinus as an important cultural space. They advocate for cultural recognition and appreciation through design and education, including art installations reflecting cultural importance.

#### Socio-Economic Resources:

- Employment: Ts'uubaa-asatx seeks meaningful training, contracting, and employment opportunities for their members throughout all phases of Tilbury Phase 2, from Construction to Decommissioning. They are concerned about ongoing barriers to pursuing their economic interests and want to see increased First Nation representation in the workforce. They emphasize the need to develop long-term relationships with FortisBC and want to diversify their economic base beyond just hiring;
- Economy: Ts'uubaa-asatx is interested in Tilbury Phase 2's potential to improve their economic conditions and social and community well-being. They want to be an economic partner with FortisBC and seek opportunities to increase their wealth to be a meaningful partner in today's economy. They are interested in bringing forward their traditional practices of commerce into a contemporary setting;
- Land and resource use: Ts'uubaa-asatx has interests in the use and enjoyment of land and resources, including intercommunity relations and trade, commercial and non-commercial fishing, gathering, cultural and ceremonial activities, and their ability to use, develop, and control traditional lands and resources. They emphasize the historical importance of Tl'uqtinus as a trade center. They are also interested in potential impacts on their ability to improve social and economic conditions related to economic activity and government revenue;
- Infrastructure and services: Ts'uubaa-asatx is interested in how Tilbury Phase 2 might affect infrastructure and services, and they advocate for historical issues related to aging infrastructure to be rectified; and
- Human health: Ts'uubaa-asatx is concerned about potential impacts on their health from changes in air quality, drinking water quality, noise, soil quality, and the quality and quantity of country foods. They advocate for responsible practices to improve human health and well-being and are concerned about potential increased use of the area impacting First Nation use areas.

Based on the Revised Application and through discussions with Ts'uubaa-asatx the following valued interests have been identified as having the potential to be affected by Tilbury Phase 2:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions; and
- Indigenous health and well-being.

The assessment of Ts'uubaa-asatx's interests in this section uses these categories. The EAO's assessment of Ts'uubaa-asatx's interests includes describing the Ts'uubaa-asatx interest, current context, potential effects, mitigation, effects analysis. If there is an adverse residual effect a characterization of effects and cumulative effects assessment is also completed. In addition to the EAO's assessment of effects to Ts'uubaa-asatx interests, Ts'uubaa-asatx provided their position on how Tilbury Phase 2 will affect Ts'uubaa-asatx's interests.

## 16.20.6 Harvesting and Subsistence Activities

### Background

Ts'uubaa-asatx has a deep and ongoing relationship with harvesting and subsistence activities, rooted in their cultural identity and traditional practices. They are part of the Coast Salish Peoples and have ancestry connecting them to the Ditidaht and Hul'q'umi'num nations. The Hul'q'umi'num traditional territory encompasses areas around southern Vancouver Island, the Gulf Islands, and a portion of the Lower Mainland, including the Fraser River.

Historically and currently, Ts'uubaa-asatx's traditional fishing practices involve following fish runs from the north end of Vancouver Island through Johnston Strait, the Salish Sea, and into the Fraser River; this includes their use of Tl'uqtinus and Tilbury Island which extends beyond the tenured areas defined in the Tantalus database, meaning their traditional use covers the Project site<sup>46</sup>. They have also identified the approaches to the Fraser River (meaning the lands and waters adjacent to and providing access to the South Arm of the Fraser River, including foreshore areas and nearby routes) as important areas for hunting seals and sea lions and harvesting crabs and other fish. Their traditional activities were intrinsically linked to generating goods for trade, which allowed them to access specific resources from Lower Mainland and up-river groups, such as trading for goat wool. They historically had campsites near the Fraser River that were important for trade, harvesting, and First Nations' intergovernmental and inter-community relations.

### Current Context

The current use of their traditional territory for these activities is limited due to Ts'uubaa-asatx's concerns about; pollution, reduced access, and declines in fish stocks and ongoing infringement of Ts'uubaa-asatx rights due to development and use of Tilbury Island. While Ts'uubaa-asatx does not currently fish in the area, they have historically and have intention to fish within three generations. Ts'uubaa-asatx has found it increasingly difficult to access food, social, and ceremonial fish from the Fraser River due to development and a perceived lack of action by Crown agencies. This difficulty in accessing resources impacts their ability to practice their culture and traditions, including sacred bathing rituals associated with harvesting. The interruption to their tradition of harvesting and processing resources for trade at Tl'uqtinus has also put people out of work and denied them opportunities to garner traditional wealth.

Ts'uubaa-asatx is actively involved in various working groups and initiatives aimed at protecting their resources and advocate for a reawakening of their culture and heritage. Their knowledge forms the basis of their 16-point Lower Mainland Policy<sup>47</sup>, aimed at restoring access and health of resources for safe harvesting free from pollution within three generations. Their advocacy policies related to fish and fish habitat emphasize protection, restoration, enhancement, and innovative measures to increase fish habitat in the Fraser River region. They advocate for best management practices, natural vegetation along the river, and robust spill response.

Ts'uubaa-asatx is concerned about the potential negative effects of development projects, such as Tilbury Phase 2, on their ability to access fishing sites, fish harvesting, and harvesting-based livelihoods. They are also worried about habitat loss and sensory disturbances affecting harvested fish. While they acknowledge avoidance measures by FortisBC might mitigate operational impacts, they remain concerned about Construction phase impacts, such as potential 6-PPDQ release affecting fish habitat.

Ts'uubaa-asatx is a part-owner in the Hul'q'umi'num' Fisheries Limited Partnership, which holds Area E<sup>48</sup> salmon licenses on the Fraser River that have faced closures due to cumulative development effects, highlighting the

<sup>46</sup> Crown Land Registry (Tantalus) <https://www2.gov.bc.ca/gov/content/data/geographic-data-services/land-use/crown-land-registry>

<sup>47</sup> Ts'uubaa-asatx's 16 Point Mainland Policy is a framework based on traditional knowledge, designed to guide environmental assessments, project planning, and engagement, particularly in relation to the South Arm of the Fraser River.

Area E- [https://www.agr.dfo-mnp.gc.ca/fm-gp/maps-cartes/salmon-saumon/images/AreaE\\_biq.gif](https://www.agr.dfo-mnp.gc.ca/fm-gp/maps-cartes/salmon-saumon/images/AreaE_biq.gif)

economic importance of these resources. They are seeking a net-positive effect on fish and fish habitat rather than just no net loss from development projects.

#### Potential Project Effects

The EAO and Ts'uubaa-asatx identified the following pathways of effects, prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#), that may affect Ts'uubaa-asatx harvesting rights and interests during Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources** from loss or alteration of habitat supporting harvested wildlife, fish, bird, or plant species of cultural or medicinal importance (wildlife and wildlife habitat, fish and fish habitat, and vegetation VCs). Changes to salmon and salmon habitat (fish and fish habitat VC) correlated with impacts to Ts'uubaa-asatx way of life, and surface water quality and quantity and effects from increased sensory disturbances such as dust, noise, odour, visual landscape (air quality, acoustics, land and resource use VCs);
- **Effects to Ts'uubaa-asatx First Nation rights to fish for food, social and ceremonial (FSC) purposes** from habitat loss (wildlife and wildlife habitat, fish and fish habitat, vegetation VCs), increased mortality risks to fish, birds, and marine mammals (fish and fish habitat, wildlife and wildlife habitat VCs), and changes in their behavior, including migration patterns, due to sensory disturbances (acoustics, air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water VC) may further impact traditional harvesting and cultural practices; and
- **Effects on the accessibility and availability of traditional lands and resources** may occur as a result of altered land or water based travel routes, access restrictions, or safety considerations, including changes to navigability and the usability of established travel corridors (land and resource use and surface water VCs), as well as indirect effects from sensory disturbances such as noise, dust, lighting, or visual changes that may discourage travel through otherwise accessible areas (air quality, acoustics, and land and resource use VCs).

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures that FortisBC has proposed in response to potential Tilbury Phase 2-related effects on harvesting and subsistence rights, as mentioned in the section above. A full table of Proponent mitigations can be found in [Appendix A of the Revised Application](#). Below is a summary of Key Mitigation Measures, how they address effects on relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Ts'uubaa-asatx's harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Ts'uubaa-asatx's harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm-sewer system. These protections support water quality and fish habitat relied on to support Ts'uubaa-asatx's harvesting and cultural practices;

- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Ts'uubaa-asatx for harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Ts'uubaa-asatx for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Ts'uubaa-asatx's harvesting and cultural practices;
- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the Lower Fraser River. These actions support the health and availability of salmon and other fish species central to Ts'uubaa-asatx's FSC harvesting and cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Ts'uubaa-asatx's harvesting and cultural practices; and
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to Ts'uubaa-asatx's harvesting and cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on Ts'uubaa-asatx's harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting (see [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for Ts'uubaa-asatx to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of Ts'uubaa-asatx's harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to Ts'uubaa-asatx's harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to Ts'uubaa-asatx's harvesting and cultural practices;

**Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions-control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support Ts'uubaa-asatx's harvesting and cultural practices; and,

**Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project-related roads, which may lower potential impacts on salmon and other fish important to Ts'uubaa-asatx's harvesting and cultural practices.

In addition to the Proponent's mitigation and the provincial conditions, the EAO and Ts'uubaa-asatx identified the following federal Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to Ts'uubaa-asatx's harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting Ts'uubaa-asatx's harvesting practices and broader ecosystem conditions important to their way of life.

#### The EAO and Ts'uubaa-asatx's Analysis and Conclusions

After considering the proposed mitigation measures, the EAO and Ts'uubaa-asatx concludes that Tilbury Phase 2 could result in the following residual effects to Ts'uubaa-asatx's harvesting and subsistence activities:

- Changes to the experience and preference around the practice of harvesting rights and effects to the quality, quantity, and availability of resources;
- Effects to Ts'uubaa-asatx Aboriginal rights to fish for FSC purposes; and
- Effects on the accessibility and availability of traditional lands and resources.

Ts'uubaa-asatx and the EAO's characterization of the residual effects of Tilbury Phase 2 on Ts'uubaa-asatx harvesting and subsistence activities are summarized in the table below.

Ts'uubaa-asatx wished to provide the following statement regarding reversibility: the Nation does not agree with the characterization of residual effects as fully reversible, noting that their small population means the loss of Elders results in irreversible loss of cultural knowledge. Given the Project's long-term duration, disruptions to intergenerational knowledge transfer over multiple generations could result in effects that are effectively permanent rather than reversible.

Table 48: Summary of residual effect and rationale on Ts'uubaa-asatx and its harvesting and subsistence activities.

| Ts'uubaa-asatx Interest                                                                                                                                                                                                                                                                                                                                           | Assessment Rating*                                                                                                                                                                                                                                                           | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Harvesting and subsistence activities<br>- Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources<br>- Effects to Ts'uubaa-asatx Aboriginal rights to fish for FSC purposes<br>- Effects on the accessibility and availability of traditional lands and resources | Context (resilience): Medium<br>Magnitude: Low<br>Extent: Local<br>Duration: Medium-term<br>Reversibility: Fully reversible<br>Frequency: Continuous<br>Affected Populations: Disproportionate - Elders, knowledge holders, and harvesters.<br>Risk: Low<br>Uncertainty: Low | <p><b>Context:</b> The interest is rated as having a medium resiliency. Ts'uubaa-asatx harvesters historically frequented Tilbury Phase 2 site and surrounding areas for traditional harvesting before extensive industrial development. While current activity is reduced due to existing and ongoing industrial development pressures, the community remains reasonably resilient to additional environmental stresses. If barriers were reduced, harvesting activity would likely increase. The ability for community knowledge holders to transfer the culture to future generations would be negatively affected.</p> <p><b>Magnitude:</b> The magnitude of impact to fishing rights is rated as low because Tilbury Phase 2 is a land-based project, and the only known harvesting activity is limited to minimal plant gathering along the site's edge. Residual effects on vegetation and wildlife VCs are rated negligible to low, so there could feasibly be some detectable impact to Ts'uubaa-asatx harvesters either presently or in the future. Additionally, sensory disturbances, such as acoustic, air quality, land and resource (light and visual disturbance) from the Project are expected to be negligible to low magnitude; these potential impacts could also affect Ts'uubaa-asatx harvesters' use, enjoyment and perceived safety of areas used for</p> |



| Ts'uubaa-asatx Interest                                                                                                           | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                                                                                                                                   |                    | <p>harvesting. Effects to fish, fish habitat surface water are also rated as negligible.</p> <p><b>Extent:</b> Rated as local, since the spatial scale of residual effects to applicable VCs is limited, the impact on harvesting is expected to remain local, primarily within the immediate Project area.</p> <p><b>Duration:</b> The effects on harvesting will persist for as long as the Tilbury Phase 2 facility remains operational, making them medium-term (40 plus years Operation).</p> <p><b>Reversibility:</b> Most effects, particularly those related to sensory disturbances such as noise and light, would cease if Tilbury Phase 2 were halted or upon decommissioning, making them potentially reversible.</p> <p><b>Frequency:</b> Rated as continuous as while certain effects would be most prominent during Construction, some sensory effects (noise, light disturbance) would occur continuously.</p> <p><b>Affected Populations:</b> Tilbury Phase 2's impacts will primarily affect Ts'uubaa-asatx members who benefit from harvesting practices, though indirect effects may also be felt by those who refrain from harvesting due to perceived environmental degradation in the highly developed area. These effects are considered disproportionate.</p> <p><b>Risk:</b> The likelihood of these effects occurring are low given the effectiveness of proposed mitigation measures, including removal of in-water works, environmental management plans, and air and acoustic controls. With low magnitude and effects confined to a local extent, the overall consequences are expected to be minor. While cumulative pressures in the Fraser River corridor heighten sensitivity, the incremental contribution of Tilbury Phase 2 is small. Therefore, the risk is rated as low.</p> <p><b>Uncertainty:</b> The pathways of effects, such as increased noise, light, vibration, and impacts on harvesters, are well understood. While mitigation measures are expected to be moderately to highly effective, some uncertainty remains regarding their effectiveness in fully addressing harvesters' experiences and perceptions. As a result, the level of uncertainty is rated as low.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

### Cumulative Effects

As described in the Background and Current Context section, the lower Fraser River and Tilbury Island area have undergone longstanding industrial development, as well as impacts due to climate change, resulting in existing pressures on environmental conditions and on Ts'uubaa-asatx's harvesting and subsistence activities.

The Revised Application identifies several reasonably foreseeable projects that may adversely affect Ts'uubaa-asatx's harvesting and subsistence interests. These include T1B, which would increase LNG production, and TMJ, which would introduce additional vessel traffic on the Fraser River and further modify the foreshore next to the Project site. After mitigation and conditions have been implemented, the residual effects would be minimally disrupted from current conditions. Both T1B and TMJ could contribute additional sensory disturbances (noise, light, vibration), and impact air quality in areas used by Ts'uubaa-asatx for harvesting. TMJ could further alter fish and fish habitat, vegetation, and vegetation habitat as well as water quality in areas used by Ts'uubaa-asatx for harvesting. Climate change is also expected to continue influencing vegetation, wildlife, and fish resources relied upon by Ts'uubaa-asatx.



The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project-specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

Ts'uubaa-asatx has stated that there are cumulative effects to their rights associated with the ongoing development in and around Tilbury Island, the Project site, and the foreshore of the Fraser River, which will continue to degrade their ability to transfer knowledge to future generations.

#### Conclusion

Considering the above analyses, FortisBC's proposed mitigation measures, EAO's Table of Conditions and the federal Key Mitigation Measures, the EAO concludes that TP2 would have a minor effect on Ts'uubaa-asatx's harvesting and subsistence activities.

### 16.20.7 Cultural Use Sites and Areas

#### Background

Ts'uubaa-asatx has significant cultural use sites and areas, particularly in the lower mainland, with a rich historical background. The area of Tl'uqtnus, situated on the South Arm of the Fraser River and including Tilbury Island, holds immense cultural importance as a major pre-contact trade center and community gathering place for Ts'uubaa-asatx. Ts'uubaa-asatx emphasizes that their use of Tl'uqtnus and Tilbury Island extends beyond the area defined in the provincial TANTALIS database as an area with cultural significance, which is limited to a site across the Fraser River from the Tilbury Phase 2. Ts'uubaa-asatx asserts that the tenured area in the database does not represent the full extent of their uses and verbal histories associated with the Tl'uqtnus core area.

Historically, Ts'uubaa-asatx traditionally utilized the lands and waters on both sides of the Salish Sea through annual movements for resource access and trading opportunities. Their traditional activities were deeply connected to generating goods for trade, which was essential for accessing resources exclusively available from Lower Mainland and up-river groups. The approaches to the Fraser River were specifically important for hunting seals and sea lions, as well as harvesting crab and other fish. Traditional fishing practices involved following the salmon runs from Johnston Strait down through the Salish Sea and into the Fraser River. Ts'uubaa-asatx has used the South Arm of the Fraser River for trade, harvesting, and First Nation intergovernmental or intercommunity relations, such as naming ceremonies and marriages.

#### Current Context

Tilbury Phase 2 site itself has a history of cultural use by Ts'uubaa-asatx. Sacred bathing rituals related to harvesting and other traditional practices were interrupted by industrial development and the establishment of the existing LNG facility and associated infrastructure. The site was also used for encampment during trade, First Nation Government-to-First Nation Government relations, inter-community relations, and harvesting activities. Furthermore, Ts'uubaa-asatx had a tradition of harvesting and processing resources throughout the year to bring to Tl'uqtnus for trade, a practice that has been interrupted, impacting their livelihoods and ability to garner traditional wealth. While Ts'uubaa-asatx does not currently fish in the area, they have historically and have intention to fish within three generations.

Ts'uubaa-asatx currently asserts Aboriginal rights to camp, fish, hunt, and gather food within their mainland traditional territory based on historic use. However, current use of these areas is limited by members due to concerns about pollution, reduced access, and the conservation status and declines in fish stocks. Ts'uubaa-asatx views Tilbury Phase 2 site as an ongoing and permanent infringement on their use and culture.

They emphasize the need for cultural activities to occur prior to any undertaking.

Ts'uubaa-asatx advocates for the celebration and acknowledgement of local Aboriginal culture through design and education, including the integration of interpretive opportunities within infrastructure. They also highlight the importance of protecting cultural sites, activities, and practices. Overall, the cultural use sites and areas of Ts'uubaa-asatx use “under the wings of our neighbouring nations” (Hereditary Chief G. Livingstone), particularly Tl'uqtinus and the South Arm of the Fraser River, have a deep and continuous history of economic, social, and spiritual significance that extends to the present day.

#### Potential Project Effects

The EAO identified the following pathways of effects, prior to the application of mitigation measures, along with associated VCs outlined in [Appendix 6](#), that may affect Ts'uubaa-asatx's cultural use sites and areas during Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Effects on cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural value:** Potential effects include disturbance or alteration of cultural heritage features and archaeological resources during construction activities such as excavation, grading, and ground disturbance (archaeological and heritage Resources VC). These effects may extend to storied places, habitation sites, and archaeological sites along the south arm of the Fraser River, and Tilbury Island. Additional effects could arise from sensory disturbances such as noise and vibration (acoustic VC), odour and air emissions (air quality VC), dust, and visual changes (Land and Resource Use VC), which may affect the integrity or condition of cultural heritage resources;
- **Loss of access to and disenfranchisement from cultural sites;** While the Project Footprint is not currently accessible for activities like plant harvesting and will remain restricted, the Ts'uubaa-asatx currently uses areas adjacent to the Project Footprint and would likely use the project site if they had the opportunity to and they did use the area historically. The ability for community knowledge keepers to transfer the culture (culture VC) to future generations could be impacted from loss of access to the site from Project related impacts. While sensory disturbances (acoustic, air quality, culture, and land and resource use VCs) are predicted to have low impacts, compared to existing industrial conditions, they do have the potential to alter the experience of Ts'uubaa-asatx members using cultural sites in the vicinity; and
- **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas;** The predicted levels of sensory disturbance could impact and deter Ts'uubaa-asatx members from engaging in their cultural and spiritual practices (culture VC) at their preferred locations close to the Project site (land and resource use VC).

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed to potential Tilbury Phase 2 related effects on cultural use sites and areas. These include the following:

- **Acoustics (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and transmission of knowledge by Ts'uubaa-asatx's;
- **Soil (Section 7.6)** Soil management measures, including erosion control, spill prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by Ts'uubaa-asatx;

- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Ts'uubaa-asatx's cultural practices;
- **Land and Resource Use (Section 7.11)** Traffic management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support Ts'uubaa-asatx's ability to safely access and continue cultural practices within their traditional territory;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance-find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support Ts'uubaa-asatx's ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connection to territory; and
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support Ts'uubaa-asatx's ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to Indigenous cultural use sites and areas (see [Section 8](#) of this Report):

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance;
- **Condition 10 (Community Feedback Process)** to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, light, or disturbances near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of the culturally important landscapes and areas, supporting Ts'uubaa-asatx's continued access to and use of cultural sites during project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by Ts'uubaa-asatx;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions-control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan maintains conditions suitable for access to, and use of culturally important areas and sites used by Ts'uubaa-asatx; and,
- **Condition 15 (Chance Find Protocol)** requiring the development and implementation of a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If Ts'uubaa-asatx historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

In addition to the Proponent's mitigations and the provincial conditions, the EAO identified the following Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to cultural use sites and areas:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from lighting and project activity, supporting Ts'uubaa-asatx's harvesting practices and broader ecosystem conditions important to their way of life.

#### *The EAO's and Ts'uubaa-asatx's Analysis and Conclusions*

After considering the proposed mitigation measures, the EAO and Ts'uubaa-asatx conclude that Tilbury Phase 2 could result in the following residual adverse effects to Ts'uubaa-asatx's cultural use sites and areas:

- Effects to cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural value;
- Loss of access to and disenfranchisement from cultural sites; and
- Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas.

Ts'uubaa-asatx and the EAO's characterization of the residual effects of Tilbury Phase 2 on cultural use sites and areas are summarized in the table below.

Ts'uubaa-asatx wished to provide the following statement regarding reversibility: the Nation does not agree that residual effects on cultural use sites and areas can be characterized as fully or partially reversible, as their small population means the loss of Elders results in irreversible loss of cultural knowledge, teachings, and connections to culturally important places. Given the Project's long-term duration, disruption to access and use of cultural sites across multiple generations could result in permanent effects on cultural practice and intergenerational knowledge transfer, even if physical conditions are eventually restored.

Table 49: Summary of residual effects and rationale on Ts'uubaa-asatx and its cultural use sites and areas.

| Ts'uubaa-asatx Interest                                                                                                                                                                                                                                                                                                                                                  | Assessment Rating*                                                                                                                                                                                                                                  | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cultural Use Sites and Areas<br><br>- Effects to cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural value<br><br>- Loss of access to and disenfranchisement from cultural sites<br><br>- Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas | Context (resilience): Low<br>Magnitude: Low<br>Extent: Local<br>Duration: Medium-term (40 plus years operation)<br>Reversibility: Partially reversible<br>Frequency: Continuous<br>Affected Populations: Even<br>Risk: Low<br>Uncertainty: Moderate | <p><b>Context:</b> The interest is rated as having low resiliency, recognizing that while Ts'uubaa-asatx culture has demonstrated resilience despite historical impacts, it is difficult to quantify how adaptable members are to additional adverse effects. Cultural strength may have been greater in the absence of cumulative disturbances, and potential linkages between cultural impacts and community health add to the complexity of assessment. Given the historical and ongoing challenges, this rating represents a conservative estimate.</p> <p>An important cultural concept that further illustrates this complexity is 'uy' <i>shqwaluwun</i>, often translated, imperfectly, as "good thoughts, good manners, good behaviour." While there is no direct English equivalent, the term reflects a holistic state of balance and alignment of body, mind, and spirit, similar in some ways to Eastern understandings of <i>chi</i>. This principle is central to cultural and community well-being. When external pressures disrupt the conditions that support 'uy' <i>shqwaluwun</i>, the effects are not only material but also spiritual and emotional, making resiliency more challenging to assess through conventional metrics.</p> <p><b>Magnitude:</b> The magnitude is rated as low because Tilbury Phase 2 site is located on fee simple land within a heavily impacted regional area where cumulative effects have already altered baseline conditions. While the project may result in negligible to low magnitude residual effects related to air quality, human health, fish, vegetation and wildlife and their habitats as</p> |

| Ts'uubaa-asatx Interest                                                                                                           | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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|                                                                                                                                   |                    | <p>well as acoustic and visual disturbance, these effects are expected to result in minor to undetectable modifications to existing conditions. They are not anticipated to introduce significant new disturbances that would meaningfully affect Ts'uubaa-asatx members if cultural activities were to occur in the vicinity of the Project site, either under current conditions or in the foreseeable future.</p> <p><b>Extent:</b> Rated as local, as the anticipated residual effects are geographically confined to Tilbury Phase 2 vicinity and immediate surrounding areas. While Ts'uubaa-asatx members continue to maintain connections across the Lower Fraser, the predicted effects are unlikely to extend beyond the LAA for cultural use.</p> <p><b>Duration:</b> The effects on cultural use sites and areas may persist beyond two years, aligning with the Operation and Decommissioning phases, making them medium-term (40 plus years operation).</p> <p><b>Frequency:</b> Rated as continuous, particularly for loss of site use for cultural purposes, which is an ongoing effect. Sensory disturbances (e.g., noise, light) may be either continuous or irregular, depending on project activities.</p> <p><b>Reversibility:</b> Most sensory-related disturbances (e.g., noise, light) would be partially reversible following project Decommissioning. However, cultural impacts linked to the loss of access or disruption to traditional practices may be irreversible.</p> <p><b>Affected Populations:</b> The effect is expected to be evenly distributed among Ts'uubaa-asatx members. While direct impacts would disproportionately affect those actively practicing or seeking to practice their culture, indirect effects could extend to all members due to the interconnected nature of Ts'uubaa-asatx's cultural identity.</p> <p><b>Risk:</b> The likelihood of direct Tilbury Phase 2-related impacts on cultural use sites is low due to the application of proposed mitigation measures, and the overall consequence is minor given the negligible to low magnitude of predicted VC residual effects. Therefore, the risk is rated as low.</p> <p><b>Uncertainty:</b> The pathways of effects, such as the loss of intergenerational knowledge transfer, sensory-related disturbances on cultural effects are inherently challenging to quantify and may be subject to individual and community-specific experiences that are difficult to predict with certainty. While mitigation measures are expected to be moderately to highly effective, some uncertainty remains regarding the cultural transmission of knowledge to future generations, therefore the uncertainty rating is moderate.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

### Cumulative Effects

The historical context of environmental degradation and land-use changes has already affected Ts'uubaa-asatx's cultural use sites and areas, as detailed in the Background and Current Context section above. Ts'uubaa-asatx experiences limited access and altered ecological conditions along the Fraser River, and the degraded state of sites like Tilbury Island due to industrial development. These past and present impacts have reduced the ability of Ts'uubaa-asatx members to fully utilize culturally important locations and have hindered the transmission of Indigenous Knowledge.

As stated above, FortisBC notes that two foreseeable projects, T1B and TMJ, are expected to modify the Tilbury Island foreshore prior to construction of Tilbury Phase 2. These developments are expected to introduce additional

sensory disturbance (noise, light, vibration) affecting nearby cultural site access and use. T1B could remove vegetation, impacting culturally important plants and wildlife habitat, while TMJ shipping activities may increase aquatic disturbances, with potential effects on fish populations and cultural connections to the Fraser River. The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

### Conclusion

Considering the above analyses, FortisBC's proposed Proponent mitigation measures, EAO's Table of Conditions, and KMMs, therefore, the EAO predicts that the Project will have a minor residual effect on the cultural use sites and areas of Ts'uubaa-asatx.

## 16.20.8 Social and Economic Conditions

### Background

Ts'uubaa-asatx's social and economic conditions have a rich historical background that continues to influence their present circumstances and future aspirations.

Ts'uubaa-asatx's traditional activities were intrinsically linked to generating goods for trade, which was essential for accessing specific resources only available from Lower Mainland and up-river groups. They had traditional trading ties with up-river groups, exchanging goods for items like goat wool. Approaches to the Fraser River were important for hunting seals and sea lions, and harvesting crab and other fish, following the salmon runs. They also had historical camp sites near the Pattullo Bridge Replacement project, serving as important locations for trade, harvesting, and intergovernmental or intercommunity relations. The tradition of harvesting and processing resources throughout the year to bring to Tl'uqtinus for trade has been interrupted, impacting their livelihoods and ability to garner traditional wealth.

However, significant events have shaped their current social and economic conditions. In 1860, the community was significantly affected by a smallpox epidemic, and its population has remained small for the past 80 years. As of December 2022, Ts'uubaa-asatx had 30 registered members, with 18 living on their reserve on the northeastern shore of Cowichan Lake. Despite their small size, they are actively working to build a strong and healthy community and are seeing potential membership requests.

### Current Context

Currently, Ts'uubaa-asatx asserts Aboriginal rights to camp, fish, hunt, and gather food within their mainland traditional territory based on historic use. However, current use of these areas is limited by members due to concerns about pollution, reduced access, and the conservation status and declines in fish stocks. They report increasing difficulties in accessing food, social, and ceremonial fish from the Fraser River, partly due to development. Ts'uubaa-asatx also notes that the Southern Vancouver Island, the Gulf Islands, and the Lower Mainland are increasingly out of reach for First Nations to live, work, further their education, recreate, or visit, and that many Indigenous peoples are experiencing homelessness.

Despite these challenges, Ts'uubaa-asatx has a clear vision for economic development, aiming to enhance the quality of life for their community while considering cultural and traditional ways. Their strategies include diversifying their economic base, maximizing benefits from existing businesses, developing new businesses that create employment, and pursuing strategic alliances, adhering to green development principles. They are investing in diversification through joint ventures.



Their economic development focuses on residential development and tourism-related activities on their reserve lands and the Lake Cowichan Area, including trail building, marina development, and retail. They are also seeking economic development opportunities through negotiations with the government. Ts'uubaa-asatx advocates for opportunities to increase their wealth and be a meaningful partner in today's economy.

Ts'uubaa-asatx has also identified the need to acquire land in the lower mainland to re-establish a residential area for members pursuing educational and economic opportunities in the area. Their educational objectives include promoting education within the forestry and natural resources sectors. They have identified key target groups for training, including Indigenous youth, youth-in-care, and women.

In their interactions with FortisBC regarding Tilbury Phase 2, Ts'uubaa-asatx emphasizes the need to bring their traditional practices of commerce, specific to the project site, into a contemporary setting. They are actively seeking meaningful training, contracting, and employment opportunities from the project, from Construction to Decommissioning, and expect regular reporting on these achievements. They are also advocating for the re-establishment of a place of residence for their members in the Lower Mainland and engagement as economic partners. Ts'uubaa-asatx views Tilbury Phase 2's site as an ongoing and permanent infringement on their use and culture. They advocate for acknowledging their culture through design and education, including interpretive opportunities.

Overall, Ts'uubaa-asatx's social and economic conditions are shaped by a history of trade and resource use in the Lower Mainland, significant historical disruptions, a current small population based primarily on their reserve, and ongoing limitations to accessing their traditional territories and resources. They are actively pursuing economic development opportunities and advocating for their rights and interests in the context of development projects, with a strong focus on revitalizing their culture and improving the well-being of their members.

#### Potential Project Effects

The EAO identified the following effect pathways, prior to the application of mitigation measures, along with associated VCs in [Appendix 6](#) that may affect Ts'uubaa-asatx's social and economic conditions during Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Effects to Ts'uubaa-asatx's employment opportunities, Indigenous businesses, procurement opportunities, and Ts'uubaa-asatx revenue:** Tilbury Phase 2 could positively affect Ts'uubaa-asatx's employment and business opportunities, depending on member participation and access to contracts (employment and economy VC). Indigenous workers are also more likely to be in construction-related jobs. However, smaller Indigenous businesses, including those linked to Ts'uubaa-asatx, may face challenges competing for workers or meeting Tilbury Phase 2 demands;
- **Effects to Ts'uubaa-asatx's future aspirations for sites or areas surrounding Tilbury Phase 2:** Potential residual effects, both real and perceived, from Tilbury Phase 2 could affect Ts'uubaa-asatx's aspirations for land and water restoration in the Lower Fraser region (land and resource VC);
- **Effects to Ts'uubaa-asatx's ability to improve social and economic conditions:** Tilbury Phase 2 may support Ts'uubaa-asatx's efforts to improve social and economic conditions by creating employment, training, and business opportunities. Increased demand for skilled workers could also boost interest in trades training. (employment and economy VC);

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that FortisBC has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions. These include the following:

- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports Ts'uubaa-asatx's food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;



- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting Ts'uubaa-asatx's cultural continuity and nutritional well-being;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to Ts'uubaa-asatx's physical health and cultural practices;
- **Human Health VC (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Ts'uubaa-asatx members' physical, cultural, and mental health;
- **Land and Resources VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting Ts'uubaa-asatx's long-term aspirations for land and water restoration and reducing stressors that can affect well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for Ts'uubaa-asatx members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socio-economic impacts on Ts'uubaa-asatx and supporting health and community stability; and
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Ts'uubaa-asatx's well-being.

In addition to the Proponent's mitigation measures, the EAO developed further conditions that would mitigate potential effects on social and economic conditions:

- **Condition 10 (Community Feedback Process)** provides Ts'uubaa-asatx with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting ongoing social and economic interests;
- **Condition 12 (CEMP)** requires mitigation measures to manage dust, noise, traffic, spills, surface water, erosion, and wildlife interactions during Construction. These measures help minimize construction-related disturbances that could affect community and social well-being of members;
- **Condition 13 (OEMP)** requires ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation. By limiting long-term environmental disturbances, this condition supports stable environmental conditions that protect Ts'uubaa-asatx's social and economic interests;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality mitigates sensory disturbances, such as dust and odors, and prevents particulate deposition that may impact traditional resources. This supports the social and economic conditions of the Ts'uubaa-asatx by preserving the cultural acceptability and integrity of harvested species, ensuring harvesting does not become more difficult or costly to access;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If The Ts'uubaa-asatx historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated social harm;

- **Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support Ts'uubaa-asatx's socio-economic well-being through increased access to jobs, skills development, and business opportunities associated with Tilbury Phase 2; and,
- **Condition 17 (Dry Street Sweeping Report)** requires FortisBC to submit a report on the effectiveness Dry Street Sweeping to mitigate the effects of 6-PPDQ on fish within eighteen months of a Certificate being issued. By informing measures to protect downstream aquatic environments, this condition supports Ts'uubaa-asatx's social and economic interests by helping maintain confidence in environmental quality and minimizing potential concerns related to damage to culturally important harvested species and waterways.

#### The EAO's and Ts'uubaa-asatx's Analysis and Conclusions

After considering the mitigation measures and potential effects described above, the EAO and Ts'uubaa-asatx concluded that while Tilbury Phase 2 may result in negligible effects on Ts'uubaa-asatx's social and economic conditions, there is also potential for positive effects. These positive effects are expected in addition to the proposed mitigation measures are sufficient to offset any negative impacts with a reasonable degree of certainty. As a result, it was determined that there would be no residual impacts on the contemporary social and economic conditions, and therefore, a characterisation of effects or cumulative effects assessment was not conducted. Ts'uubaa-asatx stated that there could be a positive effect in terms of long-term relationship between Ts'uubaa-asatx and FortisBC, not specific to this Project.

#### 16.20.9 Ts'uubaa-asatx Health and Well-Being

##### Background

Ts'uubaa-asatx has a strong interest in the health and well-being of its members, and Tilbury Phase 2 has prompted discussions and identification of potential effects on this interest. Ts'uubaa-asatx collaborated with FortisBC to incorporate their views and concerns into the Revised Application. This collaboration involved regular meetings to co-draft input and address Ts'uubaa-asatx's biggest areas of concern. The unique layout of Section 11.11 reflects decisions agreed upon by both parties.

Ts'uubaa-asatx's views on health and well-being are linked to several factors:

- **Environmental Quality and Traditional Practices:** Ts'uubaa-asatx's health and well-being are closely tied to the health of the environment and their ability to practice their traditional ways of life, including harvesting. They express concerns that Tilbury Phase 2 could negatively impact air quality, noise levels, water and soil quality, and the availability and quality of country foods. These environmental changes could affect their Aboriginal Rights to harvest wildlife and plants;
- **Historical Context of Health Impacts:** Ts'uubaa-asatx stated historic removal from traditional foods is linked to certain health conditions, including higher rates of diabetes and other conditions among Indigenous populations. In 1860, the community was significantly affected by a smallpox epidemic, and their population remained small. These historical factors contribute to their current vulnerability and concerns about further health impacts;
- **Sensory Disturbances:** Sensory disturbances such as noise, odour, dust, and visual landscape are identified as potential stressors that can affect their health and well-being and the exercise of their rights. Light pollution and trespass are also mentioned as potential stressors with various health-related issues;
- **Infrastructure-related Concerns:** Ts'uubaa-asatx expresses concern that new development does not reflect their community's values, which may weaken social cohesion and cultural practices. They also note that large projects can be linked to increased risks such as homelessness, drug activity, and human trafficking, which could affect the health and well-being of their members;

- **Cumulative Effects:** Ts'uubaa-asatx believes that Tilbury Phase 2 will contribute to ongoing and cumulative effects across all VCs, which should be considered to a greater extent in the residual and cumulative effects characterization, including impacts on health. They view First Nations as a more vulnerable population that may disproportionately experience these cumulative effects;
- **Access to Traditional Foods and Harvesting Areas:** They express concerns about reduced access to food, social, and ceremonial fish from the Fraser River due to development, which impacts their health. Changes to vegetation could also affect the health and availability of plant species, impacting their well-being and traditional ways of life; and
- **Importance of Consultation and Mitigation:** Ts'uubaa-asatx emphasizes the need for their agreement on the effectiveness of proposed mitigations and advocates for a net-positive effect, not just no net loss. They are actively involved in proposing mitigation measures to protect the environment, which they see as essential for safeguarding their health and well-being.

Ts'uubaa-asatx is actively working to build a strong and healthy community despite a history of challenges. Their engagement in the EA process highlights their commitment to protecting the health and well-being of their members in the face of proposed developments.

#### Potential Project Effects

The EAO identified the following effects pathways, prior to application of mitigation measures, along with the associated VCs in [Appendix 6](#) that may affect Ts'uubaa-asatx's health and well-being during Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Effects on the quality, quantity, and availability of harvested country foods:** This potential effect relates directly to the VCs of vegetation, wildlife and wildlife habitat, and fish and fish habitat. Ts'uubaa-asatx has stated they have historically harvested (including fishing, hunting, and gathering plants) on the South Arm of the Fraser River, including the project site. As per EAO's assessment, there is expected to be a negligible interaction between the Tilbury Phase 2 activities and Ts'uubaa-asatx health and well-being related to the quality, quantity, and availability of resources;
- **Effects on the value and quality (including perceived quality) of country foods, including sacred plants:** The use of country foods, including sacred plants, is central to Ts'uubaa-asatx well-being. This potential effect relates to human health and to valued components associated with contamination pathways, including air quality, acoustic environment, surface water, groundwater, and soil, as well as vegetation, wildlife, and fish and their habitats. It encompasses potential changes to the quality, quantity, and availability of plants, wildlife, and fish, as well as how these are perceived during harvesting practices. The EAO predicts negligible impacts on the biophysical quality, quantity, and availability of country foods, while acknowledging that residual effects are not entirely avoided. Although perceptions can influence harvesting behaviour, the EAO anticipates minimal interaction between Tilbury Phase 2 and perceived impacts on country food quality, citing limited biophysical effects, the area's existing industrial character, and the elimination of waterborne deliveries;
- **Effects on air quality, noise and water quality:** These effects are directly linked to the VCs of air quality, acoustic, surface water, and groundwater. EAO predicts that some Ts'uubaa-asatx members could be minimally affected by changes to water quality or noise during all phases of the Project. Air quality effects are expected to be negligible-to-minor, with low-magnitude SO<sub>2</sub> emissions not anticipated to noticeably impact Ts'uubaa-asatx interests. Noise effects are also predicted to be low in magnitude and not detectable to all Indigenous people that find themselves near the site; and

- **Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites:** This overarching effect relates to human health, culture, harvesting and subsistence activities, and cultural use sites and areas. EAO acknowledges Ts'uubaa-asatx's view that practicing traditions supports health and well-being and concludes that the Project will have negligible (but not non-existent) interaction with traditional activities or access to cultural sites. As such, minimal effects on health and well-being tied to traditional practices are anticipated. EAO also notes potential positive effects on socio-economic health determinants through increased employment and economic opportunities for Ts'uubaa-asatx members.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on Ts'uubaa-asatx health and well-being. These include the following:

- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support Ts'uubaa-asatx's health and well-being;
- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures and early notification to Indigenous nations, help protect culturally important sites and landscapes that support Ts'uubaa-asatx's broader connection to territory and the continuity of practices tied to health and well-being;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support Ts'uubaa-asatx's connection to their cultural practices that impact health and well-being;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and fish habitat relied on to support Ts'uubaa-asatx's connection to cultural practices, health and well-being;
- **Soil (Section 7.6)** Soil management measures, such as erosion control, spill prevention, and careful handling of contaminated soils, help prevent sediment or pollutants from entering nearby watercourses. Protecting soil and runoff quality supports the health of fish habitat and vegetation relied on by Ts'uubaa-asatx for strong connections to cultural practices and knowledge transfer to future generations, Ts'uubaa-asatx's health and well-being;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by Ts'uubaa-asatx for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to Ts'uubaa-asatx's harvesting, cultural practices, and their health and well-being;

- **Fish and Fish Habitat (Section 7.9)** Avoiding in-water works and implementing erosion, sediment, and spill-prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to Ts'uubaa-asatx's FSC harvesting, cultural practices, and health and well-being;
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices, which Ts'uubaa-asatx rely on for transfer of knowledge impacting their health and well-being;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to Ts'uubaa-asatx's harvesting, cultural practices, health, and well-being;
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect Ts'uubaa-asatx members' physical, cultural, and mental health; and,
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for Ts'uubaa-asatx's subsistence and health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides Ts'uubaa-asatx a clear and transparent mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely response and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** require ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with Ts'uubaa-asatx to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting Ts'uubaa-asatx's health and overall well-being; and,
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If Ts'uubaa-asatx historically used the area, this condition helps prevent disturbances to cultural materials and avoids associated cultural or emotional harm, supporting Ts'uubaa-asatx's health and well-being.
- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being;

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- **Accidents and Malfunctions Reporting** would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### Ts'uubaa-asatx and the EAO's Analysis and Conclusions

After consideration of the mitigation measures and potential effects, described above, the EAO and Ts'uubaa-asatx identified the following residual effects:

- Effects on the quality, quantity, and availability of harvested country foods;
- Effects on the value and perceived quality of country foods;
- Effects on air quality, noise and water quality; and
- Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites

Ts'uubaa-asatx and the EAO's characterization of the residual effects of Tilbury Phase 2 on Ts'uubaa-asatx health and well-being are summarized in the table below.

Ts'uubaa-asatx wished to provide the following statement regarding reversibility: the Nation does not agree that residual effects on health and well-being can be characterized as fully or partially reversible, as their small population means the loss of Elders results in irreversible loss of cultural knowledge, practices, and connections that are foundational to community well-being. Given the Project's long-term duration, disruptions to intergenerational knowledge transfer and traditional ways of life across multiple generations could result in lasting or permanent effects on the health and well-being of Ts'uubaa-asatx members, even if environmental conditions improve over time.



Table 50: Summary of residual effects and rationale on Ts'uubaa-asatx and its health and well-being.

| Ts'uubaa-asatx Interest                                                                                                                                                                                                                                                                                                                                                                                                   | Assessment Rating*                                                                                                                                                                                                                                                                  | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <p>Health and well-being</p> <ul style="list-style-type: none"> <li>- Effects on the quality, quantity, and availability of harvested country foods</li> <li>- Effects on the value and perceived quality of country foods</li> <li>- Effects on air quality, noise and water quality</li> <li>- Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites</li> </ul> | <p>Context (resilience): medium</p> <p>Magnitude: Low</p> <p>Extent: Local</p> <p>Duration: medium-term</p> <p>Reversibility: Partially</p> <p>Frequency: Continuous/Intermittent</p> <p>Affected Populations: disproportionately</p> <p>Risk: Low</p> <p>Uncertainty: moderate</p> | <p><b>Context:</b> The Ts'uubaa-asatx has experienced significant environmental and social challenges, reducing their resilience to further adverse effects. However, their efforts to maintain cultural connections and recent improvements, such as gaining access to clean drinking water, indicate a medium capacity for resiliency.</p> <p><b>Magnitude:</b> Rated as low because the Project is expected to have negligible to low magnitude impact on air quality and human health VC's and Ts'uubaa-asatx do not regularly use the area close to the Project site. Additionally, the project is anticipated to positively impact socio-economic determinants of health by increasing employment and economic opportunities.</p> <p><b>Extent:</b> The potential effects are rated as local since effects would be limited to areas directly surrounding Tilbury Island and its immediate zone of influence on the Fraser River. They are not expected to spread across the wider territory or affect regional cultural or health systems.</p> <p><b>Duration:</b> Potential effects, including environmental changes and perceptual impacts, are expected to persist throughout the project's 40 plus years of Operation, making them medium-term. While sensory disturbances may end after Decommissioning, impacts on cultural well-being could have lasting effects.</p> <p><b>Frequency:</b> The frequency of effects is both continuous and intermittent. Some stressors, such as noise and visual changes, may be continuous throughout the operational phase, while others, particularly those during Construction, may be intermittent. Additionally, the perception of environmental degradation could result in continuous effects on well-being.</p> <p><b>Reversibility:</b> The effects are considered partially reversible. Sensory disturbances, such as noise and light, are expected to be fully reversible after decommissioning. However, impacts on cultural well-being, including loss of connection to traditional practices and perceived environmental degradation, may be irreversible or require a long time to recover.</p> <p><b>Affected Populations:</b> While positive economic effects may benefit a broad range of Ts'uubaa-asatx members, those engaged in traditional harvesting and cultural practices or with pre-existing health vulnerabilities could be disproportionately impacted by negative environmental changes or perceived risks.</p> <p><b>Risk:</b> The likelihood of a negative effect occurring is low given Ts'uubaa-asatx members do not frequent the area close to the site where air quality and human health will be most impacted; as well as effective mitigations, conditions and permitting requirements. The consequences are likely to be minor due to negligible to low magnitude effects to relevant VC's and potential for some positive effects, such as increased economic activity, therefore the risk is low.</p> <p><b>Uncertainty:</b> The assessment of potential effects on Ts'uubaa-asatx's health and well-being carries a moderate degree of uncertainty primarily due to the inherent challenges in quantifying cultural effects, their subsequent impacts on well-being, and the impacts associated with knowledge transfer to future generations from community knowledge holders. These impacts can vary significantly based on individual and community-specific experiences, making precise predictions.</p> |



| Ts'uubaa-asatx Interest                                                                                                           | Assessment Rating* | Rationale |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------|
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |           |

### Cumulative Effects

As noted in the Background and Current Context sections above, historic and ongoing industrial development in the Lower Fraser region has contributed to long-standing cumulative impacts on Ts'uubaa-asatx's Indigenous health and well-being. Pollution, habitat degradation, declining access to traditional foods, and increasing pressures on land and water have already created a context in which Ts'uubaa-asatx's health and well-being outcomes are challenged.

FortisBC notes that two foreseeable projects, T1B and TMJ, are expected to result in cumulative impacts to air quality and associated human-health pathways, and these additional sensory and environmental stressors could further affect Ts'uubaa-asatx members' overall health and well-being, especially given existing regional pressures on traditional foods, respiratory health, and culturally grounded wellness practices. These projects may increase noise, light, and vegetation loss and further affect wildlife and aquatic resources, all of which play a role in supporting Ts'uubaa-asatx's cultural health practices and social well-being.

The EAO also notes that the Province committed to meaningfully addressing and managing cumulative effects as a result of TMJ in partnership with federal and regional/local governments, as well as Indigenous Groups in the lower Fraser River.

The EAO recognizes the project-specific effects alongside existing and anticipated pressures in the area. Based on the above considerations and given the localized extent of effects, limited VC residual effects, and mitigation measures and conditions, Tilbury Phase 2 is not expected to materially alter cumulative conditions.

Ts'uubaa-asatx has stated concerns that contamination and pollution of their traditional harvesting areas, which has reduced the quality and availability of country foods and directly affects their diet, cultural practices, and overall well-being. At the same time, settlement, urban development, and industrial activities have resulted in the loss of and restrictions on access to traditional lands and resources, disrupting cultural practices and the intergenerational transmission of Ts'uubaa-asatx Knowledge that is integral to health and well-being. These impacts are compounded by a decline in economic resources associated with the loss of the once-abundant fishery, further affecting social and economic conditions that are key determinants of health.

### Conclusion

Considering the above analyses, including proposed Proponent mitigations, and EAO's conditions, the EAO concludes that the Project will have a minor residual effect on Ts'uubaa-asatx's health and well-being.

### 16.20.10 Conclusions

Considering the above analyses and the good faith execution of the EAO's Table of proposed provincial conditions, identified KMMs to inform federal conditions under the IAA 2019, the EAO and Ts'uubaa-asatx concluded that the potential for adverse effects of Tilbury Phase 2 on the Ts'uubaa-asatx interests is anticipated to have the following impacts:

- Minor residual effects to Ts'uubaa-asatx harvesting and subsistence activities;
- Minor residual effects to Ts'uubaa-asatx cultural use sites and areas; and
- Minor residual effects to Ts'uubaa-asatx Indigenous health and well-being.

Considering the above analyses the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on Ts'uubaa-asatx interests have been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with Ts'uubaa-asatx on Tilbury Phase 2, as outlined above in Section 16.20.2 the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with Ts'uubaa-asatx.

## 16.21 WSÁNEĆ Nations

### 16.21.1 Community Profiles

The WSÁNEĆ Nations are comprised of Malahat Nation, Pauquachin First Nation, Tsartlip First Nation, STÁUTW First Nation (STÁUTW) and Tseycum First Nation (Tseycum). The WSÁNEĆ People, also known as Saltwater People<sup>49</sup> are descendant signatories of the Douglas Treaties, signed between 1850 and 1854<sup>50</sup>. They are based on the southwest coast of Vancouver Island, and the traditional territory extends across the Salish Sea to the lower arm of the Fraser River. WSÁNEĆ Nations have strong kinship, cultural and ethnic ties with other Indigenous nations on the Pacific coast of B.C., Lower Mainland, Vancouver Island, Washington State, and northern Oregon State<sup>51</sup>.

Culture and traditions are the roots of the WSÁNEĆ Nations, with community members practising their culture in many ways like involvement in cultural activities, abilities in traditional skills like stories of lessons, histories, and teachings orally passed on from Elders to youth. The longhouse is an important place for WSÁNEĆ Nations' people to gather and participate in cultural events and ceremonies.

### 16.21.2 WSÁNEĆ Nations Involvement in the Environmental Assessment

During the Early Engagement Phase, the WSÁNEĆ Nations did not identify as participating Indigenous nations.

The EAO and the IAAC provided funding to support the WSÁNEĆ Nations' engagement in the environmental assessment process. They provided documents, project updates, the draft Initial Project Description and DPD, and Process Planning documents for review. During the Process Planning phase, it was agreed that the EAO would assess the Project effects on WSÁNEĆ Nations' Indigenous interests, as identified in Section 4 of the Assessment Plan.

On October 31, 2024, STÁUTW requested to be identified as a participating Indigenous nation and to assess the effects of Tilbury Phase 2 on its interests under Section 19(4) of the Act. The EAO updated the Process Order and Assessment Plan on May 5, 2025, in response to these requests. STÁUTW was also invited to TAC meetings starting at the beginning of the Application Review Phase.

### 16.21.3 Malahat First Nation - Community Profile

Malahat Nation is a Coast Salish Indigenous community and one of the five WSÁNEĆ (Saanich) Nations, located between Victoria and Mill Bay, B.C. The nation's two reserves are nestled along the western shore of the Saanich Inlet beneath the sacred Malahat mountain range, a site of deep cultural and spiritual importance. Malahat, with 367 family ties with the WSÁNEĆ Peoples of the Saanich Peninsula and secondary familial and cultural connections to the Quw'utsun people<sup>52</sup>. Malahat members speak SENĆOŦEN, Hul'q'umi'num' and Samish languages.<sup>53</sup> Malahat is a Te'mexw Treaty Association which is in stage 5 of the B.C. treaty negotiation process. Malahat is working to prioritize cultural preservation and revitalization as well as economic development.

Malahat Nation identifies as a marine-based Nation with longstanding cultural, familial, and harvesting connections throughout the Salish Sea. Malahat Nation indicated that its members historically travelled extensively by canoe to support harvesting, trade, cultural exchange, and the maintenance of family relationships with neighbouring Coast Salish Nations, including communities located throughout the Gulf Islands, San Juan Islands, Boundary Bay, Roberts

<sup>49</sup> WSÁNEĆ Leadership Council - [History & Territory - WSÁNEĆ Leadership Council](#)

<sup>50</sup> Legislative Assembly of British Columbia - <https://www.leg.bc.ca/learn/discover-your-legislature/1850-douglas-treaties>

<sup>51</sup> Kennedy and Bouchard 2019 - [Coast Salish | The Canadian Encyclopedia](#)

<sup>52</sup> Environmental Assessment Office. October 2022. Assessment Report for Tilbury Marine Jetty. <https://www.projects.eao.gov.bc.ca/api/public/document/66426b8fe3197900228448b7/download/Assessment%20Report%20-%20Tilbury%20Marine%20Jetty%20-%2020221007.pdf>

Te'mexw Treaty Association Website: [Malahat - Te'mexw Treaty Association](#)

Bank, and the Fraser River estuary. Malahat Nation continues to support cultural revitalization initiatives, including canoe-building programs and participation in Tribal Canoe Journeys, which facilitate the transmission of cultural knowledge and strengthen connections between generations.

As stewards of the Salish Sea, the Malahat places strong emphasis on sustainable fisheries and marine harvesting, which serve not only as sources of sustenance and income, but also as vital tools for transmitting cultural teachings to future generations. Through these integrated efforts in governance, economic growth, cultural revitalization, and environmental stewardship, Malahat continues to build a strong, self-determined, and thriving community.

#### 16.21.4 Pauquachin First Nation - Community Profile

Pauquachin, a name generally meaning “the land of cliffs and bluffs”, is a First Nation that is located on Southern Vancouver Island.<sup>54</sup>

Economic development for Pauquachin is supported by the South Island Prosperity Partnership (SIPP). The nation is governed by a Chief and four Councillors, elected biannually under the *Indian Act*. Although Pauquachin is not part of the *First Nations Land Management Act*, it manages land through certificates of possession and traditional holdings, with land development and jurisdiction still under the *Indian Act* framework.

#### 16.21.5 Tsartlip First Nation - Community Profile

Tsartlip First Nation’s primarily reserve is located in Brentwood Bay on the Saanich Peninsula north of Victoria, B.C., Tsartlip First Nation holds four reserves. Essential services like water, wastewater, and fire protection are provided through agreements with the District of Central Saanich, while the nation's administrative offices are located in Brentwood Bay.

Governed under the *First Nations Elections Act* by a Chief and nine Councillors, with elections every four years, Tsartlip's leadership values respect, integrity, and collaboration. The nation has also participated in environmental assessments, notably opposing impacts from the Trans Mountain Pipeline project, citing damage to the Salish Sea’s ecosystem and its effect on constitutionally protected rights. The W̱SÁNEĆ marine territory is defined as encompassing the Southern Gulf Islands, the Saanich Peninsula, and extending across the Strait of Georgia. This territory is central to Tsartlip identity, includes sacred sites for cultural and spiritual practices, and sustains vital connections with the Southern Resident killer whale, KELLÖLEMEĆEN, a key figure in W̱SÁNEĆ cosmology and oral tradition.

#### 16.21.6 S̱ÁUTW̱ - Community Profile

S̱ÁUTW̱ is one of five communities that constitute the W̱SÁNEĆ Nation.

East Saanich Indian Reserve No. 2, the S̱ÁUTW̱ main village, is about 15 minutes north of the City of Victoria and lies on the east side of the Saanich Peninsula. East Saanich Indian Reserve No. 2 is approximately 241 hectares in size. 1600 people live in S̱ÁUTW̱ (year 2006 est.) with approximately one-third of the population being registered band members, and others being residents who are leasing lands.

While Saanichton Bay is of importance to S̱ÁUTW̱, and their “headquarters”, the S̱ÁUTW̱ were not stationary. According to S̱ÁUTW̱ their territory includes “the Saanich Peninsula, south to Mount Douglas, across to Mount Finlayson and Goldstream. In addition, the Southern Gulf Islands, reaching to Point Roberts, and San Juan Islands constituted what is the Saanich Peoples traditional territory. The S̱ÁUTW̱ and Saanich peoples’ traditional territory is the lands and seas that we traditionally used throughout every season.”<sup>55</sup>

<sup>54</sup> Pauquachin History: <https://www.pauquachin.ca/>. Accessed on April 24, 2025.

<sup>55</sup> About S̱ÁUTW̱ – Tsartlip First Nation. Accessed on May 26, 2025.

Effects of Tilbury Phase 2 to STÁUTW are assessed in [Appendix 6, Section 16.17](#) of this Report.

#### 16.21.7 Tseycum First Nation - Community Profile

The Tseycum is a First Nation's government located on southern Vancouver Island near Victoria. Tseycum (Union Bay Indian Reserve No.4) is one of the four Saanich villages of Southern Vancouver Island, located at the centre of Patricia Bay on the Saanich Peninsula. The community also entered into a 2012 agreement with the Government of B.C. aimed at expanding their land base and economic opportunities, with additional support from the South Island Prosperity Partnership (SIPP).

Tseycum is governed under the *Indian Act* by a Chief and two Councillors and provides a range of supports for members, including services related to health, youth, elders, finances, and employment. Through a combination of traditional knowledge, economic partnerships, and community-driven governance, Tseycum is working to strengthen its self-sufficiency and support for its members.

#### 16.21.8 EAO's Assessment of Tilbury Phase 2 on the WSÁNEĆ Nations

This assessment is intended to provide an assessment of the effects of Tilbury Phase 2 to the WSÁNEĆ Nation overall, while recognizing that each of the WSÁNEĆ Nations have both shared and distinct rights, histories, traditions, and interests. The EAO acknowledges that STÁUTW is conducting an assessment of Tilbury Phase 2 on its interests under Section 19(4) of the Act located in [Appendix 6, Section 16.17](#) of this Report, which assesses interests and values specific to STÁUTW.

The EAO used the following sources in drafting its assessment of Tilbury Phase 2 effects on the WSÁNEĆ Nations's Indigenous interests:

- FortisBC's Revised Application;
- Information submitted during the environmental assessment by the Proponent and WSÁNEĆ Nations;
- Conclusions from the EAO's assessment of VCs; and
- The Proponent's [Indigenous Consultation Report](#) which is a summary of the Proponent's engagement with WSÁNEĆ Nations.

#### 16.21.9 Assessment Boundaries

The spatial assessment boundaries for each Indigenous interest were based on the overlap between WSÁNEĆ Nations' traditional territories with the combined Local and RAAs identified for linked VCs. Although Tilbury Phase 2 is located outside WSÁNEĆ Nations' traditional territories, there is overlap with the LAA and RAA for the Indigenous interests discussed in this section of the EAO's Assessment Report. See Figure 11.18-1A-E of the Revised Application, WSÁNEĆ Nations Indigenous Interests Territorial Map.

The assessment of potential effects related to Tilbury Phase 2 considered three distinct phases:

- Construction phase, with an estimated duration of three to six years;
- Operation phase, expected to last more than forty years; and
- Decommissioning phase, anticipated to take approximately two years.

#### 16.21.10 Regional Context

The WSÁNEĆ Nations have traditionally occupied a vast territory including southern Vancouver Island, nearby islands, the Salish Sea (including what is now known as Puget Sound, the Strait of Georgia, and Juan de Fuca Strait), and extending across Georgia Strait to Boundary Bay and the lower Fraser Valley.

This traditional territory encompasses spiritual places, medicine and fruit gathering places, fishing stations, hunting and trapping areas, winter and summer homesites, and burial sites. Historically, WSÁNEĆ families travelled and lived throughout this territory, including maintaining reef-net sites and other fishing/harvesting areas along the salmon's

migration route to the Fraser River. Historical records also describe Saanich People travelling to the salmon fisheries on the Fraser River.

The STÁUTW's traditional territory specifically includes Roberts Bank (see [Section 16.17](#) of the Assessment Report for STÁUTW's assessment of Tilbury Phase 2).

#### 16.21.11 Indigenous Interests

The EAO engaged W̱SÁNEĆ Nations during the Early Engagement phase in the development of the [Joint Summary of Issue and Engagement for Tilbury Phase 2 LNG Expansion Project](#); however, the EAO did not receive any input during that phase. During the Application Development and Review phase, the EAO received a technical memo from Malahat Nation which summarized an initial understanding of their interests, which have been included in the overall W̱SÁNEĆ Nation's interests, these are; respect for Aboriginal rights, title and knowledge. As well as interests related to economic development and capacity building, and a meaningful assessment of cumulative effects on environmental and cultural resources.

During the Readiness Decision phase in the development of the [Readiness Decision Report](#), EAO engaged with W̱SÁNEĆ Nations who indicated that their primary concerns regarding Tilbury Phase 2 include: cumulative effects, and marine use of the Fraser River for navigation and fisheries activities. This information was used in drafting the [Tilbury Phase 2- Schedule C – Application Information Requirements](#) Table 6; see Proposed Preliminary List of Indigenous Interests.

The Proponent identified W̱SÁNEĆ Nation's Indigenous interests to be assessed in the Revised Application through:

- Reviewing requirements and guidance from the EAO and the AIR;
- Conducting engagement efforts with W̱SÁNEĆ Nations to gather information on their Indigenous interests, as outlined in [Section 11.18.3](#) Summary of Engagement of the W̱SÁNEĆ Nation's section of the Nations section in the Revised Application;
- Engaging collaboratively with STÁUTW beginning in the Application Development and Review Phase; and
- Reliance by FortisBC on secondary data and sources external to W̱SÁNEĆ Nations.

The EAO attempted to engage with W̱SÁNEĆ Nations, and with the exception of STÁUTW, during the development of this Report. As no comments were received on their section, the EAO relied on the preliminary list of Indigenous interests identified in the AIR, which include:

- Harvesting and subsistence activities;
- Cultural use sites and areas;
- Social and economic conditions; and
- Indigenous health and well-being.

The assessment of W̱SÁNEĆ Nations' Indigenous interests in this section uses these categories. The EAO's assessment includes describing the Indigenous interest, the current context, potential effects, applicable mitigation, and the resulting effects analysis. If there is an adverse residual effect a characterization of effects and cumulative effects assessment is also completed. In addition to the EAO's assessment of effects to W̱SÁNEĆ Nations' Indigenous interests, STÁUTW provided their position on how Tilbury Phase 2 will affect STÁUTW's Indigenous interests.

#### 16.21.12 Harvesting and Subsistence Activities

##### Background

The W̱SÁNEĆ Nations have resided on southern Vancouver Island, the western side of the Saanich Peninsula, and nearby islands for millennia. Their extensive traditional territory spans across the Salish sea to the lower arm of the Fraser River, including Saanich Inlet and adjacent forest lands.

In their 1987 Territorial Declaration, the WSÁNEĆ describe their homeland as encompassing all spiritual places, medicine and fruit gathering places, fishing stations, hunting and trapping areas, winter and summer homesites, burial sites, meditation places, and all territory in between. As “Saltwater People”, the sea is profoundly important to their way of life, and they believe themselves to be an inherent part of the natural world, including birds, animals, fish, and mountains. Their traditional beliefs hold that all non-human creatures and many inanimate environmental components were once people, transformed and given as gifts, emphasizing an egalitarian relationship with nature.

#### Existing Conditions

Within the WSÁNEĆ governance system, harvesting fish for food, culturally important plant gathering, hunting, and ceremony aligns with sustainability management.

WSÁNEĆ people actively engage in marine resource harvesting, which is vital for sustenance, culture, and income. They practice Douglas Treaty Rights, including salmon fishing and the harvesting of marine resources within their traditional territories. They continue to gather culturally important plants for medicinal and ceremonial purposes.

The present industrial developments, including land conversion, railway expansions, industrial accidents, the growth of the Port of Vancouver, and pollution, have had profound and far-reaching effects on Indigenous communities. These changes have reduced lands available for harvesting and gathering, adversely affected fish and fish habitat, wildlife, water quality, and access to cultural areas. The loss of land is considered an important factor contributing to cultural stress and decline in Indigenous well-being for WSÁNEĆ members.

Malahat Nation indicated that harvesting and marine use activities are affected by declining resource abundance, pollution, industrial development, environmental degradation, and marine traffic. As a “Fraser approach Nation” with historical reliance on reef-net fisheries associated with Fraser River sockeye migration routes, Malahat Nation expressed concern that developments within the Fraser River estuary and surrounding marine environments may affect areas historically used for harvesting, travel, trade, and cultural activities. Malahat Nation also highlighted ongoing efforts to revitalize harvesting practices and support intergenerational exercise of Indigenous rights.

Regarding the specific area of Tilbury Phase 2 on the south arm of the lower Fraser River, the Proponent states that the available information shows that WSÁNEĆ Nations do not currently use this specific area to fish, gather plants, hunt, or access cultural sites or areas. The Department of Fisheries and Oceans Food, Social, and Ceremonial (FSC) catch data does not indicate current fishing by WSÁNEĆ Nations near Tilbury Phase 2.

Malahat Nation noted that the absence of documented current use in a specific location should not be interpreted as an absence of Indigenous rights or interests. Malahat Nation stated that its members continue to maintain cultural, historical, and spiritual connections to marine environments throughout the Salish Sea and Fraser River estuary and are actively supporting opportunities for future generations to exercise those rights.

#### Potential Project Effects

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#), that may affect WSÁNEĆ Nations’ harvesting rights and subsistence activities during Construction, Operation, and Decommissioning phases of Tilbury Phase 2:

- **Changes to the experience and preferences around the practice of harvesting rights and effects on the quality, quantity, and availability of resources** from increased noise, light, and air pollution (acoustics, air quality, soil, groundwater, and land and resource use VCs) may deter WSÁNEĆ Nations’ members from accessing preferred harvesting areas near Tilbury Phase 2 site. Changes in fish distribution and abundance (fish and fish habitat VC) and the introduction of invasive plant species (vegetation VC) may further reduce the experience and preference of the practicing of harvesting rights. While WSÁNEĆ Nations’ do not currently fish or harvest close to Tilbury Phase 2, they have historically and could in the future if the site was decommissioned to a more natural state;



- **Effects to W̱SÁNEĆ Nation's Rights to fish for FSC purposes** from habitat loss, (fish and fish habitat, vegetation VCs), increased mortality risks to fish, birds, and wildlife (wildlife and wildlife habitat VCs), and changes in their behavior due to sensory disturbances (acoustics, air quality VCs). Additionally, contamination risks to fish habitat in Tilbury Slough (surface water, groundwater VCs) and Fraser River downstream, as well as contaminated soil (soil VC) could impact important plant species, may further impact traditional harvesting and cultural practices; and
- **Effects on the accessibility and availability of traditional lands and resources** may occur as a result of altered land or water based travel routes, access restrictions, or safety considerations, including changes to navigability and the usability of established travel corridors (land and resource use and surface water VCs), as well as indirect effects from sensory disturbances such as noise, dust, lighting, or visual changes that may discourage travel through otherwise accessible areas (air quality, acoustics, and land and resource use VCs).

### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on harvesting and subsistence activities. A full table of Proponent mitigations can be found in [Appendix A of the Revised Application](#). Below is a summary of Key Mitigation Measures, how they address effects on the relevant VC interests, and where they are located in the Revised Application:

- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support W̱SÁNEĆ Nations' harvesting and cultural practices;
- **Acoustic (Section 7.3)** Noise reduction measures during Construction and Operation, such as idle reduction policies, equipment enclosures, and engineered noise controls, help limit disturbance to fish, wildlife, and nearby harvesting areas. Managing noise and vibration also helps maintain the conditions that support W̱SÁNEĆ Nations' harvesting and cultural practices;
- **Surface Water (Section 7.4)** Erosion and sediment control measures, along with containment and treatment of contact water, help prevent sediment or contaminants from entering Tilbury Slough and the Delta storm sewer system. These protections support water quality and fish habitat relied on to support W̱SÁNEĆ Nations' harvesting and cultural practices;
- **Groundwater (Section 7.5)** Groundwater protections, such as containing and treating contact water, managing stormwater, and preventing contaminated runoff, help maintain water quality that supports downstream fish habitat and vegetation important to W̱SÁNEĆ Nations' harvesting and cultural practices;
- **Vegetation (Section 7.7)** Avoiding the MOF footprint prevents disturbance to riparian areas and culturally important plant species relied on by W̱SÁNEĆ Nations for harvesting practices. Measures to prevent the spread of invasive plants also help maintain healthy native plant communities that support traditional gathering and ecosystem integrity;
- **Wildlife and Wildlife Habitat (Section 7.8)** Wildlife protection measures, such as timing construction to avoid sensitive periods, managing lighting, reducing sensory disturbance, and preventing invasive species, help maintain habitat conditions that support the animals and ecosystems important to W̱SÁNEĆ Nations' harvesting and cultural practices;



- **Fish and Fish Habitat (Section 7.9)** Avoiding in water works and implementing erosion, sediment, and spill prevention measures help protect fish habitat and water quality used by salmon migrating through the lower Fraser. These actions support the health and availability of salmon and other fish species central to W̱SÁNEĆ Nations' FSC harvesting and cultural practices; and,
- **Land and Resource Use (Section 7.11)** Traffic management, noise and lighting controls, and clear communication of project activities help reduce disturbances that could affect access to areas used for harvesting or cultural practices.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions to help reduce potential impacts on W̱SÁNEĆ Nations' harvesting and subsistence interests. The following provincial conditions would support mitigation of effects on harvesting rights (see [Section 8](#) of this Report):

- **Condition 10 (Community Feedback Process)** creates a clear way for W̱SÁNEĆ Nations to raise concerns about project effects on harvesting, habitat, or access. By requiring timely responses and ongoing reporting, it helps ensure issues like dust, noise, or disturbance are addressed early, supporting the protection of W̱SÁNEĆ Nations' harvesting and cultural practices;
- **Condition 12 (CEMP)** requires comprehensive plans for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction, which helps protect the environmental conditions that support fish, wildlife, and plants important to W̱SÁNEĆ Nations' harvesting and cultural practices;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, wildlife interactions, spills, and lighting during Operation, helping maintain stable environmental conditions that support salmon, wildlife, and plants important to W̱SÁNEĆ Nations' harvesting and cultural practices;
- **Condition 14 (Air Quality Management Plan)** ensures the Project selects and applies effective emissions-control technologies and monitors air contaminants during Operation. By managing pollutants that can affect people harvesting in the area, salmon, vegetation, and health, this plan helps protect the environmental conditions that support W̱SÁNEĆ Nations' harvesting and cultural practices; and,
- **Condition 17 (Dry Street Sweeping Report)** helps assess whether dry street sweeping can reduce 6-PPDQ on project-related roads, which may lower potential impacts on salmon and other fish important to W̱SÁNEĆ Nations' harvesting and cultural practices.

In addition to the Proponent's mitigations and the provincial conditions the EAO identified the following Key Mitigation Measures and Follow-up Programs under the IAA that would mitigate potential effects to harvesting and subsistence activities:

- **Federal Consideration for Migratory Bird Protections:** The EAO recommends that IAAC consider additional federal conditions to strengthen protections for migratory birds under federal legislation. These measures would help maintain culturally important bird species and their habitats while reducing disturbance from project activity, supporting W̱SÁNEĆ Nations' harvesting practices and broader ecosystem conditions important to their way of life.

#### The EAO's Analysis and Conclusions

After consideration of the potential effects, mitigation measures and conditions, described above, the EAO has identified that there will not be any residual effects to W̱SÁNEĆ Nations harvesting and subsistence interests, primarily based on the above proposed mitigation measures, the EAO's analysis, and the lack of current use of the Project area.

### 16.21.13 Cultural Use Sites and Areas

#### Background and Current Context

W̱SÁNEĆ Nations have not identified cultural sites or areas that their members have used or are currently using in or adjacent to Tilbury Phase 2.

The W̱SÁNEĆ Nations' traditional territory, known as Á,LEŊENEŁ ŁTE or "our homeland," historically included diverse sites for villages, resource gathering, and ritual activities, with culture and traditions being fundamental to the W̱SÁNEĆ Nations' pride, balance, healing, and happiness.

Malahat Nation identified canoe travel as an important cultural practice that supports harvesting, trade, family connections, and the transfer of cultural knowledge between generations. Malahat Nation indicated that contemporary canoe journeys and related cultural revitalization activities continue to play an important role in maintaining cultural identity and connections throughout Coast Salish territories.

#### Potential Project Effects

The EAO identified the following pathway of effects, prior to the application of mitigation measures, along with the associated VCs outlined in [Appendix 6](#), that may affect W̱SÁNEĆ Nations' cultural use sites and areas during Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Effects to cultural heritage and structures, sites, or things of historical, archaeological, paleontological, or architectural significance:** Tilbury Phase 2 could affect cultural use sites and areas through Construction activities that disturb culturally important places, such as archeological sites, due to ground disturbance, accidental spills of deleterious substances, or other construction-related interactions (culture, soil, archaeological and heritage resources VC);
- **Loss of access to and disenfranchisement from cultural sites:** W̱SÁNEĆ Nations' harvesters could experience direct adverse effects to cultural and spiritual practices if access to cultural sites is altered or lost due to closure or construction of trails, parking areas, or access points between Tilbury Phase 2 and the Fraser River for safety or construction purposes (land and resource use VC). Changes in sensory effects (acoustic, air quality, culture, land and resource use VC) could change the experience of W̱SÁNEĆ Nation members using cultural sites; and
- **Effects to cultural and spiritual practices caused by changes to or loss of access to cultural sites and areas:** Access to cultural sites could be affected (land and resource use VC) by Tilbury Phase 2. Adverse effects to culture (culture VC) which are connected to potential effects on wildlife, habitat, and vegetation (See Harvesting and Subsistence Activities section above) could influence the ability or desire to access these sites.

#### Mitigation Measures

The Revised Application summarizes relevant mitigation measures proposed by FortisBC to address potential Tilbury Phase 2 related effects on cultural use sites and areas, including:

- **Land and Resource Use (Section 7.11)** Traffic-management planning, noise and lighting controls, and communication regarding project activities help reduce disruptions to access and use of culturally important areas. These measures support W̱SÁNEĆ Nations' ability to safely access and continue cultural practices within their traditional territory;
- **Culture (Section 7.14)** Measures that reduce noise, light, habitat disturbance, and impacts to heritage sites help maintain the cultural landscapes and environmental conditions that support W̱SÁNEĆ Nations' ability to access, use, and maintain culturally important areas, including places of teaching, ceremony, and connection to land and water;

- **Archaeology and Heritage Resources (Section 7.13)** Measures to prevent disturbance to archaeological and heritage materials, including chance find procedures, site protection, and early notification to Indigenous nations, help protect culturally important sites, features, and landscapes. These measures support W̱SÁNEĆ Nations' ongoing use of cultural areas and help maintain cultural continuity, knowledge transmission, and connections to territory;
- **Air Quality (Section 7.2)** The air quality measures, such as idle-reduction, dust control, electrification, equipment maintenance, and emissions controls, limit contaminants that can cause sensory disturbance or degrade habitat. They help protect salmon, wildlife, vegetation, and surface water that support W̱SÁNEĆ Nations' harvesting and cultural practices;
- **Acoustics (Section 7.3)** Noise reduction measures during construction and operation, including idle-reduction policies, equipment muffling, enclosures, and engineered noise controls, help limit disturbance to culturally important areas and activities. Managing noise and vibration supports the continued use of cultural sites and helps maintain settings conducive to cultural practices, ceremonies, and the transmission of cultural knowledge by W̱SÁNEĆ Nations; and
- **Soil (Section 7.6)** Soil management measures, including erosion control, spill-prevention protocols, and careful handling and disposal of contaminated soils, help prevent the migration of pollutants into nearby cultural areas and waterways. Maintaining soil stability and quality supports the protection of culturally important places and landscapes used by W̱SÁNEĆ Nations.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects on cultural use sites and areas (see [Section 8](#) of this Report):

- **Condition 9 (Public Information)** requires advance notice of planned flaring and timely notification of unplanned high-volume flaring events, along with publicly accessible project information. By improving predictability and awareness of activities that may affect air quality, visibility, and safety, this condition helps reduce uncertainty and supports confidence in accessing and using the area, particularly during periods of elevated disturbance.
- **Condition 10 (Community Feedback Process)** establishes a clear and structured mechanism for W̱SÁNEĆ Nations to raise concerns related to project effects on culturally important areas, access, or sensory conditions. Requiring timely responses, follow-up actions, and reporting helps ensure that issues such as dust, noise, lighting, or disturbance near cultural sites or travel routes are identified early and addressed, supporting the continued use and protection of cultural areas;
- **Condition 12 (CEMP)** requires comprehensive planning and mitigation for managing dust, noise, surface water, spills, erosion, and wildlife interactions during Construction. These measures help protect the environmental and sensory conditions of culturally important landscapes and areas, supporting W̱SÁNEĆ Nations's continued access to and use of cultural sites during project Construction;
- **Condition 13 (OEMP)** requires ongoing management of noise, water quality, lighting, wildlife interactions, and spills during project Operation. By maintaining stable environmental and sensory conditions over the long term, this condition supports the integrity and continued use of cultural areas relied on by W̱SÁNEĆ Nations;
- **Condition 14 (Air Quality Management Plan)** ensures the selection and implementation of effective emissions-control technologies and ongoing monitoring of air contaminants during Operation. By managing pollutants that may affect air quality, visibility, and outdoor use of the area, this plan helps maintain conditions suitable for access to and use of culturally important areas and sites by W̱SÁNEĆ Nations; and,

- **Condition 15 (Chance Find Protocol)** requires the development and implementation a Chance Find Protocol for archaeological finds throughout the life of Tilbury Phase 2. This measure ensures any artifacts discovered are properly protected. If W̱SÁNEĆ Nations historically used the area, it would also help mitigate effects on any of their cultural materials that may be present.

#### The EAO's Analysis and Conclusions

After consideration of the potential effects, mitigation measures and conditions, described above, the EAO has identified that there will not be any residual effects to W̱SÁNEĆ Nations' cultural use sites and areas interest, primarily based on the above proposed mitigation measures, the EAO's analysis, and the lack of current use of the Project area.

### 16.21.14 Social and Economic Conditions and Indigenous Health and Well-being

#### Background

W̱SÁNEĆ Nations' social and economic conditions and health and well-being have been expressed as an issue of concern by W̱SÁNEĆ Nations. Colonialism has extensively impacted their social and economic well-being and health. There are disparities which are systemic and stem from factors like intergenerational trauma, racism, poverty, and barriers to educational and employment opportunities.

#### Existing Conditions

The existing conditions noted in the Revised Application related to social and economic factors include information on population, age characteristics, marital statuses, emergency services, housing, education, and community infrastructure.

In terms of Indigenous health and well-being, W̱SÁNEĆ Nations are deeply influenced by the legacy and ongoing impacts of colonialism, resulting in extensive socio-economic disparities that function as social determinants of health and manifest in poorer health outcomes compared to the non-Indigenous population.

See sections on [Cultural Use Sites and Areas](#) and [Harvesting and Subsistence Activities](#) for additional context.

#### Potential Project Effects

The EAO identified the following pathways of effects, along with associated VCs outlined in [Appendix 6](#), that may affect W̱SÁNEĆ Nations' social and economic conditions and Indigenous health and well-being during Construction, Operation, and Decommissioning phases of the Tilbury Phase 2:

- **Social and Economic Conditions:**
  - **Effects on infrastructure and services;** Tilbury Phase 2 may add pressure on services if out-of-region workers are used, but according to the Revised Application effects are expected to be limited and not distinguishable from existing conditions (land and resource use, employment and economy, infrastructure services VC);
  - **Effects to with W̱SÁNEĆ Nations' employment opportunities, Indigenous businesses, procurement opportunities, and W̱SÁNEĆ Nation revenue:** Tilbury Phase 2 could positively affect W̱SÁNEĆ Nations' employment and business opportunities, depending on member participation and access to contracts (employment and economy VC). Indigenous workers are also more likely to be in construction-related jobs. However, smaller Indigenous businesses, including those linked to W̱SÁNEĆ Nation, may face challenges competing for workers or meeting Tilbury Phase 2 demands (culture VC); and

- **Effects to WSÁNEĆ Nations' ability to improve social and economic conditions;** Tilbury Phase 2 may support WSÁNEĆ Nations' efforts to improve social and economic conditions by creating employment, training, and business opportunities. Increased demand for skilled workers could also boost interest in trades training (infrastructure and services, and employment and economy VC).
- **Indigenous Health and Well-being:**
  - **Effects on the quality, quantity, and availability of harvested country foods:** Land, water or air-based contamination from Tilbury Phase 2 could adversely affect country foods such as fish and traditional plants. (See [Harvesting and Subsistence Activities](#) section above);
  - **Effects on the value and perceived quality of country foods:** Quality, quantity or availability of plants or wildlife could be impacted from Tilbury Phase 2. Country foods could become contaminated. (See list of potential project effects above). Community perceptions with respect to the quality of country foods have the potential to interact with WSÁNEĆ Nation members' participation in harvesting and subsistence activities and cultural and spiritual practices even in the absence of adverse effects (land and resources and culture VCs);
  - **Effects on air quality, noise and water quality:** Tilbury phase 2 activities have the potential to contribute contaminants of concern to air and water, and increased noise levels in proximity to the facility property line (air quality, acoustics, surface water, land and resource use, and human health VCs); and,
  - **Effects on health and well-being from the potential effects to traditional ways of life and to cultural sites;** Tilbury Phase 2 may interact with WSÁNEĆ Nation's health and well-being through changes to traditional practices, access to cultural sites, and socio-economic factors. Effects on traditional ways of life due may still influence health outcomes indirectly. Positive effects may include increased income and employment opportunities for members, while potential adverse effects relate to shift work and family stress.

#### Mitigation Measures

The Revised Application includes a summary of relevant mitigation measures identified that the Proponent has proposed in response to potential Tilbury Phase 2 related effects on social and economic conditions and Indigenous health and well-being. These include the following:

- **Air Quality (Section 7.2)** Air emission controls help protect respiratory health and prevent contamination of country foods, supporting WSÁNEĆ Nations' physical well-being and confidence in harvesting;
- **Surface Water (Section 7.4)** Managing runoff, erosion, and sediment helps maintain water quality in the lower Fraser, supporting WSÁNEĆ Nations' cultural and nutritional reliance on healthy salmon and aquatic ecosystems;
- **Fish and Fish Habitat (Section 7.9)** Protecting fish habitat, water quality, and migration conditions supports WSÁNEĆ Nations' food security, cultural identity, and health by safeguarding salmon and other species essential to FSC harvesting;
- **Vegetation (Section 7.7)** Measures to prevent invasive species and avoid loss of culturally important plants help protect traditional foods and medicines that contribute to WSÁNEĆ Nations' physical health and cultural practices;
- **Wildlife and Wildlife Habitat (Section 7.8)** Mitigation that reduces wildlife disturbance and mortality helps sustain species important for cultural practices and country food harvesting, supporting WSÁNEĆ Nations' cultural continuity and nutritional well-being;

- **Land and Resource Use VC (Section 7.11)** Mitigation measures that manage traffic, noise, lighting, and spill risks help maintain safe access and stable land use conditions, supporting WSÁNEĆ Nations' on-going stewardship of land and water resources and reducing stressors that can affect well-being;
- **Employment and Economy VC (Section 7.10)** Employment, training, and procurement measures create pathways for WSÁNEĆ Nations' members and businesses to participate economically in the project, supporting improved social conditions and community well-being;
- **Infrastructure and Services (Section 7.12)** Measures that manage worker demand on housing, services, and emergency response help avoid added pressure on local systems, reducing potential socioeconomic impacts on WSÁNEĆ Nations and supporting health and community stability;
- **Culture (Section 7.14)** Mitigation that limits sensory disturbance, protects cultural sites, and maintains landscape integrity helps support cultural practices and intergenerational knowledge transfer linked to WSÁNEĆ Nations' well-being;
- **Human Health (Section 7.15)** Mitigation that reduces exposure to contaminants, noise, and other stressors, while supporting access to traditional practices, helps protect WSÁNEĆ Nations members' physical, cultural, and mental health; and,
- **Groundwater (Section 7.5)** Protecting groundwater from contamination helps maintain the quality of ecosystems that support fish, plants, and wildlife relied on for WSÁNEĆ Nations' subsistence and health.

In addition to the Proponent's mitigation measures, the EAO has developed further conditions that would mitigate potential effects to social and economic conditions and Indigenous health and well-being:

- **Condition 10 (Community Feedback Process)** provides WSÁNEĆ Nations with a clear mechanism to raise concerns related to community well-being, safety, access, or environmental disturbance. Timely responses and reporting help address issues such as noise, dust, traffic, or perceived environmental effects early, reducing stress and supporting Indigenous health and well-being;
- **Conditions 12 and 13 (Construction and Operations Environmental Management Plans)** require ongoing management of noise, air quality, lighting, water quality, spills, and traffic during Operation and Construction phases. It will also require an emergency communication protocol with WSÁNEĆ Nations to be developed by the Holder in consultation with the Nation. By ensuring timely, transparent communication and coordinated response in the event of incidents, these conditions help reduce uncertainty and anxiety related to catastrophic risks, supporting a sense of safety, control, and trust that underpins mental and emotional well-being;
- **Condition 14 (Air Quality Management Plan)** requires emissions controls and monitoring to manage air contaminants during Operation. Maintaining air quality helps protect respiratory health and reduce concerns related to environmental safety, supporting WSÁNEĆ Nations' physical health and overall well-being;
- **Condition 15 (Chance Find Protocol)** requires procedures to identify and protect archaeological or cultural materials discovered during project activities. If WSÁNEĆ Nations historically used the area, this condition helps prevent disturbance to cultural materials and avoids associated cultural or emotional harm, supporting Indigenous health and well-being;
- **Condition 16 (Indigenous and Local Economic Inclusion and Monitoring Plan)** requires the development and implementation of a plan to support economic participation of First Nations and local communities. By outlining employment, contracting, and training strategies, this condition helps support socio-economic well-being; and,



- **Condition 17 (Dry Street Sweeping Report)** requires FortisBC to submit a report on the effectiveness Dry Street Sweeping to mitigate the effects of 6-PPDQ on fish within eighteen months of a Certificate being issued. By informing measures to protect downstream aquatic environments, this condition supports W̱SÁNEĆ Nations' health and well-being by helping maintain confidence in environmental quality and minimizing potential concerns related to contamination of culturally important fish and waterways.

The EAO identified the following federal Key Mitigation Measures that would mitigate potential effects to Health and Well-being:

- Accidents and Malfunctions Reporting would support mitigation of potential impacts on the Nation's interests by ensuring timely responses, incorporation of Indigenous perspectives, and continuous improvement to reduce the risk and severity of future incidents.

#### The EAO's Analysis and Conclusions

After consideration of the potential effects, mitigation measures and conditions, described above, the EAO has identified that there will not be any residual effects on W̱SÁNEĆ Nations' Indigenous health and well-being interests based on the above proposed mitigation measures and conditions, the EAO's analysis, and the lack of current use of the Project area.

#### 16.21.15 Positive Effects of Tilbury Phase 2

According to the Revised Application, Tilbury Phase 2 is expected to create job opportunities, particularly in Construction, benefit Indigenous businesses through contracting and procurement, and potentially increase revenue for the W̱SÁNEĆ Nations, while improving social and economic conditions and providing long-term skills training opportunities for Indigenous people in the area.

The positive effects of Tilbury Phase 2 depend on the level of participation and access for Indigenous people and businesses that may have to the opportunities generated, with direct positive effects on W̱SÁNEĆ Nations' interests being limited compared to existing conditions.

#### 16.21.16 Conclusions

Considering the above analyses and the EAO's engagement with W̱SÁNEĆ Nations, FortisBC's and W̱SÁNEĆ Nations' engagement, mitigation measures, cumulative effects, the EAO's recommended Table of Conditions and the identified federal Key Mitigation Measures, the EAO concludes that Tilbury Phase 2 is not anticipated to have any residual effects to W̱SÁNEĆ Nations' Indigenous interests.

Considering the above analyses, the EAO concluded that the potential for adverse effects of Tilbury Phase 2 on the Indigenous interests of W̱SÁNEĆ Nations has been adequately avoided, minimized or otherwise accommodated. Based on the engagement undertaken with W̱SÁNEĆ Nations on Tilbury Phase 2, as outlined in Section 16.22.2, the EAO has concluded that it has fulfilled the provincial Crown's duty to consult with W̱SÁNEĆ Nations.



## 17.0 APPENDIX 6 VALUED COMPONENT ASSESSMENTS

This appendix provides the detailed assessments of effects on the valued components, as required by [Section 25\(2\)](#) of the Act. The matters, or topics, to be assessed were determined by the EAO, in consultation with the TAC and the public, and with consensus with the participating Indigenous nations, through the [Application Information Requirements](#) set out by the EAO for Tilbury Phase 2.

The EAO uses a values-based method that relies on “valued components” as the framework for assessing project effects. Valued components are those elements of the natural and human environments considered by the proponent, public, Indigenous peoples, scientists and other technical specialists, and government agencies involved in the environmental assessment process to have scientific, conservation, ecological, economic, social, cultural, archaeological, or other importance. This Appendix assesses the effects of Tilbury Phase 2 on these valued components, identifies mitigation measures, discusses the key issues raised, and reaches conclusions on the significance of residual effects on each valued component and other required assessment matters.

### What is a Valued Component?

Components of the biophysical and human environment that are considered to have scientific, ecological, economic, social, health, cultural, archaeological, historical, or other importance to an environmental assessment.

## 17.1 Air Quality

### 17.1.1 Summary

Air quality influences human health, ecosystem integrity, and the use and enjoyment of culturally significant areas. The air quality Valued Component (VC) includes the subcomponents of existing air contaminant levels, modeled project emissions, and potential for cumulative effects. Key indicators for assessment include changes in concentrations of criteria air contaminants (CAC), particularly nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>).

Tilbury Phase 2 Liquefied Natural Gas (LNG) Expansion Project (Tilbury Phase 2 or the Project) is in a highly developed urban-industrial area within the Metro Vancouver Regional District. Current data indicates that Base Case (Background concentrations without the Project) concentrations of NO<sub>2</sub> exceed both the Metro Vancouver Ambient Air Quality Objective (MV AAQO 2025) and the Canadian Ambient Air Quality Standards (CAAQS 2025) when assessed using the worst case (98th percentile) metric, which represents < 2% of all days in a year (< 7 days). In contrast, ambient concentrations of SO<sub>2</sub>, carbon monoxide (CO), PM<sub>2.5</sub>, and PM<sub>10</sub> near the Tilbury Phase 2 site remain below Provincial and Federal objectives and standards. Additionally, recent measurements show no exceedances of MVAAQO or CAAQS 2025 for Ozone (O<sub>3</sub>). MVAAQO and CAAQS 2025 are set to protect human health and the environment.

Air dispersion modeling identified increases in nitrogen oxides (NO<sub>x</sub>), SO<sub>2</sub>, and PM<sub>2.5</sub> during both Construction and Operation phases. Operation NO<sub>2</sub> concentrations could result in temporary exceedances of MVAAQO and CAAQS 2025 at sensitive receptors, including care facilities. SO<sub>2</sub> Annual concentrations from Tilbury Phase 2 may increase from existing background concentrations but are expected to remain below MVAAQO and CAAQS 2025. PM<sub>2.5</sub> levels could rise by up to 9%, but are also projected to remain below MVAAQO and CAAQS 2025.

Nonroutine flaring associated with Tilbury Phase 2 would occur infrequently during events such as commissioning, start-up, shutdown, upset conditions, and power outages. Conservative modelling indicates that flaring can result in short-term 1-hour NO<sub>2</sub> and SO<sub>2</sub> exceedances of applicable air quality objectives, with concentrations reaching up to several times the short-term thresholds under worst-case scenarios, though these exceedances are high in magnitude, extend several kilometers (depending on weather), but limited in duration, and frequency (less than 1% of the year), and are not expected to result in significant adverse residual or cumulative effects on air quality.

Key issues raised by reviewers include potential to exceed air quality standards, monitoring data quality, cumulative impacts, and mitigation effectiveness. In response, FortisBC (Proponent) undertook additional air quality modelling that included mitigation measures and addressed concerns about emissions, cumulative effects, and health risks. The revised assessment showed that emissions would not extensively affect regional air quality.

Potential residual effects include increased ambient concentrations of NO<sub>2</sub>, SO<sub>2</sub>, and other CACs during Tilbury Phase 2 operation, as well as during site preparation and construction. In response, the British Columbia (B.C.) Environmental Assessment Office (EAO) has proposed Condition 14 (Air Quality Management Plan) requiring an Air Quality Management Plan, ambient air quality monitoring and specific reporting requirements and Condition 18 (Regional Cumulative Effects Initiatives) which may require FortisBC to join any future provincial or Metro Vancouver airshed initiatives, FortisBC has also proposed mitigation measures to help manage adverse impacts to air quality. Furthermore, if an Environmental Assessment Certificate (Certificate) is granted, Tilbury Phase 2 will also require permit amendments from Metro Vancouver and BC Energy Regulator (BCER).

Based on the below assessment, the EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or cumulative effects on the air quality VC.

### 17.1.2 Assessment Boundaries

The spatial boundaries for the air quality assessment included:

- Project footprint: the area directly disturbed by project activities;
- Local Assessment Area: 20 kilometers (km) by 20 km area centred on the Tilbury Phase 2 site; and
- Regional Assessment Area: 30 km by 30 km area centred on the Tilbury Phase 2 site.

The temporal boundaries for air quality include the Construction (3-6 years), Operation (40 plus years), and Decommissioning (2 years) phases of Tilbury Phase 2.

Tilbury Phase 2 components and anticipated duration of activities are described in detail in [Section 2.2](#) (Project Description and Schedule) of this Environmental Assessment Report (the Report).

### 17.1.3 Existing Conditions by Proponent

Current air quality conditions are assessed in [Section 7.2.3](#) of the Revised Application. While Metro Vancouver's monitoring network captures regional ambient or "background" conditions, it does not reflect the short-range effects of the existing Tilbury Phase 1A production and storage expansion (Phase 1A). To address this, emissions from Phase 1A were included in the "base case" conditions.

The Proponent noted that Tilbury Phase 2 is in a heavily developed, urban and industrial area. The region is influenced by industrial, commercial, and residential zones, with significant traffic from vehicles and vessels. However, air pollutant levels in the Metro Vancouver area have generally been improving over the last decade, despite population growth, according to Metro Vancouver data. Ambient air quality was characterized based on data from Metro Vancouver air quality monitoring stations in the Regional Assessment Area (City of Richmond South (Richmond), North Delta (Delta), Burnaby South (Burnaby) and Richmond Airport). The air contaminants of concern are: NO<sub>x</sub>, sulphur oxides (SO<sub>x</sub>), CO, PM<sub>10</sub>, PM<sub>2.5</sub>, Ozone and Volatile Organic Compounds (VOC). Concentrations are compared to the Canadian Ambient Air Quality Standards (CAAQS 2025) and Metro Vancouver Air Quality Objectives (MV AAQO 2025). CAAQS and MV AAQO 2025 are set to protect human health and the environment.

#### What's the difference between 1-hour and annual standards?

Air quality standards use different averaging periods to protect health:

1-hour standard applies to the average concentration of a pollutant over any single hour. In air quality modelling, concentrations are predicted on an hourly basis and compared to this standard to assess short-term exposure. The use of a 1-hour standard reflects that certain pollutants, such as NO<sub>2</sub> and SO<sub>2</sub>, can cause health effects following brief periods of elevated exposure. This approach helps identify whether short-duration concentration peaks may occur and how often they are expected, rather than masking those peaks through longer-term averaging.

Annual standard: Reflects long-term exposure over a year. It averages concentrations to assess chronic health risks and overall air quality trends.

Background Concentrations are a conservative representation of existing concentrations of pollutants within the study area. In air dispersion studies, background concentrations are added to the modelled concentrations resulting from Tilbury Phase 2 combustion emissions sources. Background concentrations are calculated using historical observations from ambient monitoring stations. Measured background concentrations have a wide temporal variability (seasonal and diurnal). As a conservative measure, when calculating background concentrations, the higher end of observed values is used as a fixed value throughout the model period and domain. In other words, the temporal variability in ambient background concentrations is replaced by a single conservative value representing the higher end (98th percentile of hourly values for NO<sub>2</sub>) of all historically observed values.

For NO<sub>2</sub> only, due to higher background concentrations, and more stringent objectives, Metro Vancouver has directed that air dispersion studies assess background concentrations using three different background percentiles to provide a better understanding of expected resulting concentrations from a proposed source activity.

**Metro Vancouver's prescribed background percentiles** (98th, 90th, 75th) for NO<sub>2</sub> are based on hourly monitored air quality data and describe how often certain ambient concentrations occur in the region. They help indicate whether a background level represents a rare, occasional, or fairly common condition.

This means:

- 98th percentile background = the concentration that 98% of hourly measurements are below (only ~2% of hours are higher);
- 90th percentile background = the concentration that 90% of hourly measurements are below (~10% of hours are higher); and
- 75th percentile background = the concentration that 75% of hourly measurements are below (~25% of hours are higher).

Base Case concentrations evaluate ambient concentrations without Tilbury Phase 2, by adding background concentrations and the modelled concentrations from existing Phase 1A sources.

**Nitrogen oxides (NO<sub>2</sub> and NO<sub>x</sub>)** are mainly produced by high-temperature combustion. Most emissions start as nitric oxide (NO) and quickly convert to NO<sub>2</sub>, which is linked to respiratory illness and environmental impacts such as acid rain and ground-level ozone formation.

Transportation accounts for about 77% of NO<sub>x</sub> emissions in the Lower Fraser Valley, with additional contributions from vessel traffic, two cement plants, and Phase 1A.

The following modelled Base Case (background with the existing Phase 1A facility) concentrations were predicted. Note that per Metro Vancouver's guidance, background concentrations were evaluated using three different percentiles.

- At the 98<sup>th</sup> percentile background, 1-hour: 87.3 micrograms per cubic meter (µg/m<sup>3</sup>) (threshold; 79 µg/m<sup>3</sup>, MV AAQO & CAAQS 2025);
- At the 90<sup>th</sup> percentile background, 1-hour: 73.2 µg/m<sup>3</sup> (threshold; 79 µg/m<sup>3</sup>, MV AAQO & CAAQS 2025); and
- At the 75<sup>th</sup> percentile background, 1-hour: 61.0 µg/m<sup>3</sup> (threshold; 79 µg/m<sup>3</sup>, MV AAQO & CAAQS 2025).

This modelling indicates that exceedances are expected to occur only when the 98th percentile metric for background is used, which applies to the Base Case background concentration only and does not include modelled upset or abnormal operating conditions, and is indicative of infrequent (approximately 2% of time) background conditions. Any upset conditions were assessed separately and would fall within the upper 2% of concentrations if a more typical ("normal") operating distribution were considered. The predicted concentrations also represent maximum emissions from Tilbury Phase 2 sources along with less favorable dispersion conditions rather than typical operating scenarios.

This combination of factors is considered the worst-case scenario and a conservative approach, which means that this combination of factors (weather, emissions etc.) is relatively unlikely to happen in real world environment.

Annual background concentrations of NO<sub>2</sub> (17.23 µg/m<sup>3</sup> and the Base Case scenario (18.9 µg/m<sup>3</sup>) are below the air quality thresholds 22.6 µg/m<sup>3</sup>.

**Sulfur Dioxide (SO<sub>2</sub>)** concentrations in Metro Vancouver are generally low compared to other cities of similar size because of limits on sulphur in fuels for on road and offroad uses and most heating relies on natural gas and electricity rather than coal or oil. The marine sector is the largest contributor, followed by nonroad engines, industry, heating, and transportation.

Long-term trends show a steady decline in SO<sub>2</sub> concentrations, driven by stricter marine fuel sulphur limits and the transition to LNG-powered vessels and electric tugboats. Recent monitoring (2022–2024) confirms that background SO<sub>2</sub> levels near the Tilbury Phase 2 site are very low.

SO<sub>2</sub> in Regional Assessment Area is less than 2% and 6% of their 1-hour (both MV AAQO and CAAQS 2025) and annual MV AAQO, respectively. The following Base Case concentrations are as follows

- 1-hour: 90.6 µg/m<sup>3</sup> (using Metro Vancouver metric of 100<sup>th</sup> percentile of the 1-hour predictions)
  - Threshold: 183 µg/m<sup>3</sup> (MV AAQO 2025);
- 1-hour: 60.0 µg/m<sup>3</sup> (using CAAQS metric of 99<sup>th</sup> percentile of the D1HM predictions)
  - Threshold: 170 µg/m<sup>3</sup> (CAAQS2025); and
- Annual: 2.0 µg/m<sup>3</sup>
  - Threshold: 10.5 µg/m<sup>3</sup> (MV AAQO & CAAQS 2025).

## CO, PM and VOC

According to the Revised Application CO levels in Metro Vancouver have declined extensively since the late 1990s due to improved vehicle emission standards and programs like the earlier AirCare initiative, and the subsequent Clean Air Plan, with motor vehicles and non-road engines still accounting for the vast majority of emissions.

PM<sub>10</sub> and PM<sub>2.5</sub> remains a concern for health and visibility; PM<sub>10</sub> is primarily from road dust, while PM<sub>2.5</sub> comes from heating, transportation, industry, and wildfire smoke. Long-term trends show gradual declines for PM<sub>10</sub> and stable levels for PM<sub>2.5</sub>, though short-term spikes occur during events such as wildfires or dust storms.

The following Base Case concentrations are as follows:

### CO

- 1-hour: 602.0 µg/m<sup>3</sup> (Threshold: 14,900 µg/m<sup>3</sup>, MV AAQO);
- 8-hour: 535.7 µg/m<sup>3</sup> (Threshold: 5,700 µg/m<sup>3</sup>, MV AAQO);

### PM<sub>2.5</sub>

- 24-hour: 13.8 µg/m<sup>3</sup> (Threshold: 25 µg/m<sup>3</sup>, MV AAQO);
- Annual: 5.2 µg/m<sup>3</sup> (Threshold: 8 µg/m<sup>3</sup>, MV AAQO; planning goal: 6 µg/m<sup>3</sup>);

### PM<sub>10</sub>

- 24-hour: 20.2 µg/m<sup>3</sup> (Threshold: 50 µg/m<sup>3</sup>, MV AAQO);
- Annual: 9.5 µg/m<sup>3</sup> (Threshold: 20 µg/m<sup>3</sup>, MV AAQO);

### VOCs

- 1-hour: 158.1 µg/m<sup>3</sup> (No standard);
- 24-hour: 91.6 µg/m<sup>3</sup> (No standard); and
- Annual: 33.0 µg/m<sup>3</sup> (No standard).

The EAO notes that a number of First Nations have identified concerns regarding air quality on the Fraser River including areas offshore from Tilbury Island, that are used for fishing. The Proponent acknowledged the Historic Indigenous Village Site<sup>56</sup>, located directly across the river from the Tilbury Phase 2 Site, has high cultural significance to x̣ṃəθḳʷəỵəm, Quw'utsun Nation, Ts'uubaa-asatx, Tsawwassen First Nation (Tsawwassen), Tsleil-Waututh Nation (Tsleil-Waututh), Kwantlen First Nation (Kwantlen), Semiahmoo First Nation (Semiahmoo), and Stó:lō communities and was therefore included as a sensitive receptor in the air quality modelling assessment.<sup>57</sup>

#### 17.1.4 Potential Project Effects by Proponent

To assess how Tilbury Phase 2 may affect air quality, the Proponent used several methods including:

- Analysing potential emissions during construction, start-up, normal operations, and unusual situations. This included estimating emissions from construction vehicles, handling materials, and excavation. Emissions during normal operations were based on the conceptual design of Tilbury Phase 2;
- Using air-dispersion models to estimate how Tilbury Phase 2-related emissions disperse in the atmosphere and comparing the resulting predicted concentrations to the 2025 CAAQ and 2025 MVAQO standards; and
- Modelling the deposition of nitrogen and acid compounds from Tilbury Phase 2 to assess potential effects on soils, vegetation, and surface water.

Effects to changes in human health due to air quality are as part of [Appendix 6, Section 17.14](#) (Human Health) of this the Report. Maps showing all receptor locations and sensitive sites used in the air quality modeling are included in the Proponent's Revised Application [Section 7.02](#) (Air Quality) Figure 7-2.2 and 7-2.3.

##### 17.1.4.1 Construction and Decommissioning

During the Construction Phase of Tilbury Phase 2 there is the potential for short-term effects on local air quality. The Construction Phase is expected to span three to six years. Total emissions generated over the construction period are estimated to be 50.53 tonnes of NO<sub>x</sub>, 0.09 tonnes of SO<sub>2</sub>, 15.89 tonnes of CO, 11.28 tonnes of PM<sub>2.5</sub>, and 25.95 tonnes of PM<sub>10</sub>.

These effects are mainly due to increased pollutant concentrations from activities such as site preparation, excavation, grading, and material handling. These activities require vehicles and equipment, with materials delivery alone involving an estimated 27,000 trucks and 1,080,000 km traveled based on round-trip distance. Construction emissions of PM<sub>2.5</sub> and PM<sub>10</sub> from diesel engines represented approximately 37% to 84% of the corresponding annual emissions projected during the unmitigated operation phase. The unmitigated case is used as a reference point because Tilbury Phase 2 operational emissions contribution alone, even without mitigation, remain below the CAAQS and MVAQO 2025 limits. Overall, Construction activities generate fugitive particulate emissions (PM<sub>10</sub> and PM<sub>2.5</sub>) and combustion-related pollutants from construction equipment and vehicles, including NO<sub>x</sub>, SO<sub>2</sub>, CO, diesel particulate matter (DPM), and trace amounts of VOCs.

Emissions from Construction activities are expected to be temporary and localized, primarily affecting areas near the facility and along transport routes within the 20 km by 20 km Local Assessment Area.

The proposed Decommissioning Phase is anticipated to last two years. Air quality effects during Decommissioning were assessed in a limited qualitative manner because it is anticipated to be lower in magnitude than Construction. This reflects several factors; Decommissioning is expected to rely on less heavy equipment, generate fewer emissions overall, and benefit from continued improvements in engine and emissions-control technologies. For

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<sup>56</sup> See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site.



these reasons, the Construction Phase air emissions assessment provides a conservative basis for understanding the potential air quality implications during Decommissioning.

#### 17.1.4.2 Operation

The following summarizes key air quality outcomes from the assessment during regular Operation phase; further details are available in Section 7.2.4 (Potential Effects) of the Revised Application. In the Revised Application, [Section 7.02](#) (Air Quality), Operation emissions were modelled within the Regional Assessment Area under the following scenarios:

- **Base Case** – The predicted air concentrations resulting from the existing Phase 1A and background conditions as discussed in the Existing Conditions by Proponent above;
- **Application Case (Base Case + Project)** – The predicted air concentrations resulting from Tilbury Phase 2 during Operation with the Base Case; and
- **Cumulative Case** – The predicted air concentrations resulting from all reasonably foreseeable projects and activities, such as Tilbury Marine Jetty (TMJ), Tilbury Phase 1B (T1B), that may influence future air quality within the Regional Assessment Area, along with Tilbury Phase 2 and Base Case concentrations and are assessed in the cumulative effects section below.

Section 7.2.4.3 of the Revised Application provides a general comparison of unmitigated and mitigated emissions for NO<sub>2</sub> and SO<sub>2</sub>, showing overall reductions following the application of mitigation measures. Additional detail on unmitigated and mitigated emissions scenarios are available in Appendix B (Air Quality Technical Data Report).

For CO, PM, and VOCs, unmitigated concentrations remained below the MV AAQO and CAAQS 2025 under conservative assumptions. Because these parameters did not exceed relevant air-quality objectives in the unmitigated case, no mitigated modelling was required.

Consistent with EAO's approach, the subsequent sections of this report focus on the mitigated scenario where they are available (NO<sub>2</sub> and SO<sub>2</sub>), and relies on the unmitigated scenario for CO, PM, and VOCs where mitigation modelling was not warranted.

#### 17.1.4.3 NO<sub>x</sub> During Operation

FortisBC completed revised air dispersion modelling that incorporated conceptual mitigation measures, including low-NO<sub>x</sub> burner technologies. These measures are expected to extensively reduce emissions, lowering Tilbury Phase 2 alone contribution to maximum 1-hour NO<sub>2</sub> concentrations by approximately 83% and annual NO<sub>2</sub> concentrations by 88% compared to the unmitigated case.

The hourly concentration value is based on the 98th percentile of daily 1-hour maximum predicted concentrations. This means the model looks at the highest hourly modelled value for each day of the year and discards the top 2%. In practical terms, this is the concentration level that is not predicted to exceed on 98% of days—only about 7 days in a year are higher. This approach reflects worst-case short-term air quality without being distorted by a few anomalies in the meteorological model. The annual concentration value is the average of all predicted hourly concentrations across the entire year. It represents the long-term, overall air-quality level by smoothing out both high and low days.

Under the mitigated scenario, Tilbury Phase 2 is predicted to make a small contribution to overall air-quality levels in the Application Case compared with the Base Case. It adds about 1% (0.86 µg/m<sup>3</sup>) to the hourly concentration and about 6% (1.36 µg/m<sup>3</sup>) to the annual average concentration.

Under the Application Case, Metro Vancouver's guidance for assessing hourly NO<sub>2</sub> is applied by evaluating background concentrations using three different percentiles. The model-predicted results for these percentiles are as follows:



- **At the 98th percentile background:** The total 1-hour NO<sub>2</sub> concentration is predicted to reach 88.1 µg/m<sup>3</sup>, which is above the CAAQS and MVAAQO 2025 threshold of 79 µg/m<sup>3</sup>. This exceedance is limited to an area within roughly 50 m of the property line;
- **At the 90th percentile background:** The maximum predicted 1-hour NO<sub>2</sub> concentration decreases to 74.1 µg/m<sup>3</sup>, which is below the CAAQS and MVAAQO 2025 threshold;
- **At the 75th percentile background:** The maximum predicted 1-hour NO<sub>2</sub> concentration is 62.7 µg/m<sup>3</sup>, also below the standard; and
- **Annual:** The annual average concentration of NO<sub>2</sub> for the Application case is 20.3 µg/m<sup>3</sup>, below the CAAQS and MVAAQO 2025 standard of 22.6 µg/m<sup>3</sup>, with Tilbury Phase 2 contributing only 1.36 µg/m<sup>3</sup> when compared to the Base Case.

#### 17.1.4.4 SO<sub>2</sub> During Operation

FortisBC completed revised air dispersion modelling that incorporated conceptual mitigation measures, including addition of a flue gas desulphurization unit. These measures are expected to extensively reduce emissions, lowering Tilbury Phase 2's contribution to SO<sub>2</sub> concentrations by approximately 73–80% compared to the unmitigated case.

Under the mitigated Application Case (Base Case + Mitigated Project):

- **1hour SO<sub>2</sub> – MV AAQO metric (100th percentile):**  
Tilbury Phase 2 adds 4.46 µg/m<sup>3</sup>, resulting in a combined value of 95 µg/m<sup>3</sup> (well below the 183 µg/m<sup>3</sup> Metro Vancouver AAQO);
- **1hour SO<sub>2</sub> – CAAQS metric (99th percentile):**  
Tilbury Phase 2 adds 5.5 µg/m<sup>3</sup>, resulting in a combined value of about 81 µg/m<sup>3</sup>, compared to the 170 µg/m<sup>3</sup> 2025 CAAQS; and
- **Annual SO<sub>2</sub> concentrations:**  
The overall annual concentration under the Application Case is 5.7 µg/m<sup>3</sup>, staying below the 10.5 µg/m<sup>3</sup> standard. Tilbury Phase 2's contribution relative to the Base Case is an increase of 3.73 µg/m<sup>3</sup>.

#### 17.1.4.5 Nitrogen and Acid deposition

Airborne emissions of NO<sub>x</sub> and SO<sub>2</sub> during Tilbury Phase 2 operation may convert into nitrates and sulphates and settle on nearby soil and waterways. These substances can contribute to acidification and nutrient loading, which may affect water quality, soil chemistry, and aquatic ecosystems.

Potential acid and nitrogen deposition into the Fraser River resulting from the Tilbury Phase 2 was explicitly modelled using the unmitigated scenario and is presented in Appendix H of the Revised Application.

Section 7.4 of the Revised Application (Surface Water) determines that no residual effects are anticipated specifically due to acid and nitrogen deposition from the Tilbury Phase 2 on the Surface Water VC. Potential deposition effects are addressed in the following sections of the EAO's Environmental Assessment Report (Assessment Report): Surface Water, Soil, and Fish and Fish Habitat.

#### 17.1.4.6 Other CACs (CO, PM<sub>2.5</sub>, PM<sub>10</sub>, VOCs) During Operation

FortisBC completed revised air dispersion modelling for other CACs, including CO, PM<sub>2.5</sub> and PM<sub>10</sub>, and VOCs. These pollutants were assessed under the unmitigated scenario.

Under the unmitigated scenario:

- **CO** Predicted concentrations remain well below MVAAQO air quality objectives for both 1-hour and 8-hour averaging periods, with no increases from Tilbury Phase 2 compared to the Base Case;

- **PM<sub>2.5</sub>** 24-hour (15 µg/m<sup>3</sup>) and annual (5.4 µg/m<sup>3</sup>) concentrations are below the MVA AQO (25 µg/m<sup>3</sup> and 8 µg/m<sup>3</sup>) in the Application Case, with Tilbury Phase 2 contributing negligibly (1.2 µg/m<sup>3</sup> and 0.2 µg/m<sup>3</sup>);
- **PM<sub>10</sub>** 24-hour (21.4 µg/m<sup>3</sup>) and annual (9.7 µg/m<sup>3</sup>) concentrations stay below MVA AQO (50 µg/m<sup>3</sup> and 20 µg/m<sup>3</sup>) in the Application Case with Tilbury Phase 2 contributing negligibly (1.2 µg/m<sup>3</sup> and 0.2 µg/m<sup>3</sup>); and
- **VOCs** There are no regulatory standards for total VOCs; predicted concentrations show that 1-hour concentrations will not increase due to Tilbury Phase 2, 24-hour concentrations from the Application Case total 92.9 µg/m<sup>3</sup> with Tilbury Phase 2 contributing 1.3 µg/m<sup>3</sup>. Annual concentrations in the Application Case are 33.3 µg/m<sup>3</sup> with Tilbury Phase 2 contributing 0.3 µg/m<sup>3</sup>.

#### 17.1.4.7 Flaring and Abnormal Conditions

The assessment of abnormal operating scenarios, including commissioning, startup and shutdown, upset conditions, and grid power outages, was conducted in the Revised Application AQ- Appendix E using conservative assumptions under the unmitigated case. For the abnormal condition involving flaring, the flare was modeled as a continuous point source rather than an intermittent one. This approach ensures that the modelling captures a flaring event under the worst dispersion condition.

##### Commissioning:

- Commissioning includes three activities: LNG tank commissioning (venting of methane and inert nitrogen), liquefaction train warm commissioning (includes flaring), and liquefaction train cold commissioning (includes flaring), with duration of air emissions approximately 2 weeks, 72 hours, and 144 hours, respectively;
- Predicted maximum NO<sub>2</sub> concentrations are associated with flaring during liquefaction train warm and cold commissioning. Tilbury Phase 2-related NO<sub>2</sub> concentrations are expected to reach 392 µg/m<sup>3</sup>; when combined with background concentrations, total NO<sub>2</sub> levels are predicted to reach 450 µg/m<sup>3</sup>, exceeding the CAAQS and MVA AQO 2025 of 79 µg/m<sup>3</sup>. Exceedances are expected to extend into the Local Assessment Area, see Figure E.1 in the [Air Quality Appendix B, Appendix E Abnormal Conditions](#) of the Revised Application;
- The LNG tank commissioning scenario assessed in the Revised Application consists of venting methane and inert nitrogen and is not expected to generate material NO<sub>2</sub> emissions because no combustion occurs during this activity;
- Model predictions represent most adverse weather conditions coinciding with the flaring activities; and
- SO<sub>2</sub> concentrations from Tilbury Phase 2 are expected to remain below the applicable CAAQS and MVA AQO 2025.

##### Start up and Shutdown;

- Startup and shutdown events are expected to last less than 5 hours and to occur up to five times per year; and
- Tilbury Phase 2-related SO<sub>2</sub> and NO<sub>2</sub> concentrations and extent during these events are expected to be the same as those predicted for commissioning.

##### Upset Conditions

- Upset events are expected to be infrequent (approximately once per year) and to last less than 5 hours;
- Tilbury Phase 2-related NO<sub>2</sub> concentrations are expected to reach 278 µg/m<sup>3</sup>; including background, total NO<sub>2</sub> levels are predicted to reach 336 µg/m<sup>3</sup>, exceeding the CAAQS and MVA AQO 2025 of 79 µg/m<sup>3</sup>;
- Exceedances are expected to extend into the Local Assessment Area;

- Tilbury Phase 2-related SO<sub>2</sub> concentrations are expected to increase to 429 µg/m<sup>3</sup>, exceeding the CAAQS and MVAAQO 2025 of 183 µg/m<sup>3</sup>; and
- Exceedances are expected to extend into the Local Assessment Area. See Figure E.4 in the [Air Quality Appendix B, Appendix E Abnormal Conditions](#) of the Revised Application.

#### Grid Power Outage

- The frequency of grid power outages is uncertain and was conservatively modeled as 10 hours per year;
- Tilbury Phase 2-related NO<sub>2</sub> concentrations are expected to reach 171 µg/m<sup>3</sup>; including background, total NO<sub>2</sub> levels are predicted to reach 229 µg/m<sup>3</sup>, exceeding CAAQS and MVAAQO 2025 of 79 µg/m<sup>3</sup>;
- Exceedances are expected to extend into the Local Assessment Area, see Figure E.7 in the [Air Quality Appendix B, Appendix E Abnormal Conditions](#) of the Revised Application; and
- SO<sub>2</sub> concentrations are not expected to increase during grid power outage conditions.

No updated modelling was completed for upset conditions under the mitigated scenario as flaring events are independent of the emissions control technologies applied to normal operations and, by design, do not incorporate additional control systems. The abnormal condition assessment therefore conservatively assumes uncontrolled flaring emissions coincident with worst-case dispersion conditions.

#### 17.1.5 Proposed Mitigation Measures by Proponent

The Tilbury Phase 2 must comply with Metro Vancouver's air quality permitting requirements, including obtaining an air quality permit post-certificate approval. This permitting process will set specific operational conditions, such as stack testing frequency and emission limits, developed collaboratively with Metro Vancouver, First Nations and involving Fraser Health Authority to address health considerations.

FortisBC noted they would implement Best Available Technologies (BAT) during final design to meet these requirements, recognizing that technology choices will evolve through detailed engineering and regulatory input.

FortisBC will also conduct updated air dispersion modelling as part of permitting and adhere to ongoing monitoring and follow-up measures mandated by regulatory authorities to ensure compliance with all applicable standards.

Mitigations measures proposed by the Proponent are:

##### During Construction:

- Vehicle idle reduction policies;
- Dust-control measures in the Construction Environmental Management Plan (CEMP);
- Regular inspection and maintenance of equipment;
- Noise attenuation for compressors;
- Complaint management for odour issues; and
- Avoidance of waterborne deliveries (no marine offloading facility required).

##### During Operation:

- Incorporate emissions reduction and control technologies in Tilbury Phase 2 design to ensure compliance with regulatory air quality requirements and industry best practices;
- Electrify Tilbury Phase 2 refrigeration and feed gas compression processes to reduce project CACs and GHG emissions; and

- Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP.

As part of the substituted process, the EAO has identified Key Mitigation Measures (KMM) for effects within federal jurisdiction to inform Impact Assessment Agency of Canada's draft potential federal conditions. The KMM related to the health, social, and economic conditions of Indigenous peoples (which considers Tilbury Phase 2's potential effects to air quality) are outlined in [Appendix 2](#).

### 17.1.6 Key Issues Raised

#### 17.1.6.1 Exceedances of Air Quality Standards and Guidelines

Tsawwassen, Quw'utsun Nation, x̣ẉməθḳẉəỵəm, Tsleil-Waututh, Ts'uubaa-asatax, the S'ólh Téméxw Stewardship Alliance (STSA), Metro Vancouver, Vancouver Coastal Health Authority and Richmond raised concerns about potential exceedances of air quality standards and objectives (CAAQS 2025 and MVAAGO 2025) due to the existing high background combined with Tilbury Phase 2's emissions. Metro Vancouver and other organizations above, noted that a significant portion of the year could have exceedances of air quality objectives for NO<sub>2</sub>, if Fortis' proposed mitigations and further conditions were not in place. Quw'utsun Nation, Tsleil-Waututh and x̣ẉməθḳẉəỵəm questioned the reliability of air quality monitoring data used to establish ambient background conditions, given that the data is at least three years old and does not account for ongoing regional development. Several comments were also raised during public comment period about flaring events, particularly during facility start-up, and questioned whether these episodic emissions were adequately assessed or mitigated in the air quality modelling and management plans.

FortisBC initially completed air dispersion modelling under a conservative, unmitigated scenario to establish a precautionary baseline for potential impacts. In response to Technical Advisory Committee (TAC) concerns, additional modelling was conducted for NO<sub>2</sub> and SO<sub>2</sub> under a mitigated scenario reflecting planned emission controls, and a separate assessment addressed flaring during abnormal operating conditions.

The flaring analysis assessed commissioning, startup and shutdown, upset conditions, and grid power outage scenarios using conservative, unmitigated assumptions and 98th-percentile modeled concentrations to represent worst-case conditions. Modeled exceedances of applicable air quality objectives were limited to short-duration events, with commissioning activities occurring over defined periods (up to approximately two weeks for LNG tank commissioning and up to 72 and 144 hours for liquefaction train commissioning), startup and shutdown events lasting less than 5 hours and occurring up to five times per year, upset events occurring approximately once per year for less than 5 hours, and grid power outages conservatively modeled as up to 10 hours per year.

The mitigated scenario analysis showed that emission controls would further reduce risks from CACs from Tilbury Phase 2. Further modelling for other CACs, such as PM, VOC's, was not completed because they were not expected to exceed health-based thresholds under the more conservative unmitigated scenario.

Metro Vancouver confirmed that its air quality permitting process will consider requirements for monitoring, performance testing, and evaluating mitigation effectiveness, and will include consultation with health authorities and First Nations.

EAO notes Tilbury Phase 2 must comply with Metro Vancouver's air quality objectives and emissions permitting requirements, in addition to provincial and federal regulations (see Section 17.1.15 on proposed mitigation measures above).

In addition, the EAO is proposing condition 14 (Air Quality Management Plan) requiring the development and implementation a plan to manage the effects of Tilbury Phase 2 on air quality and condition 18 (Regional Cumulative Effects Initiatives) that may require FortisBC to participate in and contribute to the appropriate airshed group if such a group or program(s) is created by the provincial government or Metro Vancouver. These conditions are intended to ensure alignment with regulatory objectives and support broader regional air quality goals.

### 17.1.6.2 Cumulative Impacts

Tsawwassen, Quw'utsun Nation, xʷməθkʷəy̓əm, Tsleil-Waututh, Ts'uubaa-asatx, the STSA, Metro Vancouver, expressed concerns about cumulative air quality impacts from Tilbury Phase 2 in combination with other regional developments. xʷməθkʷəy̓əm noted that the decommissioning phase was not considered in the assessment of residual and cumulative effects on air quality. xʷməθkʷəy̓əm and Tsleil-Waututh also emphasized that culturally significant sites, such as fishing areas in the Fraser River, were not included as sensitive receptors in the air quality assessment.

In response, Fortis acknowledged existing cumulative effects in the area, particularly along the Fraser River, these were identified in "Historical Context" section of the specific First Nation sections. EAO noted that effects to surface water, which included effects from changes to Air Quality, were assessed in the Surface Water section of the Revised Application and agreed with Fortis' assessment that there would be no noticeable or measurable impacts to the Fraser River.

The EAO determined there would be no residual effects to Surface Water and excluded from cumulative effects. This is mainly due to high river flow in the Fraser River, making changes due to air quality impacts undetectable, after mitigation measures are applied. EAO also recognizes that some First Nations hold different views on the Cumulative Effects Assessment (CEA) methodology and Tilbury Phase 2's contribution, which are reflected in section 11 of the Revised Application and in First Nations-authored sections of this Report.

Fortis also completed additional air modelling incorporating mitigation measures (see Section 17.1.6.1 *Exceedances of Air Quality Standards and Guidelines* above).

### 17.1.6.3 Effectiveness of Mitigation Measures Uncertainty

Fraser Valley Health, Metro Vancouver, Tsawwassen, Quw'utsun Nation, xʷməθkʷəy̓əm, and, and Tsleil-Waututh expressed concern and requested additional details on mitigation measures, monitoring and their effectiveness in reducing air contaminant levels. Fraser Health Authority requested a quantitative assessment of the effectiveness of mitigation controls on emissions reductions, including dispersion modeling scenarios incorporating these controls.

In response, FortisBC conducted additional air dispersion modelling using a conceptual mitigated design that incorporates proposed emission control technologies as a proof-of-concept. The modelling predicts that implementing these controls would substantially reduce Tilbury Phase 2's air quality impacts during normal Operation, lowering residual effects to negligible or low magnitude.

Under this mitigated scenario, predicted offsite concentrations for NO<sub>2</sub> and SO<sub>2</sub> remain below applicable CAAQS 2025 and MVAQO 2025 at all sensitive receptor locations.

While brief exceedances of short-term NO<sub>2</sub> objectives may persist immediately adjacent to the facility property line and to the centre of the Fraser River, these are confined to non-sensitive business areas and do not affect residential or other sensitive receptors.

The results informed updates to the Human Health Risk Assessment (HHRA), discussed in more detail in [Section 7.15 \(Human Health\)](#) of the Revised Application, and supported the assessment of potential air quality impacts.

### 17.1.7 The EAO's Characterization of Residual Effects

After considering the proposed mitigation measures and conditions proposed, the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that Tilbury Phase 2 would result in the following residual adverse effects on air quality:

- Increase in ambient CAC concentrations during site preparation and Project construction
  - CAC emissions during site preparation and construction may be transported and dispersed by weather outside of the facility property line;

- Increase in ambient NO<sub>2</sub>, SO<sub>2</sub>, and other CAC concentrations during Project operation
  - CAC emissions from the combustion sources associated with the unmitigated conceptual design during Tilbury Phase 2 operation will be transported and dispersed by weather outside of the facility property line; and
- Increase in short-term CAC concentrations during abnormal operating conditions (flaring).

Impacts to air quality can affect human health; however, potential health effects are addressed separately in [Appendix 6, Section 17.14](#) (Human Health).

The EAO's characterization of the expected residual effects of Tilbury Phase 2 on air quality is summarized in Table 55 below, as well as the EAO's level of confidence in the effects determination (including their likelihood and significance).

Table 51: Summary of Residual Effects for Air Quality<sup>58</sup>

| Residual Effect                                                                | Assessment Rating*                                                                                                                                                                                                                                                                                                        | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| Increase in ambient NO <sub>2</sub> , concentrations during project Operation. | Context (resilience): Low<br>Magnitude: Negligible to Low<br>Extent: Local<br>Duration: Medium-term<br>Reversibility: Partially Reversible<br>Frequency: Continuous<br>Affected Populations: Evenly/Disproportionate<br>Risk (likelihood and consequences): Moderate<br>Uncertainty: Moderate to High<br>Importance: High | <p><b>Not Significant</b></p> <p>NO<sub>2</sub> can affect health even at low concentrations, and current monitoring shows that background levels combined with emissions from the existing Phase 1A facility already exceed 1-hour CAAQS 2025 and MVAAQO 2025 at non-sensitive receptors across the Local Assessment Area.</p> <p>Tilbury Phase 2's contribution to 1-hour NO<sub>2</sub> concentrations after mitigation is predicted to be negligible, adding less than 1% of the applicable regulatory threshold. EAO acknowledges that current 1-hour NO<sub>2</sub> levels, without Tilbury Phase 2, are already high and exceed health-based air quality standards at the 98th percentile which represents less than 2% of all hours in a year (approximately 175 hours). Annual NO<sub>2</sub> concentrations are rated low magnitude, reflecting about a 6% increase over the Base Case with no health-based thresholds exceeded.</p> <p>EAO also recognizes input from multiple First Nations emphasizing that air quality impacts should be considered holistically rather than in isolation; these perspectives are addressed in the Context assessment rating and Current Conditions by Proponent section above, and the Cumulative Effects sections below.</p> <p>Operational emissions will extend beyond the facility property line into the Local Assessment Area and persist throughout the operational phase.</p> <p>Based on mitigated predictions, NO<sub>2</sub> 1-hour concentrations exceedance of MVAAQO or CAAQS 2025 extend within 50 m of the property line and expected to occur infrequently under the 98<sup>th</sup> percentile.</p> <p>Predicted concentrations at sensitive receptors, including childcare facilities, schools, seniors' residences, and the Historic Indigenous Village Site<sup>59</sup>, directly across the river from the site - remain below CAAQS and MVAAQO 2025 under the mitigated scenario for the 90th and 75th percentiles.</p> <p>Air quality is expected to return to pre-project conditions after decommissioning; however, some health and environmental effects associated with air-quality changes may persist when using the 98<sup>th</sup> percentile. Indigenous knowledge shared during consultation highlights the interconnected nature of air quality, health, and culturally significant areas, underscoring that reversibility cannot be considered in isolation. Considering these</p> |

<sup>58</sup> Impacts to air quality can affect human health; however, potential health effects are addressed separately in [section 7.15 \(Human Health\)](#) of the Revised Application.

<sup>59</sup> See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site.



| Residual Effect                                                      | Assessment Rating*                                                                                                                                                                                                                                                                                                                                      | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                      |                                                                                                                                                                                                                                                                                                                                                         | <p>factors, the effect on air quality is rated as partially reversible. See <a href="#">Section 7.15 (Human Health)</a> of the Revised Application for further discussion.</p> <p>While the long-term operational air quality is expected to affect the general population evenly, those in the immediate vicinity; such as onsite workers and people fishing in the river directly adjacent to the site, will be exposed to the highest predicted concentrations and deposition levels.</p> <p>Likelihood of an increase in NO<sub>2</sub> is medium, reflecting that mitigation is expected to be effective but final design and permitting are pending. Consequence is rated as moderate due to the medium-term operational duration, negligible to low magnitude impacts and limited geographical extent after mitigation. These two factors result in an overall moderate risk rating.</p> <p>Uncertainty is moderate to high because modelling was completed for both mitigated and unmitigated scenarios and base case conditions are well quantified, but the exact location of exceedances depends on meteorological conditions. Uncertainty remains due to dispersion modelling being used to characterize baseline conditions, rather than real-time monitoring and because Project-case predication are based on mitigations that have not yet been finalized; however, technical advisors expect significant reductions if best available technology is applied.</p> <p>Importance is high because air quality is a top concern for First Nations and regulatory agencies and its link to human health.</p> |
| Increase in SO <sub>2</sub> concentrations during project Operation. | <p>Context (resilience): Moderate</p> <p>Magnitude: Low</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Partially Reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Evenly/Disproportionate.</p> <p>Risk (likelihood and consequences): Low</p> <p>Uncertainty: Moderate to High</p> <p>Importance: High</p> | <p><b>Not significant</b></p> <p>The airshed near Tilbury Phase 2 has moderate resilience to imposed stresses given the low existing ambient SO<sub>2</sub> concentrations that have been declining.</p> <p>The EAO agrees with the Revised Application's conclusion that SO<sub>2</sub> magnitude is low because, under the mitigated design, predicted concentrations remain below the 2025 CAAQS and MVAAQO at all percentiles, with increases of less than 10 % from Base Case levels. At the same time, EAO acknowledges Indigenous knowledge shared during consultation, which emphasizes that even small increases can have cultural and health implications given the interconnected nature of air quality and health.</p> <p>See rationale for reversibility and affected populations in NO<sub>2</sub> section above.</p> <p>Likelihood is medium, reflecting that mitigation is expected to be effective but final design and permitting are pending. Consequence is rated as minor due to the long operational duration and low magnitude effect after mitigation, resulting in an overall low risk rating.</p> <p>See uncertainty discussion in the NO<sub>2</sub> section above.</p> <p>Importance is high because air quality is a top concern for First Nations and regulatory agencies and its link to human health.</p>                                                                                                                                                                                                                                                                                |
| Increase in CO, PM, VOCs concentrations during project Operation.    | <p>Context (resilience): Moderate</p> <p>Magnitude: Negligible</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Reversibility: Partially Reversible</p> <p>Frequency: Continuous</p> <p>Affected Populations: Evenly/Disproportionate</p>                                                                                                       | <p><b>Not significant</b></p> <p>The airshed near Tilbury Phase 2 has moderate resilience to imposed stresses given the low existing ambient CO, PM, and VOCs concentrations.</p> <p>The Revised Application rates the magnitude of PM, CO, and VOCs as negligible because predicted increases during operation remain well below CAAQS and MVAAQO under both mitigated and unmitigated scenarios. EAO acknowledges Indigenous knowledge shared during consultation that while thresholds are not exceeded Tilbury Phase 2 combined with Base Case conditions represents a measurable increase from existing levels, contributing to effects identified by First Nations as a concern.</p> <p>See rationale for reversibility and affected populations in NO<sub>2</sub> section above.</p> <p>Likelihood is medium, reflecting that mitigation is expected to be effective but final design and permitting are pending. Consequence is rated as moderate due to the long</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



| Residual Effect                                                                          | Assessment Rating*                                                                                                                                                                                                                                                                                 | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                          | Risk (likelihood and consequences): Moderate<br>Uncertainty: Moderate<br>Importance: High                                                                                                                                                                                                          | <p>operational duration and negligible magnitude effect after mitigation, resulting in an overall moderate risk rating.</p> <p>Uncertainty is moderate because mitigation remains conceptual, results depend on background conditions and meteorology, and the assessment used conservative worst-case modelling assumptions.</p> <p>Importance is high because air quality is a top concern for First Nations and regulatory agencies.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Increase in short-term CAC emissions during Project Site preparation and Construction:   | Context (resilience): Low<br>Magnitude: Low<br>Extent: Local<br>Duration: Short-term<br>Frequency: Regular<br>Reversibility: Reversible<br>Affected Populations: Disproportionate<br>Risk (likelihood and consequences): Low<br>Uncertainty: Low<br>Importance: High                               | <p><b>Not Significant</b></p> <p>Impacts to air quality can affect human health; however, the assessment of potential health effects is addressed separately in <a href="#">Section 7.15 (Human Health)</a> of the Revised Application.</p> <p>Fugitive dust emissions during construction may be noticeable beyond the facility but are expected to be low in magnitude with mitigation. Mobile emissions will remain near truck routes, and most of the Local Assessment Area will experience negligible residual effects. The effect is short-term and reversible, ending once construction is complete. Impacts are localized and effects are disproportionately distributed, with sensitive subgroups, such as onsite workers and nearby offsite workers, experiencing occasional short-term exposures.</p> <p>The likelihood of this effect is high, but consequence is rated as minor due to its low magnitude and limited extent, resulting in an overall low risk rating.</p> <p>Uncertainty is moderate: the link between construction activities and air quality is well understood, but mitigation effectiveness depends on implementation.</p> <p>Importance is moderate because air quality was identified as a key concern by First Nations, stakeholders, and agencies.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Increase in short-term CAC concentrations during abnormal operating conditions (flaring) | Context (resilience): Moderate<br>Magnitude: High<br>Extent: Local to regional<br>Duration: Short-term<br>Frequency: Irregular<br>Reversibility: Partially Reversible<br>Affected Populations: Disproportionate<br>Risk (likelihood and consequences): Low<br>Uncertainty: Low<br>Importance: High | <p><b>Not Significant</b></p> <p>Context is rated as moderate, reflecting an urban-industrial airshed with existing air quality pressures and established regulatory oversight.</p> <p>Magnitude is rated as high because flaring during abnormal operating conditions results in short-term NO<sub>2</sub> concentrations that substantially exceed the CAAQS and MVAQO 2025.</p> <p>Extent is rated as local to regional, as predicted effects may extend beyond the facility boundary into areas outside of the Local Assessment Area under adverse conditions.</p> <p>Duration is rated as short-term, as flaring-related air quality effects are limited to hours per event and do not persist.</p> <p>Frequency is rated as irregular, corresponding to infrequent abnormal operating conditions such as commissioning, upset events, or grid power outages.</p> <p>See rationale for reversibility in NO<sub>2</sub> section above.</p> <p>Affected populations are rated as disproportionate, with sensitive subgroups, such as people fishing next to the site, onsite workers and nearby offsite workers, experiencing occasional short-term exposures.</p> <p>Likelihood of short-term increases in NO<sub>2</sub> and SO<sub>2</sub> during abnormal operating conditions is low due to the infrequent and episodic nature of flaring events. Consequence is rated as moderate because elevated concentrations may occur over localized areas for short durations under adverse conditions. Together, these factors result in an overall low risk rating.</p> <p>Uncertainty associated with flaring events is rated as moderate. While emission rates and flaring scenarios are reasonably well understood and were modelled using conservative, worst-case assumptions, the timing, frequency, and meteorological conditions under which abnormal events may occur are inherently variable.</p> |

| Residual Effect                                                                                                                 | Assessment Rating* | Rationale                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                 |                    | Importance is rated as high because flaring and abnormal air emissions were consistently identified by First Nations, health authorities, and regulatory agencies as a key concern due to their potential implications for human health, culturally important areas, and overall air-quality management. |
| Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                    |                                                                                                                                                                                                                                                                                                          |

### 17.1.8 Cumulative Effects Assessment

The assessment of a designated project must consider any cumulative effects that are likely to result from Tilbury Phase 2 in combination with other physical activities that have been or will be carried out. The following effects pathway was carried forward for CEA on air quality:

- Increase in ambient CAC concentrations during construction;
- Increase in ambient concentrations of NO<sub>2</sub> during operation;
- Increase in ambient concentrations of SO<sub>2</sub> during operation; and
- Increase in ambient concentrations of CO, PM, and VOCs during operation.

As per [Section 7.2.5.3](#) of the Revised Application, five existing and reasonably foreseeable projects and activities that have the potential for overlapping air quality effects with the Tilbury Phase 2 during their respective operation phases. These reasonably foreseeable projects and activities were considered in the CEA for the air quality VC, along with existing conditions expected to persist into the future. Of these, the Proponent included only two in the cumulative effects modelling; the remaining three were addressed qualitatively. Table 7.2-14 of the Revised Application provides a full accounting for all the projects and activities considered in the CEA. A summary follows:

- **T1B:** Included in the cumulative modelling. involves the construction and operation of facilities to increase the LNG production, storage, and distribution capacity at the existing Tilbury facility;
- **TMJ:** Included in modelling due to proximity. TMJ, based on outdated information, is a major contributor to cumulative impacts, with predicted 1-hour NO<sub>2</sub> levels conservatively calculated to exceed objectives by approximately 164%<sup>60</sup>;
- **Delta Grinding Facility:** Located within the Regional Assessment Area. Identified as having limited potential for overlapping effects (PM, DPM, NO<sub>x</sub>, CO) but not modelled due to insufficient public data;

- **Roberts Bank Terminal 2 (RBT2):** About 16 km southwest of Tilbury Phase 2. Expected localized impacts; overlap with Tilbury Phase 2 is unlikely, so not modelled; and
- **Vancouver Airport Fuel Delivery (VAFD):** Under construction ~2 km west of Tilbury Phase 2. Expected result in a decrease<sup>61</sup> in NO<sub>x</sub> emissions when compared to replacement of trucking associated with the current facility; not included in modelling.

The cumulative case includes emissions from the mitigated Application Case (Project + Base Case) and the T1B and TMJ project. Tilbury Phase 2's incremental contribution is small—about 1% (0.86 µg/m<sup>3</sup>) for 1-hour NO<sub>2</sub> and 7% (1.36 µg/m<sup>3</sup>) for annual NO<sub>2</sub>.

Under the mitigated cumulative scenario, 1-hour NO<sub>2</sub> concentrations were modelled to be high magnitude or double (161 µg/m<sup>3</sup>), the CAAQS and MVAAQO 2025 (79 µg/m<sup>3</sup>) using the 98<sup>th</sup> percentile background, and 147 µg/m<sup>3</sup> and 136 µg/m<sup>3</sup> at the 90<sup>th</sup> and 75<sup>th</sup> percentile background respectively. This indicates a persistent tendency for 1-hour concentrations to exceed the regulatory objective across a wide range of background conditions, rather than only during rare or extreme circumstances.

Exceedances are expected 346 days per year using 98<sup>th</sup> percentile background level, and 276 and 185 days per year using the 90<sup>th</sup> and 75<sup>th</sup> background percentile respectively, which means exceedances of the 1-hour NO<sub>2</sub> objective are predicted to occur frequently, on the majority of days in a typical year, rather than being limited to occasional or rare events. This means the 1-hour NO<sub>2</sub> limit would be exceeded most days, not just during unusual or extreme conditions.

The modelling indicates that the spatial extent of 1-hour NO<sub>2</sub> exceedances under the mitigated cumulative scenario is concentrated in a defined hotspot area associated with TMJ emissions, with the footprint becoming progressively smaller as lower background percentile values are applied. Furthermore, elevated concentrations occur at several residential and business receptors and at the Historic Indigenous Village Site within approximately 1–3 km of Tilbury Phase 2. The modelling further notes that little to no exceedances are observed south of River Road under the mitigated scenario.

Annual NO<sub>2</sub> exceedances are limited to a small area near the TMJ berth over water, with predicted concentrations of 22.7 µg/m<sup>3</sup> compared to the 22.6 µg/m<sup>3</sup> standard.

SO<sub>2</sub>, cumulative 1-hour concentrations remain below regulatory standards, with Tilbury Phase 2 contributing only 4.46 µg/m<sup>3</sup> of the cumulative total (120 µg/m<sup>3</sup>). Increases are localized near Tilbury Phase 2 site and adjacent business areas. Other contaminants (CO, PM<sub>2.5</sub>, PM<sub>10</sub>, VOCs) assessed in the unmitigated cumulative scenario remain well below 1-hour and annual standards, with Tilbury Phase 2's contribution minimal.

There is meaningful uncertainty in the cumulative air quality results. The modelling intentionally incorporates conservative assumptions, so even the 75<sup>th</sup> and 90<sup>th</sup> percentile background cases represent upper bound conditions rather than average or typical conditions. Notably, most of the predicted NO<sub>2</sub> and SO<sub>2</sub> increases come from TMJ, and it is unclear how representative the TMJ modelling assumptions remain, as they were based on an older, conservative assessment using large diesel-powered LNG carriers and high activity levels; actual emissions could be lower if LNG powered or hybrid vessels are used or if peak operations occur infrequently. Results also vary with changing weather conditions, and some sources (such as Delta Grinding) were only qualitatively characterized. Overall, these results should be viewed as deliberately conservative estimates, not precise forecasts of future air quality.

<sup>61</sup> The reduction is driven primarily by eliminating daily tanker-truck fuel deliveries and shortening marine vessel transit distances, which together significantly lower regional NO<sub>2</sub>/NO<sub>x</sub> emissions [Assessment Report and Appendices for the Vancouver Airport Fuel Delivery Project dated Dec 14, 12.pdf](#).

Provincial conditions for both approved TMJ and proposed Tilbury Phase 2, along with Metro Vancouver permitting for Tilbury Phase 2, and federal TMJ requirements (e.g., Idle limits, vessel limits, boil-off gas controls) all play an important role in ensuring compliance and managing air emissions within the airshed. Tilbury Phase 2 will be subject to enforceable emission limits, stack testing, and monitoring under Metro Vancouver's Air Quality Management Bylaw. Regional monitoring indicates NO<sub>2</sub> levels have declined over the past decade despite population growth, and SO<sub>2</sub> remains very low mainly due to marine fuel Sulphur limits and limited LNG/electric vessel adoption.

Taking these factors into account, the cumulative assessment indicates that ambient NO<sub>2</sub> concentrations within the airshed may remain elevated under certain modelling scenarios driven primarily by other existing or reasonably foreseeable activities. However, the residual emissions from Tilbury Phase 2 are predicted to be negligible to low in magnitude, and Tilbury Phase 2's incremental contribution to cumulative concentrations is small relative to other sources. Accordingly, Tilbury Phase 2 is not anticipated to measurably alter cumulative air quality conditions within the Regional Assessment Area and is therefore not expected to result in an adverse cumulative effect on the air quality VC.

#### 17.1.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or cumulative effects on the air quality VC. The extent of significance for federal effects the health, social, and economic conditions of Indigenous peoples (which considers Tilbury Phase 2's potential effects to air quality) is found in [Appendix 15](#). This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; the proposed Mitigation Measures identified in the provincial Table of Conditions including Condition 12 (CEMP) and Condition 14 (Air Quality Management Plan); and federal Key Mitigation Measures and Follow-up Programs under the *Impact Assessment Act* (IAA) for the air quality VC as it may pertain to the health, social, and economic conditions of Indigenous peoples ([Appendix 2](#)).

## 17.2 Acoustic

### 17.2.1 Summary

Acoustic was selected as a VC for the Tilbury Phase 2 environmental assessment as it can affect human health, disrupt wildlife behavior and habitat use, and interfere with cultural and land-based activities. Indicators for the acoustic VC considered as part of the assessment include audible noise, low-frequency noise, and vibration.

The Project is on private land in Tilbury Industrial Park, Delta, B.C.—a medium- to high-impact industrial zone with ongoing development and infrastructure. Ambient sound levels are shaped by nearby industrial, marine, road, rail, and air traffic activity. Since the 1970s, the area's shift from farmland to sawmills and gas facilities has raised noise levels, with some receptors exceeding Health Canada's thresholds for sleep disturbance and speech intelligibility. As part of the assessment receptors were considered at a range of location including the nearest homes, a pathway adjacent to the Project Footprint, the nearby animal shelter, and the Historic Indigenous Village Site<sup>62</sup> on directly across the river on what is known as Lulu Island.

Key issues raised by reviewers included Existing Conditions and modeling assumptions, concerns regarding increased noise levels, and the effectiveness of mitigation measures response processes.

In response to the issues raised, the EAO has proposed that if a Certificate is issued, the Certificate should include Condition 12 requiring approval of a CEMP before construction, and Condition 13 for an OEMP, both of which must address acoustic effects and include the implementation of a noise monitoring program. The effectiveness of these plans and their mitigation measures will be evaluated under Condition 1 (Document Review). A separate Condition 10 (Community Feedback Process) will require a process to track and respond to community concerns, including noise disturbances, during Construction and Operation.

The EAO concludes that the Project is not expected to result in significant adverse residual effects on the acoustic VC. Similarly, the EAO finds no significant cumulative effects on the acoustic VC from Tilbury Phase 2 when assessed in combination with other past, present, and reasonably foreseeable future projects.

### 17.2.2 Assessment Boundaries

The spatial boundaries for the Acoustic assessment included:

- The Project Footprint: defined as the area directly disturbed by Project activities;
- The Local Assessment Area (LAA): the Project Footprint plus a 1.5 km buffer; and
- The Regional Assessment Area (RAA): a 3-km-wide zone around the perimeter of the Project Footprint.

The temporal boundaries used in the assessment of acoustics include the Construction (3–6 years), Operation (40 plus years), and Decommissioning (2 years) phases of the Project.

Project components and anticipated duration of activities are described in detail in [Section 1.2](#) (Project Description and Schedule) of this Report.

### 17.2.3 Existing and Future Conditions by Proponent

FortisBC (Proponent) assessed existing acoustic conditions in [Section 7.3.4](#) and [Appendix C \(Noise and Vibration Technical Data Report\)](#) of the Revised Application.

The assessment considered two noise scenarios:

- Existing Ambient Sound Level: This is the current noise in the area without sound from the existing Tilbury Phase 1A facility or the Project. This scenario includes general background noise from sources such as traffic,

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See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site.

marine activity, and nearby businesses. It helps show what the area sounds like without project-related noise and is used to assess impacts like sleep disturbance or changes from normal conditions; and

- **Expected Future Conditions:** This includes noise from the existing Phase 1A facility and other nearby approved soon to be built projects (like T1B, TMJ, and the base plant demolition vibrations, but not the Project itself.) It's used to figure out how much additional noise the Project would create and to understand the total future noise level when all nearby developments are considered.

### 17.2.3.1 Historic Context

The Fraser River and Tilbury Island have long been used by Indigenous peoples for cultural practices, including transportation, hunting, fishing, and gathering. These traditional activities are deeply connected to the land and remain culturally significant.

Over time, the area has been heavily industrialized, with Tilbury Island transitioning from agricultural use to sawmills and natural gas facilities starting in the 1970s, leading to increased noise levels. The Project is located within this industrial zone on FortisBC-owned land. Ongoing industrial activity, including marine traffic on the Fraser River, contributes to an already elevated noise environment, which may further affect Indigenous use of the area, particularly activities sensitive to changes in acoustic conditions.

### 17.2.3.2 Existing Ambient Sound Level

Existing Ambient Sound Levels occur from dominant sound sources in the LAAs and RAAs include marine, road, rail, and air transportation; as well as industrial and commercial operations.

Baseline noise levels at the site, located in a heavily industrialized coastal area, range from 46.6 to 57.1 A-weighted decibels (dBA) during the daytime - comparable typical background noise in an office (45 dBA) and typical background noise in a large department store (60 dBA).

The Proponent assessed ground-borne vibration, which refers to vibrations from sources like traffic or industrial activity that travel through the ground.

See Figure 9 below that shows the location of specific receptors that were used to assess current and future acoustic impacts.

#### Receptor-specific conditions

- **R1 (a home in Delta, 500 meters from the site), R3 (Historic Indigenous Village Site ~700 metres across the Fraser River) and R4 (A home in Richmond, 1,800 metres away)** nighttime noise was 53.1, 50.3, and 45.7 dBA respectively - above the World Health Organization's (WHO) recommendation for an average annual nighttime sound level of 40 dBA as referenced in the Health Canada Noise Guideline;
- Day time noise at **R1** (57.1 dBA) was above the Health Canada recommended outdoor speech intelligibility threshold of 55 dBA;
- **R2 (Delta Community Animal Shelter ~220 metres away)** outdoor animal areas exposed to daytime noise just below the 55 dBA speech intelligibility threshold;
- **R3 –Historic Indigenous Village Site: ~700 metres across the Fraser River;** used for traditional purposes by multiple First Nations. Noise levels for daytime are below Health Canada speech intelligibility threshold of 55 dBA; and



- **R5 (Informal pathway ~5 metres from the Project Footprint)** Daytime noise (56.5 dBA) exceeded thresholds for speech interference and annoyance. Evaluated for context but not formally assessed against regulatory guidelines.

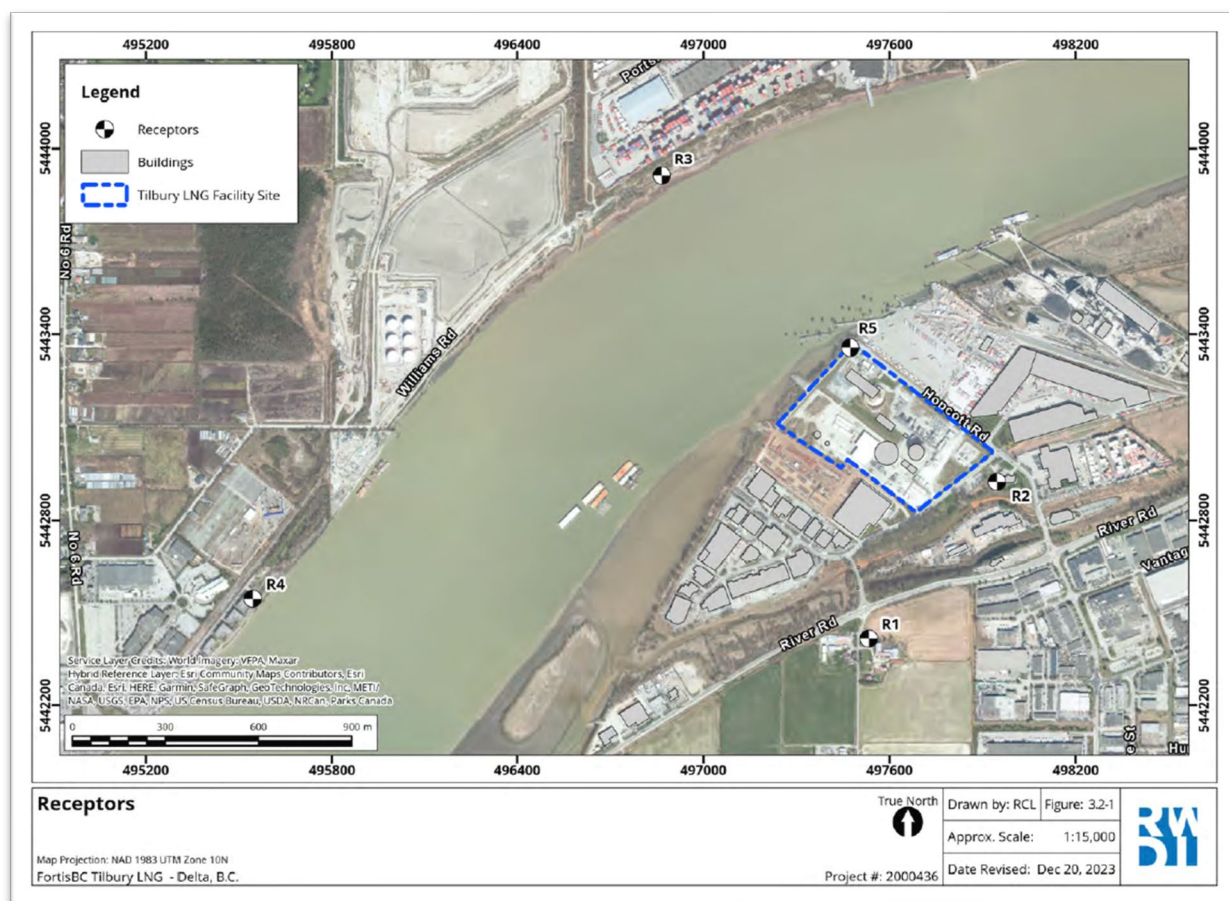


Figure 9: Location of Receptors Used in Assessing Current and Future Project Related Acoustic Effects

#### 17.2.4 Potential Project Effects by Proponent

The Proponent assessed the potential Project effects with the activities associated with Construction and Operation of Tilbury Phase 2 that have the potential to interact directly or indirectly with the acoustic VC in [Section 7.03](#) of the Revised Application. This section focuses on Construction and Operation, as Decommissioning noise levels will be similar to Construction.

Results of the expected future conditions for Construction and Operation can be found in *Table 7.3-6* and *Table 7.3-7* of the Revised Application and are discussed below.

##### 17.2.4.1 Key Findings for Noise during Construction:

For the Construction phase of the Project, the expected future condition includes the summation of noise from the existing ambient condition, existing Phase1A facility, predicted future TMJ facility.

Overall Noise Levels (Annoyance and Speech Intelligibility):

- For receptors R1, R2, R3, and R4, the predicted increase in community annoyance (% Highly Annoyed or %HA) due to the Project's Construction is less than the Health Canada threshold of 6.5% change, when compared to either baseline;



- For R5, an informal pathway receptor located very close to the site, the predicted increase in annoyance is significantly greater than 6.5%; and
- Regarding speech intelligibility (ability to hold a conversation outdoors), the Health Canada threshold is 55 dBA (during the day). The predicted cumulative noise levels during Construction are expected to be above 55 dBA at receptors R1, R2, and R5 (R5 exceeds by 18.9dBA). At R3 and R4, the levels are predicted to be below this threshold. Note that the measured Existing Ambient Condition already exceeded 55 dBA LD at R1 and was just below it at R2.

#### Sleep Disturbance

- The measured existing nighttime noise levels (Ambient Sound Level LN) at some receptors (R1, R3 and R4) already exceed WHO's recommendation for an average annual nighttime sound level of 40 dBA outdoors for good sleep as referenced in the Health Canada Noise Guideline;
- The predicted increase in average nighttime noise caused by the Project's Construction, even in the "worst-case," is relatively small. Compared to the Ambient Sound Level, the predicted increase is 1.7 decibels (dB) or less at the assessed receptors (R1, R3, R4). Compared to the "Construction Expected Future Condition" (which includes noise from other nearby facilities), the increase is less than 1 dB at these receptors; and
- While average noise increases are small, sudden, loud "sporadic" noise events (like alarms, material dropping, or hammering) from Construction could potentially cause sleep disturbance by exceeding Health Canada's criteria for individual events.

#### Low-Frequency Noise (LFN)

- LFN refers to deep sounds, like rumbling, that you might feel more than hear. These can sometimes cause buildings to shake or rattle. The assessment found LFN is expected during loud construction phases. More detailed analysis will happen in the design stage; and
- For extremely low frequencies (called infrasound), anything over 70 z-weighted decibels (dBZ) may cause building rattles.

#### Ground-borne Vibrations

- From R1 through to R4, vibration is expected to be too low to feel or cause damage.
- At R5 (a pathway very close to construction), people might feel some vibration, especially during heavy activities like stone column work;
- Vibration strong enough to risk damage is only possible if the work is happening very close to a building - within 17 to 23 metres. No buildings are that close, so damage is unlikely; and
- Overall, vibration impacts are expected to be low, temporary, and not harmful to structures.

#### 17.2.4.2 Key Findings for Noise during Operation:

For the Operation phase of the Project, the expected future condition includes the summation of noise from the existing ambient condition, existing Phase1A facility, predicted future T1B facility and TMJ facility.

#### Annoyance

- The BCER noise guideline provides permissible sound levels (PSL) for energy facilities in B.C. at occupied dwellings which for this study include R1 and R4. The study predicts that noise levels at these dwellings will comply with BCER's PSLs, meaning the noise shouldn't significantly disturb people living there;
- Using Health Canada's metric for annoyance (%HA), the predicted increase in annoyance from the Project is below the 6.5% threshold at R1, R2, R3, and R4 - so no major concern is expected at those spots; and

- At R5 (a pathway right next to the site), the predicted %HA increase is above 6.5%, suggesting possible high annoyance. But because R5 isn't a home or formal receptor, no mitigation is required but FortisBC will work with a Qualified Professional (QP) to manage these potential changes during Operation.

#### Speech Intelligibility

- Health Canada recommends keeping daytime noise below 55 dBA so people can talk comfortably outside. The predicted noise from the Project is above that level at R1, R2, R3, and especially at R5, where the exceedance is more noticeable; and
- The Project's noise increase is small (3 dBA or less, within the modelling uncertainty) and, based on conservative estimates, is unlikely to significantly affect speech intelligibility.

#### Sleep Disturbance

- Existing nighttime noise is already high at the receptors assessed (R1, R3 and R4), above WHO's recommendation for an average annual nighttime sound level of 40 dBA for good sleep as referenced in the Health Canada Noise Guideline;
- The Project will add a small increase in nighttime noise—between 1.4 and 4 dB depending on the location. Compared to future noise without the Project, the increase is less than 2-3 dB; and
- No sudden, loud noise events (like alarms or bangs) are expected from Project Operation that could disturb sleep.

#### Low Frequency Noise

- Low Frequency Noise (LFN) includes deep sounds below 100 Hz, like rumbles or vibrations, you might feel more than hear. These sounds can sometimes cause buildings to vibrate or "rattle." LFN from the Project are predicted to be above the Health Canada guidance at R1,3,4, and 5 but below BCER's threshold for at R1 and R4 receptors.

### 17.2.5 Proposed Mitigation Measures by Proponent

The Proponent identified the following relevant mitigation measures to reduce potential effects on acoustic:

- During Construction, develop and implement a vehicle idle reduction policy that focuses on reducing noise and vibration emissions from construction vehicles. These measures are to be incorporated into the CEMP;
- During Construction and Operation of the project, develop mitigation and contingency measures through engagement with a QP to manage acoustic disturbance to human and wildlife receptors, and incorporate these measures into the CEMP and OEMP;
- Receive, record, investigate, and follow-up on noise complaints from First Nations, the public, and adjacent businesses;
- Conceptual engineered noise mitigation measures for project equipment during Operation are based on preliminary project design and are outlined in the Noise and Vibration Technical Data Report (TDR) (Appendix C of the Revised Application). Final noise mitigation measures for project equipment will be engineered based on detailed noise specifications and incorporated into the Project;
- All compressors will be enclosed to attenuate noise to a level consistent with the BCER noise regulations;
- Use of Totally Enclosed Ground Flare (TEGF) technology to reduce noise and light from flaring; and
- No waterborne deliveries of modular components or construction materials to the project site - no MOF will be required.

As part of the substituted process, the EAO has identified KMMs for effects within federal jurisdiction to inform the IAAC's draft potential federal conditions. The KMMs for the acoustic VC as it may pertain to Indigenous health under the IAA are outlined in [Appendix 2](#).

### 17.2.6 Key Issues Raised

Based on a review of the Revised Application and with feedback from the TAC, IAAC, participating Indigenous nations, Metis and the public, the following key issues related to the assessment of the acoustic VC for Tilbury Phase 2 were identified.

#### 17.2.6.1 Existing Conditions and Modelling Assumptions

Health Canada, xʷməθkʷəy̓əm, and Quw'utsun Nation raised concerns about the Existing Conditions used for noise assessment, the assumptions and uncertainties in noise modelling, and the completeness of cumulative effects analysis. Their concern arises from the lack of consistency in the use of pre-project Ambient Sound Level as a baseline across all scenarios. Health Canada recommended an additional LFN study be completed based on final engineering design as this detailed analysis is considered the best method to develop noise mitigation controls. See LFN in [Section 17.2.4](#) (Potential Project Effects by Proponent) above.

In response FortisBC noted that the “expected future condition” baseline helps isolate the Project's incremental contribution. Computer programs were used to model sound levels, following guidelines, which typically carry a  $\pm 3$  dB uncertainty. Vancouver Airport Fuel Delivery Project (VAFD) and Heidelberg Cement operations were active during the ambient noise monitoring period.

The EAO has identified that noise is a consideration by the BCER as part of the LNG Facility Permit process. Under Section 15 of the LNG Facility Regulation the permit holder must ensure that construction and normal operations of the LNG facility do not cause excessive noise or emanation of light on human and wildlife receptors. Permit holders should ensure that mitigation measures are built into the design and operating procedures using the B.C. Noise Control Best Practices Guideline<sup>63</sup>. B.C. Noise Control Best Practices Guideline outline the BCER's expectations for noise impact assessments and best practices and include consideration of LFN.

#### 17.2.6.2 Increased Noise Levels

BCER, Health Canada, xʷməθkʷəy̓əm, and Quw'utsun Nation raised concerns about noise impacts during Construction, Operation, and Decommissioning — including from truck traffic, overlapping phases, and effects on nearby communities and the environment. Quw'utsun Nation also noted that increased operational noise could affect their intended future cultural and residential use of Tl'uq̓tinus.

FortisBC acknowledged the potential for overlapping Construction (Phase 1B and Phase 2) and committed to updating modelling if needed. They stated that predicted operational noise levels remain below perceptible thresholds (<3 dB) and agreed to revisit modelling and mitigation during final design if warranted.

xʷməθkʷəy̓əm, Quw'utsun Nation, and Ts'uubaa-asatx expressed that Indigenous Knowledge and perspectives were not sufficiently considered, particularly regarding effects on the Historic Indigenous Village Site and members exercising rights or undertaking cultural practices near the Project.

FortisBC stated that receptor locations, including the Historic Indigenous Village Site or “R3”, were selected based on Indigenous Knowledge and Health Canada guidance. They acknowledged differing perspectives, noting that although regulatory thresholds were not exceeded, culturally important sites could still experience sensory disruption. FortisBC committed to working with First Nations on mitigation planning and evaluation.

<sup>63</sup> BC Noise Control Guidelines version 2.4 (June 2024), BCER. [https://www.bc-er.ca/files/operations-documentation/Oil-and-Gas-Operations-Manual/Supporting\\_Documents/BC-Noise-Control-Best-Practices-Guideline.pdf](https://www.bc-er.ca/files/operations-documentation/Oil-and-Gas-Operations-Manual/Supporting_Documents/BC-Noise-Control-Best-Practices-Guideline.pdf). Accessed on June 17, 2025

The EAO determined that the magnitude of impact of increased noise levels is low, based on minor exceedances of Health Canada's speech intelligibility threshold at the Historic Indigenous Village Site, exceedances that may or may not result in perceptible changes to experience or use. The EAO also identified that the LNG Facility Permit amendment must consider operational noise effects, including at receptors beyond the facility boundary, and align with B.C. Noise Control Best Practices, Health Canada guidance, or applicable municipal bylaws.

If issued, the EAO proposes that the Certificate includes Conditions 12 (CEMP) and 13 (OEMP). Both conditions would require an outline of how the mitigation measures proposed in the Revised Application will be implemented, will require consultation with First Nations, and will require approval from the EAO prior to the commencement of Construction and Operation. The conditions also require the Holder to implement a noise monitoring program that takes into account Health Canada Guidance for Evaluating Human Health Effects in Impact Assessment: Noise and British Columbia Noise Control Best Practices Guideline.

### 17.2.6.3 Effectiveness of Mitigation Measures

x̣ṃəθḳẉəỵəm, Quw'utsun Nation, and Ts'uubaa-asatx raised concerns about the effectiveness of the proposed mitigation measures. There were also concerns raised, including from Health Canada, regarding the need for robust complaint mechanisms, clear timelines for issue resolution, and detailed operationalization of noise control strategies.

Specifically, Health Canada recommended the development of a robust noise complaint resolution plan with clear communication pathways and service standards for addressing community concerns.

x̣ṃəθḳẉəỵəm additional details on acoustic mitigation, including key receptors, noise controls (e.g., mufflers, barriers), and monitoring protocols. x̣ṃəθḳẉəỵəm and Quw'utsun Nation noted the importance of reviewing the CEMP and the OEMP prior to approval, to ensure cultural and technical adequacy.

The EAO has proposed Certificate Condition 10 (Community Feedback Process) requiring a process to track and respond to community feedback regarding project effects. The EAO has also proposed as part of Condition 3 (Document Development), which includes mitigation effectiveness, evaluation requirements that would apply to Condition 12 (CEMP) and Condition 13 (OEMP). Consultation requirements are included as part of Conditions 12 (CEMP) and 13 (OEMP).

### 17.2.7 The EAO's Characterization of Residual Effects

After considering the proposed mitigation measures and conditions proposed, the information contained in [the Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that the Project would result in the following residual adverse effects on the acoustic VC:

- Increase in noise levels during Construction of the Tilbury Phase 2 facility and associated infrastructure, including from truck traffic, equipment operation, and daytime/nighttime Construction activities;
- Increase in ground-borne vibration during Construction activities, particularly from stone column installation and other heavy construction methods, with perceptibility expected within 14–179 metres of the site; and
- Increase in noise levels during long-term Project Operation, including from enclosed compressors, flare stacks, and other facility components that may contribute to perceptible changes at nearby receptors.

The EAO's characterization of the expected residual effects of the Project on acoustic is summarized below, as well

as the EAO's level of confidence in the effects determination (including their likelihood and significance).

Table 52: Summary of Residual Effects for Acoustic VC

| Residual Effect                                  | Assessment Rating*                                                                                                                                                                                                                                                            | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Increase in noise levels during Construction     | Context (resilience): Moderate<br>Magnitude: Low<br>Extent: Local<br>Duration: Short-Term<br>Frequency: Regular<br>Reversibility: Fully Reversible<br>Affected Populations: Disproportionate<br>Risk: Moderate<br>Uncertainty: Moderate<br>Importance: High                   | <p><b>Not Significant</b></p> <p>The area has a history of industrial noise exposure. Since some receptors already exceed sleep disturbance and speech thresholds, there is limited capacity to absorb more noise. Overall, the environment has moderate acoustic resiliency, reflecting its industrial context but limited tolerance for further impact.</p> <p>During the expected future condition, noise levels are expected to stay within Health Canada's annoyance criteria and increase by less than 3 dBA at night. While thresholds for speech intelligibility and sleep disturbance are already exceeded, the Project's incremental contribution is minor and may not be noticeable. Magnitude is rated as low.</p> <p>Effects will be concentrated within the LAA (up to 1.5km from the Project Footprint) for onsite activities.</p> <p>The effects will be short-term and regular. Effects will cease and be fully reversible at the end of Construction.</p> <p>Noise-sensitive groups, like residents near R1 and Indigenous users near the Historic Indigenous Village Site, may face higher impacts, making the affected population disproportionate.</p> <p>The likelihood of the effect is high, with moderate consequences due to the temporary but frequent exceedance of Health Canada thresholds for sleep disturbance and speech intelligibility at nearby receptors. Therefore, the risk is rated as moderate.</p> <p>Despite conservative modelling, the specific nature of the disturbance and how it will be perceived leads to a rating of moderate uncertainty.</p> <p>Construction noise during Operation could disrupt rest and sensory awareness in people and wildlife, particularly affecting First Nations' use of the Fraser River and the Historic Indigenous Village site. These concerns were also raised by regulators and the public. Due to cultural significance, health implications, and ecological sensitivity, the residual effect is rated as high in importance.</p> |
| Increase in vibration levels during Construction | Context (resilience): Moderate<br>Magnitude: Negligible (R1-4) to Low (R5)<br>Extent: Local<br>Duration: Short-Term<br>Frequency: Irregular<br>Reversibility: Fully Reversible<br>Affected Populations: Disproportionate<br>Risk: Low<br>Uncertainty: Low<br>Importance: High | <p><b>Not Significant</b></p> <p>The area's long-standing industrial use and routine exposure to mechanical activities suggest a high capacity to absorb additional vibration without lasting disruption. A moderate resilience rating reflects this tolerance,</p> <p>Vibration will be noticeable at times (especially at R5) but remains below structural damage thresholds. While annoyance may occur up to 179 metres away, the effect is intermittent and localized, with no critical receptors in high-risk areas, supporting a low magnitude rating.</p> <p>Effects will be irregular, short term, and fully reversible. They are temporary and episodic, and limited to Construction.</p> <p>Noise-sensitive groups, like residents, trail and river users, or Indigenous peoples who exercise cultural practices on the Fraser River and the Historic Indigenous Village Site, may face higher impacts from vibrations during Construction, making the affected population disproportionate.</p> <p>There is a low level of risk associated due to the magnitude, duration, and location of the expected effects.</p> <p>There is a low level of uncertainty due the acoustic modeling using conservative assumptions based on worst-case Construction scenarios and well understood relationships between Construction activities and acoustic effects.</p> <p>First Nations identified vibration as highly important due to its potential to disrupt Historic Indigenous Village Site (R3) along with impacting Fraser River fishing sites and land-based experiences. This was also identified as a key concern by Health Canada, BCER, local governments,</p>                                                                                                                                                                                                                                                                                                                                             |

| Residual Effect                                                                                                                   | Assessment Rating*                                                                                                                                                                                                                                                            | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                                                                                                                                                                                                                                                                               | and the public due to Construction vibration's potential to cause sensory disturbance and annoyance at sensitive receptors, including public pathway Receptor R5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Increase in noise levels during Operation                                                                                         | Context (resilience): Moderate<br>Magnitude: Negligible to Low<br>Extent: Local<br>Duration: Medium-Term<br>Frequency: Continuous<br>Reversibility: Fully reversible<br>Affected Populations: Disproportionate<br>Risk: Moderate<br>Uncertainty: Moderate<br>Importance: High | <p><b>Not significant</b></p> <p>The area has a history of industrial noise exposure. Since some receptors already exceed sleep disturbance and speech thresholds, there is limited capacity to absorb more noise. Overall, the environment has moderate acoustic resiliency, reflecting its industrial context but limited tolerance for further impact.</p> <p>During the expected future condition, magnitude is rated low due to minor exceedances (3 dBA or less) of Health Canada's speech intelligibility threshold (criteria) at the Historic Indigenous Village Site. Negligible magnitude rating is for the other receptors where exceedance of thresholds is not expected.</p> <p>Effects will be continuous throughout Operation which is a medium-term activity. The effects will be fully reversible, as they will cease following Decommissioning of the Project.</p> <p>The affected population rating is considered disproportionate due to the heightened sensitivity of Indigenous cultural users near the Historic Indigenous Village Site to sensory disturbances. Activities such as fishing, gathering, and ceremonial practices may be more acutely impacted by continuous noise, even when levels remain below established thresholds.</p> <p>The risk is rated moderate due to the high likelihood of continuous operational noise and moderate consequences from potential sensory impacts at culturally sensitive sites. Although some noise levels are within regulatory limits, constant exposure and cultural sensitivity elevate the risk.</p> <p>While potential adverse acoustic effects are well understood, predictive noise modelling was completed based on preliminary design, and therefore there is a moderate level of uncertainty.</p> <p>Concerns raised by First Nations highlighted the potential effects to the acoustic environment affecting cultural practices, sense of place, and knowledge transfer, therefore the importance was considered high. Sustained exceedances of BCER, Health Canada and WHO guidelines at key receptors such as residential areas and the Historic Indigenous Village Site support this rating.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

### 17.2.8 Cumulative Effects Assessment

Cumulative effects must be considered where a designated project may interact with other past, present, or reasonably foreseeable physical activities.

For acoustic effects, the Revised Application (Section 7.3.6) assessed the following cumulative pathways:

- Increase in noise levels during Construction;
- Increase in vibration levels during Construction; and
- Increase in noise levels during Operation.

As described in Section 1.1.3, the noise assessment considered known projects within the LAA, including; Phase 1A and 1B, TMJ, and the storage tank expansion facility.

Two additional projects were also considered; Delta Grinding Facility and VAJD.

Both are expansions of existing operations. Ambient sound measurements used in FortisBC's acoustic assessment implicitly included noise from these two facilities, as they were assumed to be operating during monitoring.



A detailed noise assessment for the VAFD project identified one shared receptor (R4). At this location, predicted noise from the Project is substantially lower than from VAFD, and is therefore not expected to meaningfully influence cumulative noise levels.

The Delta Grinding Facility did not include a noise assessment. While FortisBC did not provide a qualitative evaluation, the EAO conservatively assumed some potential overlap in noise effects, though the magnitude remains uncertain.

Cumulative acoustic effects from the six projects listed above, along with existing ambient conditions, are expected to span all Project phases.

Key considerations informing the EAO's conclusion on cumulative effects include:

- Potential overlap with future projects in the area;
- Existing background noise levels (46.6–57.1 dBA), already elevated due to industrial, marine, rail, and air traffic, and exceeding regulatory thresholds in some locations;
- Regulatory requirements under the LNG Facility Regulation further consider noise through engineering design and require that an LNG facility permit holder must ensure that the construction of and normal operations at the LNG facility do not cause excessive noise which reduces the likelihood of changes to cumulative effect conditions at shared receptors;
- Residual noise effects from Tilbury Phase 2 are expected to be of low to negligible magnitude;
- The logarithmic nature of sound, where multiple sources do not add linearly: two equally loud sources increase total noise by ~3 dB, and adding a quieter source contributes minimally; and
- Predicted noise increases from Tilbury Phase 2 are generally below 3 dBA.

Taking these factors into account, cumulative acoustic conditions within the LAA reflect an already elevated industrial sound environment influenced by multiple existing and reasonably foreseeable projects (see Section 17.2.3, Existing and Future Conditions by Proponent). While some overlap in noise emissions may occur, predicted increases attributable to Tilbury Phase 2 are generally below 3 dBA and are not expected to materially influence cumulative noise levels at shared receptors. Accordingly, Tilbury Phase 2's incremental contribution to cumulative acoustic conditions is expected to be negligible to low and is not anticipated to measurably alter the existing cumulative acoustic environment. As such, the Project is not expected to result in an adverse cumulative acoustic effect when considered in combination with past, present, and reasonably foreseeable future projects and activities.

### 17.2.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or cumulative effects on the acoustic VC. This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; the proposed mitigation measures identified in the provincial Table of Conditions including, Condition 1, 3, 10, 12, and 13; and federal Key Mitigation Measures and Follow-up Programs for the acoustic VC as it may pertain to Indigenous health under the IAA ([Appendix 2](#)).



## 17.3 Surface Water

### 17.3.1 Summary

Surface water was selected as a VC due to its important ecological functions for both aquatic and terrestrial species. Project activities are expected to interact with surface water quality and quantity, with the potential to affect vegetation, wildlife, and fish.

The surface water assessment considered potential effects of Tilbury Phase 2 on surface water quality and quantity. The key issues raised by reviewers included erosion and sedimentation, hydrostatic testing of the LNG storage tank, 6-PPDQ (a tire wear contaminant), and water quality impacts to the Tilbury Slough and the Fraser River.

In consideration of issues raised, the EAO has proposed Condition 12 (CEMP) and Condition 13 (OEMP) that will require the implementation measures to address erosion and sediment control and surface water quality and quantity during Construction and Operation. Condition 12 (CEMP) that will also include requirements for a LNG Storage Tank Hydrostatic Testing Plan during Construction, and Condition 17 (Dry Street Sweeping Report) to require a report on a potential mitigation measure to address effects associated with 6-PPDQ.

After considering the proposed mitigation, the EAO concluded there would be no significant residual effects on surface water. No cumulative effects were identified, given the lack of interaction with other projects and adherence to existing regulatory requirements. Overall, the EAO is satisfied that the Project will not result in significant adverse residual or cumulative effects on surface water.

### 17.3.2 Assessment Boundaries

The spatial boundaries for the surface water assessment included:

- The Project Footprint includes the area directly disturbed by Project activities;
- The Local Assessment Area (LAA) includes the section of water extending 100 meters upstream and 200 metres downstream of the Project Footprint. It also covers 100 metres upstream and 200 metres downstream within Tilbury Slough, starting from the Delta stormwater outlets that discharge runoff from the Project area and surrounding properties; and,
- The Regional Assessment Area (RAA) includes a broader portion of the lower Fraser River, extending 500 metres upstream and 1,000 metres downstream of the Project Footprint. It also encompasses Tilbury Slough for 500 metres upstream and 1,000 metres downstream of the Delta stormwater outlets that receive stormwater from the Project site and adjacent lands. The temporal boundaries for surface water include the Construction (3-6 years), Operation (40 plus years), and Decommissioning (2 years) phases of Tilbury Phase 2.

Project components and anticipated duration of activities are described in detail in [Section 1.2](#) (Project Description and Schedule) of this Report.

### 17.3.3 Existing Conditions by Proponent

The existing surface water conditions in the region were assessed in [Section 7.04](#) of the Revised Application by FortisBC and summarized here.

Surface water refers to water that collects on the ground surface, such as precipitation or runoff. Currently, surface water is routed to onsite drainage ditches, which flow into the stormwater network, municipally managed by Delta, and ultimately discharge into Tilbury Slough.

Contact water is defined as precipitation or surface runoff that comes into contact with process equipment or other surfaces with potential for contamination. The Proponent proposes to direct the contact water to concrete

containment sumps below project-related infrastructure for testing and/or treatment before being released to the stormwater system.

#### **17.3.3.1 Habitat, Landscape and Surface Water Quality**

The Project Footprint covers approximately 18 hectares, consisting of about 70% gravel and the remaining area being structures, and concrete. There are no natural water courses or intermittent streams on the property site.

The Fraser River is an adjacent body of water, which conveys approximately 17 million tonnes of sediment per year, consisting of silt, sand, and clay.

Existing sediment samples within the LAA showed metal concentrations mostly at or below the B.C. Sediment Quality guidelines or within ambient conditions. While exceedances for arsenic, chromium, copper, iron, manganese, and nickel were noted, these were considered representative of ambient conditions. Polychlorinated Biphenyls (PCBs), Volatile Organic Compounds (VOCs), and phenols in sediment were below detection limits or guidelines. Most Polycyclic Aromatic Hydrocarbons (PAH) concentrations were below guidelines, with approximately 90% of samples not exceeding applicable guidelines. Only a few samples (4 out of 32) exceeded applicable guidelines for individual PAHs, considered localized findings.

Water quality in the Fraser River is influenced by erosion of natural sources of metals, agricultural runoff, and remobilization of sediments during high flow periods. Water quality data in the LAA show exceedances of provincial and federal standards<sup>1</sup> for the protection of aquatic life, irrigation, or wildlife for several metals, including aluminum, beryllium, cadmium, cobalt, copper, iron, and zinc, as well as phosphorus.

#### **17.3.3.2 Tilbury Slough**

Tilbury Slough's water levels and quality are shaped by both natural and man-made hydrological controls linked to its connection with the Fraser River.

Upstream of MacDonald Road, water levels are primarily controlled by a flood box (tidal gate) and the Delta pump station, which discharges to the Fraser River during high-water conditions. This infrastructure limits connectivity with the Fraser River, resulting in stagnant conditions and a lack of response to river level changes. As a result, this upper section of the slough is shallow, low-velocity, and largely stagnant—fed mainly by stormwater runoff and local groundwater seepage.

Downstream of MacDonald Road, water levels fluctuate directly with Fraser River tides—a key distinction from the upstream section. The channel width ranges from about 10 metres at high tide to 1.5 metres at low tide. While the slough is generally freshwater, it becomes brackish near the MacDonald Road flood box due to tidal influence.

Water quality in Tilbury Slough is generally characterized by low dissolved oxygen and low pH (measure of acidity or alkalinity), a reflection of its backwater, low-flow nature.

Further upstream, near Huston Road, another flap gate restricts flow from the Fraser River. In the section between Hopcott Road and Huston Road, the slough is approximately 25 metres wide, with a maximum depth of 1.5 metres. Like the area upstream of MacDonald Road, this stretch is not directly influenced by Fraser River levels, contributing to persistently stagnant water conditions.

#### **17.3.4 Potential Project Effects by Proponent**

The Revised Application identified the following potential effects to surface water during the Construction, Operation and Decommissioning of Tilbury Phase 2.

The following effects to the Tilbury Slough were considered:

- Change in water quality from sediment-laden runoff during site clearing and grading in Construction;
- Change in water quality from sediment-laden runoff during Operation;

- Change in water quality from contaminated runoff (e.g., contact water) entering the Delta storm sewer during Operation;
- Erosion at stormwater outlets from increased surface runoff rates during Construction and Operation and from hydrostatic test water discharge;
- Change in water level due to hydrostatic test water discharge to the Delta storm sewer;
- Decrease in pH in Tilbury Slough from acid deposition related to air emissions; and
- Eutrophication in Tilbury Slough due to nitrogen deposition from air emissions.

The following effects to the Fraser River were considered:

- Decrease in pH in the Fraser River from acid deposition related to air emissions; and
- Eutrophication in the Fraser River due to nitrogen deposition from air emissions.

The following ecosystem effect was considered:

- Changes in water quality and quantity could harm fish, fish habitat, wildlife and wildlife habitat, affecting traditional practices like fishing and hunting.

### 17.3.5 Proposed Mitigation Measures by Proponent

The Proponent identified the mitigation measures, outlined in [Table 7.4-9](#) of the Revised Application, related to surface water which include:

- Develop erosion and sediment-control measures to manage surface water in consultation with Indigenous nations and a QP and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers;
- Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be tested for contaminants prior to being released to the onsite drainage ditches that flow into the Delta storm sewer;
- Design site to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer;
- Conduct testing and treatment of hydrostatic test water prior to discharge to Delta's storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP; and
- Manage runoff rate to the Delta storm sewer through project engineering controls.

As part of the substituted process, the EAO has identified KMMs for effects within federal jurisdiction to inform IAAC's draft potential federal conditions. The KMMs related to the surface water VC as it relates to fish and fish habitat under the IAA are outlined in [Appendix 2](#).

### 17.3.6 Key Issues Raised

Based on a review of the Revised Application and with feedback from the TAC, participating Indigenous nations, and the public, the following key issues related to the assessment of the surface water VC for Tilbury Phase 2 were identified.

### 17.3.6.1 Sediment Controls for Fraser River & Tilbury Slough

BCER recommended the erosion and sediment control measure be implemented to reduce the potential of sediment entering into the Tilbury Slough and Fraser River during post-construction due to the site design that promotes drainage towards the Delta storm sewer system.

FortisBC responded that erosion and sediment control mitigation will be implemented as part of the Project's CEMP and OEMP, with permanent controls in place for the duration of the Project's lifespan. These controls are intended to reduce the potential for excess sediment to enter nearby watercourses.

The EAO will recommend that the Certificate will include Condition 12 (CEMP) and Condition 13 (OEMP) that will require the implementation of erosion and sediment control measures during Construction and Operation. The Holder would be required to consult with First Nations on the CEMP and OEMP prior to submitting it to the EAO for approval prior to Construction and Operation.

### 17.3.6.2 Hydrostatic Testing

ECCC and Tsawwassen First Nation requested additional information on the hydrostatic testing of the LNG Storage Tank, such as testing or treatment procedures, the potential impacts of the contaminants of potential concern in the effluent, and applicable provincial or local guidelines.

FortisBC confirmed the volume of the hydrostatic testing effluent (94,580 m<sup>3</sup>) and location of discharge approximately 200 metres upstream of the flood box, released over six days into the stormwater system. Discharges into the stormwater system must meet the requirements under the Delta Waterways Protection Bylaw No. 1615, which prohibit pollution being released into the stormwater system. FortisBC plans to conduct field testing of the potentially contaminated water and properly treat the contaminated water as required. FortisBC plans to monitor contaminants of potential concern in the Tilbury Slough.

The EAO will recommend that the Certificate include Condition 12 (CEMP) include an LNG Storage Tank Hydrostatic Testing Plan. The LNG Storage Tank Hydrostatic Testing Plan will outline where water will be sourced, filling procedures, testing, and how water used for hydrostatic testing will be discharged.

### 17.3.6.3 Water Quality – Tilbury Slough & Fraser River

Quw'utsun Nation requested clarity on sediment accumulation in Tilbury Slough and how it might affect water depth over time.

FortisBC responded to this, confirming that there is no expected change in the quality of the site's surface water that discharges to the City of Delta's stormwater system and there is no expected change to sediment quality or quantity being discharged to the stormwater system.

Quw'utsun Nation emphasized that with Construction, Operation, and Decommissioning spanning multiple years, the environmental assessment should include a discussion on how climate change could affect surface water runoff, groundwater recharge, and overall water quality over time.

FortisBC stated that the post site redevelopment peak runoff draining to the stormwater system is expected to be less than the current peak runoff rate and total volume of runoff may increase by 1 percent and this percentage is not expected to change as a result of potential climate change.

The EAO notes, while the potential increases in precipitation and storm intensity can result in changes to infiltration, the percentage of precipitation that infiltrates are expected to remain similar to post-Project infiltration rates under current climate conditions. Importantly, the EAO also noted that the Condition 12 (CEMP) and Condition 13 (OEMP) will require measures to control and treat stormwater and contact water, including containment systems, oil-water separators, erosion and sediment controls, and spill prevention and response measures for hydrocarbons and other contaminants.

These plans will also require testing and monitoring of discharges to verify compliance with applicable municipal bylaws and provincial or federal water quality guidelines. These will help address potential future impacts from climate change or unforeseen circumstances, ensuring that water quality and hydrological performance can be monitored and managed over time.

#### 17.3.6.4 Water Quantity

Tsawwassen First Nation, along with ECCC, the BCER, and other reviewers, raised concerns regarding potential changes to surface water quantity associated with hydrostatic testing discharges and changes in runoff and infiltration resulting from Project site modifications. Specifically, reviewers questioned whether the volume and discharge rate of hydrostatic test water, increased impervious surfaces, and altered infiltration patterns could result in temporary changes to water levels or flow conditions in Tilbury Slough.

FortisBC stated that hydrostatic testing would involve a one-time, controlled discharge to the City of Delta's stormwater system during dry conditions, and that the Delta pump station and flood box at MacDonald Road would operate to manage flows and maintain stable water levels in the slough. FortisBC also indicated that while total runoff volume may increase slightly following site redevelopment, post-development peak runoff rates are expected to be less than existing conditions and changes to infiltration are not expected to result in measurable effects on surface water quantity.

The EAO considered these responses and determined that potential effects on surface water quantity would be negligible. The EAO will recommend that the Certificate include requirements under Condition 12 (CEMP) and Condition 13 (OEMP) to manage runoff and hydrostatic test water discharges, monitor and document stormwater and effluent discharges, and apply adaptive management if monitoring demonstrates that Project effects differ from those predicted.

#### 17.3.6.5 6PPD-Quinone

Comments were received from various First Nations and technical advisors regarding 6-PPDQ (a chemical found in tire wear that has the potential to effect fish), and how potential effects of 6-PPDQ could be managed in relation to the Project. This topic is discussed in further detail in [Appendix 6, Section 17.08](#) (Fish and Fish Habitat) of this Report as part of the fish and fish habitat VC.

### 17.3.7 The EAO's Characterization of Residual Effects

After considering the proposed mitigation measures and conditions proposed, the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that the Project could cause the following potential residual effects to surface water VC:

- Change in water quality in Tilbury Slough; and
- Changes to water-based cultural landscapes and visual/cultural integrity of Tilbury Slough.

The EAO's characterization of the potential residual effects of the Project on the surface water VC is summarized below in Table 53 as well as the EAO's level of confidence in the effects determination (including likelihood and significance).

Table 53: Summary of Residual Effects for Surface Water

| Residual Effect                                                                                                                   | Assessment Rating*                                                                                                                                                                                                                                             | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Changes in Water Quality in Tilbury Slough                                                                                        | Context (resilience): High<br>Magnitude: Negligible<br>Extent: Local<br>Duration: Medium-Term<br>Frequency: Regular<br>Reversibility: Partially reversible<br>Affected Populations: Disproportionate<br>Risk: Low<br>Uncertainty: Moderate<br>Importance: High | <b>Overall Significance: Not Significant</b><br><br>Project activities will discharge negligible magnitude treated stormwater, contact water, and hydrostatic test water into the Delta storm sewer, which drains directly into Tilbury Slough. The Tilbury Slough is an already degraded, stagnant waterbody characterized by low dissolved oxygen, low pH, and guideline exceedances for metals, PAHs, chloride, and nutrients.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Change in Tilbury Slough water quantity                                                                                           | Context (resilience): high<br>Magnitude: Negligible<br>Extent: Local<br>Duration: Medium-Term<br>Frequency: Regular<br>Reversibility: Partially reversible<br>Affected Populations: Disproportionate<br>Risk: Low<br>Uncertainty: Moderate<br>Importance: High | <b>Overall Significance: Not significant</b><br><br>The Project is expected to have a negligible effect on the quantity of water entering Tilbury Slough. Even though the site will have slightly more paved or hard surfaces, the increase in runoff is extremely small, about 0.2% of change compared to all the water already flowing into the Tilbury Slough from surrounding industrial areas. Stormwater, contact water, and hydrostatic test water will all be treated and tested so they meet regulatory standards before entering the Delta storm sewer. When hydrostatic test water is released, the existing pump station and flood box at MacDonald Road will automatically adjust flows to keep water levels stable. Because of these controls and the very small change in runoff, no measurable change in water quantity in Tilbury Slough is expected |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

### 17.3.8 Cumulative Effects Assessment

The assessment of a designated project must consider cumulative effects that may result from Tilbury Phase 2 in combination with past, present, and reasonably foreseeable projects and activities. For the surface water VC, the following residual pathways were carried forward: changes in water quality and quantity in the Tilbury Slough. Reasonably foreseeable projects in the assessment areas include the Tilbury Marine Jetty (TMJ), the Fraser River Tunnel Project (FRT), and the Delta Grinding Facility (DGF).

Tilbury Phase 2's interactions with surface water are limited to treated stormwater, contact water, and a one-time hydrostatic test discharge of approximately 95,000 m<sup>3</sup>, all of which must meet municipal and provincial water quality requirements before entering the Delta storm sewer. These discharges flow into Tilbury Slough, a waterbody already marked by low dissolved oxygen, low pH, limited flushing, and frequent exceedances of aquatic life guidelines for metals, phosphorus, PAHs, VOCs, and chloride.

Considering the negligible magnitude of these residual effects, the existing degraded cumulative baseline of Tilbury Slough, and the mitigation controls applied across projects in the area, the EAO concludes that Tilbury Phase 2 is not predicted to cause adverse cumulative effects on surface water quality or on quantity.

### 17.3.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or cumulative effects on the surface water VC. This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; the proposed mitigation measures identified in the provincial Table of Conditions including the Conditions 12, 13 and 18.



## 17.4 Groundwater

### 17.4.1 Summary

A clean and abundant groundwater system supports ecosystems, including vegetation and wildlife habitat.

To assess groundwater conditions and potential effects of the Tilbury Phase 2 LNG Expansion Project (Tilbury Phase 2 or Project), FortisBC (Proponent) used desktop reviews, field studies, and expert input. Existing groundwater conditions within the Project area include Aquifer 42, a moderately productive aquifer. The area acts as a groundwater recharge zone, discharging into Tilbury Slough and the Fraser River.

Potential project effects on groundwater include contamination risks from surface infiltration and dewatering activities, and changes in groundwater recharge from a change in land cover type.

To mitigate these risks, FortisBC proposed measures such as capturing, testing, and offsite disposal (as applicable) for contact water and treating stormwater from parking lots using an oil water separator, implementing best management practices through a CEMP. The development and implementation of a CEMP is proposed by the EAO to be Condition 12 of the Certificate.

Key issues raised by reviewers included requests for clarification on groundwater flow, water quality monitoring, and contamination risks. FortisBC provided further data and clarifications.

After considering proposed mitigations, the EAO concluded there would be no significant residual effects on groundwater. No cumulative effects were identified, given the lack of interaction with other projects and adherence to existing regulatory requirements. Overall, the EAO is satisfied that the Project will not result in significant adverse residual or cumulative effects on groundwater.

### 17.4.2 Assessment Boundaries

The spatial boundaries for the groundwater assessment included:

- The Project Footprint, defined as the area directly disturbed by project activities;
- The Local Assessment Area (LAA) defined as the terrestrial footprint of the Project; and
- The Regional Assessment Area (RAA) defined as the mapped extent of the aquifer that is within the proposed Project footprint.

The temporal boundaries for groundwater include the Construction (3-6 years), Operation (40 years), and Decommissioning (2 years) phases of Tilbury Phase 2.

Project components and anticipated duration of activities are described in detail in [Section 1.2](#) (Project Description and Schedule) of this Report.

### 17.4.3 Existing Conditions by Proponent

Existing groundwater conditions, assessed in [Section 7.05](#) of the Revised Application, consider soil composition, Aquifer 42, and historical land use. The subsurface features a shallow sand and gravel layer with minor silt, clay, and organic material over native alluvial sediments, underlain by a silt and clay layer that coarsens with depth into silty sand and sand. These layers occur throughout the LAA, except in the northeast.

Aquifer 42 is located within the RAA and the Project Footprint. It spans ~143 square km (km<sup>2</sup>), has moderate productivity due to light demand, high vulnerability to surface contamination, and low well density (fewer than four wells/km<sup>2</sup>). It may support local drinking water supplies.

The western LAA was previously occupied by a sawmill (1974–2008). Following remediation, the area met the B.C. Contaminated Sites Regulation (CSR) standards of the time. However, due to updates to the CSR and changing standards, the contaminated soil will be excavated and disposed of offsite prior to Construction of the Project.

The Project area is considered a groundwater recharge area, and both the slough and the Fraser River receive groundwater discharge. See Figure 1 below.

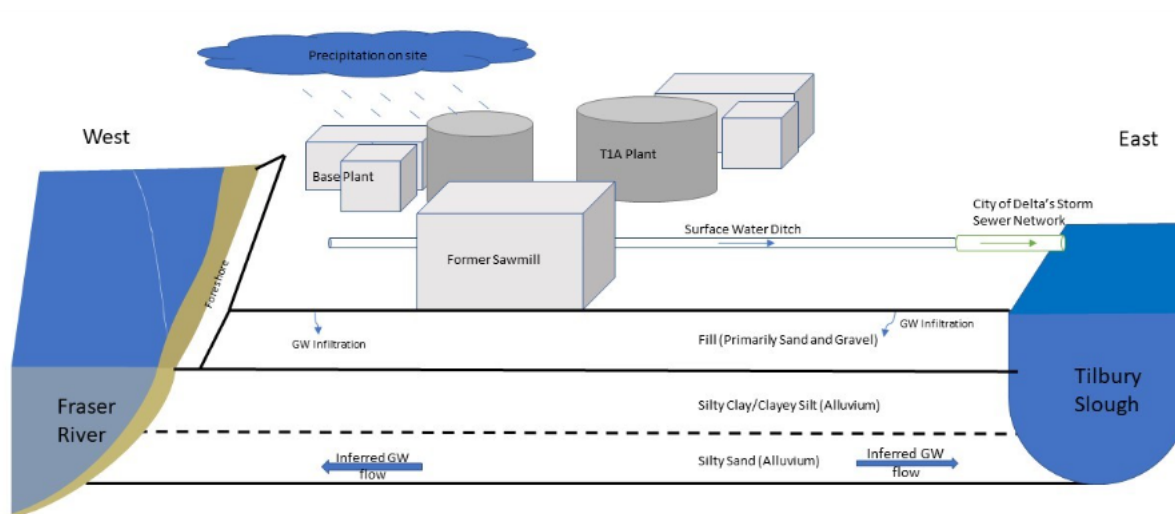


Figure 10: Conceptual Site Hydrogeological Model

#### 17.4.4 Potential Project Effects by Proponent

To assess groundwater conditions and potential effects, FortisBC used desktop reviews, field studies, and expert input. Two key site investigations looked at historical land use, potential contamination, geology, and water flow. The second investigation included drilling, sampling, and installing 11 monitoring wells. Data from nearby projects and the B.C. aquifer database supported the assessment. Groundwater levels were tracked over a year, and seasonal water quality sampling in 2022 and 2023 confirmed the presence of expected contaminants. All findings followed provincial environmental guidelines.

Potential project impacts on groundwater include:

- Changes to quality from contaminated surface water infiltrating into the ground during construction or operation, and from mobilization of existing contamination due to dewatering; and
- Changes to quantity could also be affected by change to land cover type, altering infiltration, and by temporary groundwater pumping during excavation, which may lower water levels nearby.

#### 17.4.5 Proposed Mitigation Measures by Proponent

The Proponent identified the following relevant mitigation measures to reduce potential effects on groundwater:

- Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be measured for field parameters prior to being released to the onsite drainage ditches that flow into Delta storm sewer;
- Design site to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer;
- Conduct testing and treatment of hydrostatic test water prior to discharge to Delta's storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP; and
- Incorporate best management practices into the CEMP to manage groundwater.

As part of the substituted process, the EAO has identified KMMs for effects within federal jurisdiction to inform IAAC's draft potential federal conditions. The KMMs related to groundwater VC are outlined in [Appendix 2](#).

#### 17.4.6 Key Issues Raised

Based on the Revised Application and input from the TAC, First Nations, and the public, no key issues were identified regarding the assessment of the groundwater VC for Tilbury Phase 2.

#### 17.4.7 The EAO's Characterization of Residual Effects

After considering the proposed mitigation measures and conditions proposed, the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that the Project would not result in residual effects on groundwater for the following reasons:

- The extent of the interactions between the Project and groundwater; and,
- The mitigation measures identified for implementation in the Revised Application.

#### 17.4.8 Cumulative Effects Assessment

The Revised Application and the EAO's assessment determined that the Project would not result in residual adverse effects to groundwater. As no residual effects were identified for the groundwater VC, a cumulative effects assessment was not warranted.

#### 17.4.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or significant cumulative effects on the groundwater VC. This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; the proposed mitigation measures identified in the provincial Table of Conditions, including Conditions 12 (CEMP), 13 (OEMP), and 17 (Dry Street Sweeping Report).

## 17.5 Soil

### 17.5.1 Summary

Healthy soils support healthy ecosystems including vegetation and wildlife. Terrain, including slopes and contouring, further influence an area's drainage, stability, vegetation, and use. The soil VC includes the subcomponents of terrain, soil quality, and soil quantity. The key indicators for assessment include terrain instability, changes to soil quality, and reduction in soil quantity.

FortisBC (Proponent) conducted desktop and field studies to characterize the existing site conditions. Located in the Fraser River delta, the Project Footprint is generally flat, and soils have been heavily disturbed by industrial uses. The entire Project Footprint is either covered with gravel (70%) or is otherwise occupied by structures, asphalt and concrete (30%) – little to no topsoil remains on-site.

FortisBC identified one area of existing arsenic-contaminated soil, and otherwise soil contaminants were not found on-site. The arsenic-contaminated area will be excavated and disposed of prior to Construction. The primarily river sediment-based soils (e.g. silt and sand) are not conducive to metal leaching and acid rock drainage. The risk of soil loss due to water or wind erosion is considered low.

Key issues raised by reviewers relate to on-site soil management to prevent drainage, erosion, and contamination impacts, including for stockpiles and imported soils. To address key issues, the EAO has proposed in Condition 12 the requirement that the Holder develop and implement a CEMP including measures to address erosion and sediment control measures, and soil management.

The EAO is satisfied that there are no residual or cumulative effects associated with the soil VC. Proposed mitigation measures and regulatory requirements adequately address/resolve key issues raised.

### 17.5.2 Assessment Boundaries

The spatial boundaries for the soil assessment included the Project Footprint, defined as the area directly disturbed by project activities, and a LAA and RAA defined below: Project Footprint

- Project footprint: the area directly disturbed by project activities;
- Local Assessment Area (LAA): the Project footprint, plus a 100 metres buffer around the Project footprint, with an additional 50- metres buffer around truck routes between Highway 17 and the Project footprint; and,
- Regional Assessment Area (RAA): the area of the LAA.

The temporal boundaries for Soil include the Construction (3-6 years), Operation (40+ years), and Decommissioning (2 years) phases of Tilbury Phase 2.

Project components and anticipated duration of activities are described in detail in [Section 1.2](#) (Project Description and Schedule) of this Report.

### 17.5.3 Existing Conditions by Proponent

The Proponent assessed baseline soil conditions in [Section 7.6](#) of the Revised Application, summarized here.

#### Context & Overview

The area's soil has been heavily disturbed by past agricultural and industrial use and is highly developed. Some undisturbed areas near the riparian zone and Tilbury Slough remain but lie outside the Project Footprint. Various activities, such as gas and utility developments, transportation, infrastructure, housing, natural resource development, farming, and recreational use, have contributed to past and ongoing changes in the soil and terrain.

These activities typically impact the land through grading, excavation, soil compaction, engineered slopes, and changes in land contours for drainage.

The 13-hectare Project Footprint, a rectangular area along the Fraser River, includes the Tilbury LNG facility to the east and a mostly vacant former sawmill to the west. Approximately 70 percent of the site is gravel-covered, with the remainder consisting of buildings, asphalt, and concrete.

Due to past disturbances, little natural topsoil remains. The northern riparian area, previously disturbed by a dock installation and removal, has little native soil left and is not within the Project Footprint.

#### Terrain

The Project Footprint in the Fraser Valley lowlands, is mostly flat at two to three metres above sea level. Terrain stability depends on rock and soil type, land shape, drainage, vegetation, and soil distribution. Sloped areas are more prone to erosion, but even flat ground can be affected by underlying bedrock. The site sits on the Kitsilano Formation, composed of sedimentary rock, sandstone, shale, lesser basalt flows, sills, and minor pyroclastics. The topsoil consists of Fraser River sediments, with silt clay loam over deep sand and silt layers. Borehole logs confirmed these layers and noted some organic material.

Earthquakes pose a risk, particularly soil liquefaction, where saturated soil loses strength. The site has a moderate to high liquefaction risk, especially in Fraser Delta sediments, but strong ground movement from subduction zone earthquakes may be a greater concern.

#### Soil Quality

Acid rock drainage (ARD) occurs when sulphur-bearing rocks react with air and water, producing acidic runoff that can release metals. While metal leaching can occur independently, the two often coincide. At the Project Footprint, bedrock is 200 metres deep, with no evidence of ARD or metal leaching. Soil pH (measure of acidity or alkalinity) tests showed neutral to alkaline conditions, and groundwater had low sulphur levels, indicating ARD is unlikely from excavation.

Arsenic was the only contaminant found above B.C. standards, located in the western LAA at a former sawmill site (1974–2008). This soil will be excavated and safely disposed of before Construction in accordance with Contaminated Sites Regulation (CSR) standards, including confirmatory sampling.

Most native soil has been disturbed or covered by gravel and pavement, limiting plant growth.

#### Soil Quantity

Wind erosion risk in the Project Footprint is unrated, but available mapping suggests a low overall risk of soil loss due to the combined effects from wind, water and tillage.

Water erosion risk depends on factors like soil texture, moisture, organic content, ground cover, slope, and rainfall. Moderate water erosion risk is usually linked to fine-textured soil on slopes steeper than 5% and given the Project Footprint is mostly flat, the risk of water erosion on site is considered low.

### 17.5.4 Potential Project Effects by Proponent

In the Revised Application, the Proponent identified the following potential effects during the Construction, Operation, and Decommissioning of Tilbury Phase 2:

#### Changes to Terrain

The terrain at the Project Footprint could be affected by activities like grading, excavation, backfilling, leveling and recontouring during Construction and Decommissioning. Changes could also result from vehicle and equipment traffic throughout the Project and from ground settling (subsidence) over time.

Terrain stability could be impacted by planning and engineering decisions, vegetation clearing and ground disturbance (such as clearing, grubbing, grading, excavation, backfilling, and cleanup) during construction and decommissioning, equipment and vehicle movement, Construction and Decommissioning (such as drilling and piling), ground stability issues during all Project phases, and natural hazards.

The Tilbury facility site has already been disturbed, so there is no undisturbed natural terrain left within the existing facility. Any terrain changes from the Project will be limited to the facility site and will not affect the surrounding landscape.

#### Changes to Soil Quality

Various Project activities could impact soil quality at the site. Erosion may reduce soil capability by admixing and loss of mineral soils, seed banks, and organic matter. Wind erosion occurs more likely in sandy soils, while water erosion affects clay-heavy soils with poor absorption. Vehicles could carry soil away from the site, potentially affecting nearby agricultural lands, although, the site's sandy fill makes this unlikely, and extra dust from the Project could blend with existing traffic dust.

Soil contamination could result from digging in contaminated areas or hazardous material spills, reducing soil quality. Finally, subsidence, or ground settling, may occur after grading, especially following heavy rainfall during Construction, Operation, and Decommissioning.

#### Reduction in Soil Quantity

Soil quantity may be impacted by wind and water erosion, resulting in reduced soil capability. However, given that there is no existing topsoil and that the site is dominantly paved or gravelled, additional disturbance is unlikely to reduce soil quantity and effects are considered negligible.

### 17.5.5 Proposed Mitigation Measures by Proponent

The Proponent identified the following relevant mitigation measures to reduce potential effects on soil:

- Establish a refuelling and spill response plan. The measures will be incorporated into the CEMP;
- Develop erosion and sediment control measures to manage surface water in consultation with Indigenous nations and a QP and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers; and
- Avoid or manage known areas of contaminated soil by implementing contingency measures outlined in the CEMP in the event that contaminated sediments are discovered during Construction.

### 17.5.6 Key Issues Raised

Based on a review of the Revised Application and with feedback from the TAC, participating Indigenous nations, the CAC, and the public, the following key issues related to the assessment of the Soil VC for Tilbury Phase 2 were identified.

#### 17.5.6.1 On-site soil management

The BCER, Richmond, xʷməθkʷəyám, and the IAAC provided comments related to on-site soil management practices to mitigate negative impacts associated with drainage, erosion, and contamination – including for stockpiles and soils brought to the site. The existing area of arsenic contaminated soil will be excavated and disposed of offsite prior to Construction, and no other areas of existing contamination were identified. TAC members identified the need to manage potential contaminants through methods such as monitoring and testing, covering stockpiles, and contingency measures.

If issued, the Certificate will include Condition 12 for a CEMP that must be approved prior to Construction. The CEMP will include measures to address soil management, including soil transportation, erosion and sediment control measures, and soil handling, spill prevention and response related to hydrocarbon storage and leaks or other accidental emissions from machinery or equipment.

Additionally, the Proponent must also comply with all requirements prescribed by the CSR and any permits associated with soil management. To verify that remediation has met the prescribed numerical or risk-based standards for soil and groundwater quality, the Proponent may obtain a Certificate of Compliance (COC) under the EMA, verifying that remediation has met the standards prescribed in the *Contaminated Sites Regulation*.

#### 17.5.6.2 End land use soil condition

In the Revised Application, the Proponent stated that the end land use, which is currently designated as industrial, does not warrant soil quantity or quality that supports vegetation. xʷməθkʷəyám and Quw'utsun Nation noted the cultural importance of the area, and that re-vegetation will be important for restoring traditional use.

The EAO notes that the Project requires an LNG Facility Permit; or an amendment to the current LNG Facility Permit held for the existing facility. The [Section 21](#) of the LNG Facility Regulation has requirements for site restoration after the closure of a facility, including requirements related to soil.

#### 17.5.7 The EAO's Characterization of Residual Effects

After considering the proposed mitigation measures and conditions proposed, the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that the Project would not result in residual effects on the soils VC for the following reasons:

- The Project does not pose significant changes to the terrain from current conditions;
- Soil samples detected an area of existing arsenic-contaminated soil. This contaminated soil will be removed and disposed of prior to Construction in a manner consistent with the Contaminated Sites Regulation. No other contaminated soils were found on-site;
- The Project is subject to requirements under the ERAA and its regulations associated with site and soil conditions after the closure of an LNG facility; specifically, the deactivation, decommissioning, and land reclamation phases are overseen by the BCER through its established permitting and closure processes, including the final issuance of a Certificate of Restoration; and
- If issued, the Certificate will require the Proponent to develop and implement a CEMP including soil handling and management associated with contamination, erosion, and drainage.

#### 17.5.8 Cumulative Effects Assessment

The Revised Application and the EAO's assessment determined that the Project would not result in residual adverse effects to terrain, soil quality, or soil quantity. As no residual effects were identified for the Soil VC, a cumulative effects assessment was not warranted.

#### 17.5.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or significant cumulative effects on the Soil VC. The extent of significance for federal effects are found in [Appendix 15](#). This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; and the proposed conditions identified in the provincial Table of Conditions including the Condition 12 (CEMP).



## 17.6 Vegetation

### 17.6.1 Summary

Vegetation was selected as a VC to support analyses of potential Tilbury Phase 2 LNG Expansion Project (Tilbury Phase 2 or Project) interactions with plant species and ecosystems and other VCs. The vegetation subcomponents assessed are plant species of interest, ecological communities of interest including wetlands, and riparian ecosystems.

Tilbury Phase 2 is located within a largely industrial and previously disturbed area; therefore, vegetation is already heavily impacted. Riparian zones along the Fraser River and Tilbury Slough have been degraded by infrastructure and industrial activities.

Key concerns raised by reviewers included the spread and management of invasive species and the potential impacts to culturally significant species.

Residual effects, including the introduction or spread of invasive plant species, may occur during all phases of the Project. While mitigation measures will be implemented to minimize these residual effects, invasive plant species could still spread within and around the Project footprint or be introduced to the Project site from external sources. This will be managed through regulatory requirements and Condition 12, the CEMP.

The residual effect of the introduction or spread of invasive species is expected to be not significant. The EAO concludes that the Project is expected to result in not significant cumulative effects to vegetation from interactions with other past, present, or reasonably foreseeable projects and activities.

### 17.6.2 Assessment Boundaries

The spatial boundaries used in the assessment of vegetation included:

- The Project Footprint – defined as the area directly disturbed by project activities;
- The Local Assessment Area (LAA) - defined as the Project site plus a 100 meters buffer around the site, which includes both aquatic habitat in the Fraser River, and terrestrial habitat on Tilbury Island. The LAA also includes 100 metres upstream and 200 metres downstream within the Tilbury Slough from the culvert outlet that drains stormwater from the Project site, located at the south end of the Project site; and
- The Regional Assessment Area (RAA) - defined as the LAA and a 1,000 metres buffer around the site, including aquatic and terrestrial habitats.

The temporal boundaries use in the assessment of vegetation include Construction (approximately 3-6 years); Operation (40+ years); and Decommissioning (approximately 2 years) phases.

Project components and anticipated duration of activities are described in detail in [Section 1.2](#) (Project Description and Schedule) of this Report.

### 17.6.3 Existing Conditions by Proponent

The existing conditions for vegetation were assessed by the Proponent in [Section 7.7.3](#) and [Appendix D \(Terrestrial Biophysical Technical Data Report\)](#) of the Revised Application and are summarized here.

The Project site is located within the Coastal Douglas-fir (CDF) biogeoclimatic zone and the Pacific Temperate Wetland Region. The Project site is located on Tilbury Island, in the Fraser River. Tilbury Island is largely an industrial area, and the Project is an expansion of an existing operational LNG facility and surrounded by other industrial activity. Tilbury Island and the Project site have been heavily disturbed by past and present industrial activities and are largely cleared of natural forest and vegetation.

### Plant species of interest

The Revised Application identified existing conditions for plant species of interest within the Project Footprint, Local and RAAs.

No species of interest were identified within the Project Footprint, which is comprised primarily of paved and gravel areas.

Species noted within LAAs and RAAs include a mix of invasive species and provincially listed species.

Invasive species include Himalayan blackberry (*Rubus armeniacus*), Japanese knotweed (*Reynoutria japonica*), and Scotch broom (*Cytisus scoparius*).

Provincial listed species at risk that had previously been documented include blue-listed: Henderson's checker-mallow (*Sidalcea hendersonii*) and Vancouver Island beggarticks (*Bidens amplissima*), but no recent observations were made during field surveys for this Project.

Critical habitat for federally listed plant species at risk was not reported within the LAAs and RAAs.

### Ecological communities of interest including wetland ecosystems

Wetlands provide habitat, hydrological, and water quality functions. Wetland ecosystems in the area include marshes, estuarine marshes, and swamps. Wetlands and riparian habitats are limited due to urbanization, industrial development, and agriculture in the area.

Wetlands make up about 4 percent of the LAA with 17 distinct wetlands located in the RAA. Five occur within the LAA, four of which are ecological communities of conservation concern.

The Tilbury Slough is a wetland area within the LAA. It includes open water and cattail marshes that are considered sensitive (Blue Listed) in B.C. Cattail is culturally important to First Nations who use it for weaving and medicine. The wetland has been reduced over time due to nearby industrial development and roads, which have also damaged the natural buffer (riparian area) and may affect how well the wetland filters water and stores runoff.

Despite these impacts, the wetland still supports habitat, water flow, and nutrient cycling functions. Open water with dense vegetation and diverse plant types likely helps with water purification. The wetland and riparian areas support wildlife, including birds, mammals, amphibians, and reptiles.

Some wetland ecosystems and ecological communities are present along the Fraser River shoreline. However, because FortisBC (the Proponent) removed barge deliveries and the proposed MOF from the Project, this area was excluded from the EAO's assessment in this section. See Section 7.7.3 of the Revised Application for more information.

### Riparian ecosystems

Riparian ecosystems support a wide range of species and are key areas for biodiversity. The Revised Application notes that riparian areas within the Project Footprint are fragmented and degraded due to past and ongoing industrial activity. These zones are mainly found along the Fraser River and Tilbury Slough within the LAA and overlap with wetlands discussed above.

Much of the riparian habitat has been altered by infrastructure, dikes, and urban development, with natural vegetation replaced by human-made surfaces. Riparian ecosystems make up approximately seven percent of the vegetation LAA and 6.5 percent of the RAA.

Riparian vegetation near the Project is sparse, consisting mostly of young forest and wetland-associated plants. Many areas are dominated by invasive species such as Himalayan blackberry and Japanese knotweed. Some riparian zones still support culturally important plants like red alder, salmonberry, and skunk cabbage, which are used by Indigenous communities for traditional practices.

#### 17.6.4 Potential Project Effects by Proponent

The activities associated with the Construction, Operation, and Decommissioning phases of Tilbury Phase 2 have the potential to interact directly and indirectly with the subcomponents of the vegetation VC, including plant species, ecological communities of interest, wetlands, and riparian ecosystems.

Table 58 below summarizes the five potential effects and effects pathways by project phase identified in the Revised Application. For a detailed breakdown of these anticipated effects, see [Section 7.7.4](#) of the Revised Application. Out of the potential effects identified after the application of mitigation measures, an adverse residual effect is predicted for introduction or spread of invasive plant species.

Table 54: Potential Effects, Indicators and Effect Pathways for Vegetation identified by the Proponent Revised Application

| Potential Effect                                     | Effect Indicator                                          | Project Phase                 | Potential Effects and Effect Pathways                                                                                                                     |
|------------------------------------------------------|-----------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Loss of plant species of conservation concern        | Number or known locations of affected plant species       | Construction, Decommissioning | Vegetation clearing and ground disturbance may damage or remove species of conservation concern.                                                          |
| Introduction or spread of invasive plant species     | Presence and distribution of invasive plant species       | All phases                    | Vegetation clearing, ground disturbance, and movement of materials can introduce or spread invasive species, including Noxious weeds.                     |
| Loss of culturally important traditional use species | Number or known locations of culturally important species | Construction, Operation       | Vegetation clearing and ground disturbance may reduce the number or locations of culturally significant plants.                                           |
| Alteration or loss of wetland ecological communities | Area (hectare) of affected wetland ecological communities | Construction, Operation       | Infrastructure placement and Construction activities can cause habitat loss or alteration in wetlands, impacting hydrologic and biogeochemical functions. |
| Alteration or loss of riparian ecosystems            | Area (hectare) of affected riparian ecosystems            | Construction, Operation       | Clearing, ground disturbance, and infrastructure placement may result in the alteration or permanent loss of riparian ecosystems.                         |

#### 17.6.5 Proposed Mitigation Measures by Proponent

Mitigation measures identified by the Proponent in their Revised Application were based on current regulations, professional judgment, engagement with First Nations and regulatory agencies, as well as lessons learned during Operation of the existing Tilbury LNG facility.

The mitigation measures identified by the Proponent in the Revised Application are:

- The development and implementation of soil-management and soil-handling practices that are effective at managing the introduction and spread of invasive noxious plant species, as required under provincial regulations and municipal bylaws. These measures will be incorporated into the CEMP, that will be developed by qualified professionals through engagement with regulators and Indigenous nations.

The mitigation measures are expected to avoid or reduce the potential effects of Construction and Operation activities on the vegetation VC.

### 17.6.6 Key Issues Raised

Based on a review of the Revised Application and with feedback from the TAC, participating Indigenous nations, and the public, the following key issues related to the assessment of the vegetation VC for Tilbury Phase 2 were identified: the spread and management of invasive species, and impacts to culturally important vegetation species.

#### 17.6.6.1 Invasive species

Quw'utsun Nation and xʷməθkʷəyám indicated concern about invasive species causing adverse impacts or displacement to cultural vegetation in the area. FortisBC stated that mitigation measures that manage the introduction and spread of invasive noxious plant species will be incorporated into the CEMP. BCER noted that FortisBC will be required to maintain invasive plant compliance record as part of the LNG Facility Regulation requirements and manage the site in accordance with [Section 15](#) of the ERAA. There are also requirements under the [Weed Control Act](#) and [Integrated Pest Management Act](#) regarding the safe use of pesticides.

FortisBC confirmed that the maintenance of existing landscaping and vegetation will be managed by the existing facility and not part of the scope of Tilbury Phase 2, yet it will be carried out for the duration of the Project in accordance with relevant noxious weed and invasive species regulations/guidelines. This maintenance would ensure that noxious weeds and invasive species are treated properly to maintain wetland health and growth of vegetation important to Indigenous nations.

Invasive species prevention and management are explicitly required under Mitigation Measure M-60 in Appendix A of the Revised Application. This measure requires the development and implementation of soil management and soil-handling practices to prevent the introduction and spread of invasive noxious plant species during both Construction and Operation, in accordance with provincial and municipal requirements. Implementation of this measure will be carried out through the CEMP and the OEMP, should a Certificate be issued. The Holder would be required to consult with First Nations on the CEMP prior to submitting it to the EAO for approval prior to Construction.

#### 17.6.6.2 Culturally important species

First Nations indicated concern regarding impact to or loss of culturally important species due to removal of vegetation both historically and for the Project, as well as the displacement of culturally important species by invasive species.

Quw'utsun Nation raised the issue of the loss of culturally important species due to historic land use change and development on Tilbury Island. Quw'utsun Nation also suggested the loss of culturally important plant species be compensated for. Ts'uubaa-asatx indicated that ongoing and cumulative effects on vegetation in an already disturbed environment would result in impacts to Ts'uubaa-asatx's rights, including to the health and availability of instream and riparian vegetation, and plant harvesting, and thus to Ts'uubaa-asatx's harvesting-based livelihoods.

FortisBC indicated that no vegetation clearing will occur for the development of Tilbury Phase 2, and the Project will not adversely affect or result in a loss of vegetation, including culturally important plants. The removal of the MOF from the Project will eliminate any potential effects to instream or riparian vegetation along the Fraser River. In FortisBC's view, there are no anticipated interactions with vegetation due to the Project.

EAO notes that Project Footprint must be restored following the cessation of Project Operation, in accordance with [Section 21](#) of the LNG Facility Regulation.

### 17.6.7 The EAO's Characterization of Residual Effects

After considering the proposed mitigation measures and conditions, the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that the Project would result in the following residual adverse effects on vegetation:

- Introduction or spread of invasive plant species that may occur during all phases of the Project.

The EAO's characterization of the expected residual effects of the Project on vegetation is summarized below in Table 55, as well as the EAO's level of confidence in the effects determination (including their likelihood and significance).

Table 55: Summary of Residual Effects for Vegetation

| Residual Effect                                                                                                                   | Assessment Rating*                                                                                                                                                                                                                                                                                         | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Introduction or spread of invasive plant species                                                                                  | Context (resilience): Low<br>Magnitude: Negligible to low<br>Extent: Limited or Local<br>Duration: Medium-term<br>Frequency: Infrequent<br>Reversibility: Reversible<br>Affected Populations: Disproportionate<br>Risk (likelihood and consequences): Moderate<br>Uncertainty: Low<br>Importance: Moderate | <p><b>Not significant</b></p> <p>Vegetation on Tilbury Island has been severely altered by long-standing industrial development, with native and traditional plant communities largely displaced and invasive species already established within the Project Footprint and LAA. These species are already spreading under current conditions, including at the existing Tilbury LNG facility, and must be managed under applicable requirements of the ERAA. Given the highly disturbed setting, vegetation resilience is low, and additional disturbance from the Project is unlikely to meaningfully change existing ecological conditions.</p> <p>The magnitude of the residual effect is expected to be mostly adjacent to existing disturbance and is of negligible to low magnitude.</p> <p>Effects are considered reversible by implementing noxious weed management.</p> <p>Effects on traditional use plants would be disproportionately experienced by First Nations.</p> <p>The introduction or spread of invasive plant species is limited to the vegetation LAA and is medium-term in duration, as effects are expected to be reversible, and the site is expected to be rehabilitated after Decommissioning.</p> <p>Because the mitigations are considered to be effective, there is a medium likelihood of the effect occurring, with moderate consequences due to its low magnitude. Therefore, the risk is rated as moderate.</p> <p>The introduction or spread of invasive species is of interest to First Nations and provincial, regional, and municipal groups.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

### 17.6.8 Cumulative Effects Assessment

The assessment of a designated project must consider any cumulative effects that are likely to result from the Project in combination with other physical activities that have been or will be carried out.

The following pathway was carried forward for cumulative effects assessment on vegetation, as detailed in [Section 7.7.5](#) of the Revised Application:

- Introduction or spread of invasive plant species.

Several factors contribute to cumulative impacts on vegetation:

- Projects like the Tilbury Phase 1 LNG Expansion and the Tilbury Marine Jetty (TMJ) project may increase the spread of invasive plant species;
- Natural hazards such as flooding can further exacerbate this issue; and
- Climate-related changes in temperature, Carbon Dioxide (CO<sub>2</sub>) levels, rainfall, drought, and sea level are altering vegetation patterns. These shifts favor invasive species, which are more resilient to heat and drought.

See [Table 7.7-9](#) of the Revised Application for a full accounting for all the projects and activities considered in the cumulative effects assessment.

Tilbury Phase 2 is situated within heavily disturbed industrial lands where invasive plant species are already widespread and expected to persist due to long-standing land use patterns and limited functional habitat (see [Section 17.6.3](#) Existing Conditions by Proponent). Ongoing and reasonably foreseeable activities in the area, together with climate-related changes that favour invasive species, contribute to continued regional pressures on vegetation communities. Given the Project's small footprint, limited disturbance, and implementation of mitigation measures, the residual invasive-species pathway is expected to be negligible to low in magnitude and confined to the footprint and immediate surroundings. As invasive plants are already established under current conditions, Tilbury Phase 2 is not anticipated to measurably alter cumulative vegetation conditions at the Local or Regional Assessment Area scale and is therefore not expected to result in an adverse cumulative effect on the Vegetation VC.

#### 17.6.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or cumulative effects on the vegetation VC. This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; and the mitigation measures identified in the provincial Table of Conditions including Condition 12 (CEMP).

## 17.7 Wildlife and Wildlife Habitat

### 17.7.1 Summary

Wildlife and wildlife habitat is important to the function of natural ecosystems, maintains biodiversity, and supports human activities such as traditional hunting. First Nations involved indicated the importance of a variety of wildlife species connected to their cultural practices, such as harvesting of wildlife.

Key issues related to the wildlife and wildlife habitat VC raised by reviewers include wildlife mortality risk reporting, effects to birds and bats including associated mitigation measures, mitigation effectiveness, and habitat enhancements.

If issued, the Certificate will include Condition 12 requiring the approval and implementation of a CEMP and Condition 13 for an OEMP. These plans include requirements to address concerns related to wildlife and habitat throughout the Tilbury Phase 2 LNG Expansion Project's lifecycle.

The EAO is satisfied that though there are negligible to low residual effects associated with the wildlife and wildlife habitat VC, there are no significant adverse residual effects. The EAO concludes cumulative effects to the wildlife and wildlife habitat VC from Tilbury' Phase 2's interactions with other past, present, or reasonably foreseeable projects and activities are not significant.

### 17.7.2 Assessment Boundaries

The spatial boundaries for the wildlife and wildlife habitat VC assessment include the following:

- Project Footprint – defined as the area directly disturbed by project activities;
- Local Assessment Area (LAA) - defined as the Tilbury Phase 2 Project Footprint plus a 300 metres buffer around the Tilbury Phase 2 Project Footprint; and
- Regional Assessment Area (RAA) - defined as the Tilbury Phase 2 Project Footprint plus a 500 metres buffer, extending along the Fraser River 300 metres upstream and 2 km downstream, with a 50 metres buffer from the high-water mark on both banks.

The temporal boundaries use in the assessment of the wildlife and wildlife habitat VC include Construction (3-6 years); Operation (40+ years); and Decommissioning (2 years) phases.

Project components and anticipated duration of activities are described in detail in [Section 1.2](#) (Project Description and Schedule) of this Report.

### 17.7.3 Existing Conditions by Proponent

Fortis BC (Proponent) assessed wildlife and wildlife habitat conditions in [Section 7.8](#) and [Appendix D \(Terrestrial Biophysical Technical Data Report\)](#) of the Revised Application, which includes a full list of species at risk in Section 3.1.2.3 of Appendix D.

Existing conditions were characterized through a desktop review, 2021 and 2022 field studies, Indigenous Knowledge and Traditional Use Knowledge, literature review, engagement, expert opinion, and data from previous studies in the area.

The Local and RAAs have a long history of Indigenous use for transportation, harvesting (for example, hunting, trapping, fishing).



### Habitat and Landscape:

The Project Footprint is characterized by very limited habitat value for wildlife due to its highly disturbed and industrialized condition; however, the Local and RAAs include portions of a broader ecologically important landscape associated with the Fraser River, where habitat value varies and includes riparian and estuarine areas that support wildlife, including migratory birds and species at risk.

Water quality in Tilbury Slough is poor, with low oxygen and pH levels, and elevated contaminants from surrounding runoff, which can negatively impact sensitive species such as amphibians. While some generalist species (e.g., mallards, Canada geese, beavers, and bats) utilize the area, habitat quality is suboptimal for sensitive or specialist species.

The Project Footprint lacks suitable foraging and nesting habitat for migratory and resident birds, as it is sited entirely within the existing Tilbury site (i.e. paved and gravelled surfaces). However, some bird species are known to utilize gravelled or otherwise disturbed areas, and anthropogenic structures, for nesting. For example, species such as killdeer and common nighthawk may nest on gravelled surfaces, and swallows (including barn swallow) may nest on built structures. Evidence of this use has been documented within the Project Footprint, including a cliff swallow nest colony previously identified under an existing dock structure. Outside the Project Footprint, there are small patches of shrub and young forest that could provide suitable foraging and nesting habitat but are fragmented and subject to disturbance.

### Wildlife Populations:

Wildlife populations in the area are predominately composed of mid-level predators (such as raccoons and skunks) and species at lower trophic levels (such as mice, rats, rabbits), with apex predators mainly consisting of birds of prey. Large native carnivores such as lynx, foxes, wolverines, wolves, and bears are no longer found in the area. Land mammals such as deer and beavers are still present and could be found in the LAA. Bird and amphibian populations within the LAA have a high abundance of invasive species, including green frog, European starlings, and house sparrows.

### Species at Risk:

To meet EA substitution requirements, the EAO has assessed the potential effects of Tilbury Phase 2 on wildlife species listed under SARA and/or the *Committee on the Status of Endangered Wildlife in Canada* (COSEWIC) as required under the IAA, which were also further assessed in Appendix 15. These species are listed in *Table 56* below. For a complete list of species assessed please see Section 3.1.2.3 in [Appendix D \(Wildlife and Wildlife Habitat Technical Data Report\)](#) of the Revised Application. While not all these species were identified during field surveys, it is likely they are either present in the RAA already, or that parts of the RAA represent appropriate ecosystems where these species could potentially occur.

Table 56: Wildlife Species Listed Under the SARA and/or the COSEWIC

| Species name                                                      | Species Group Assessed                          | Federal Species at Risk Status                 |
|-------------------------------------------------------------------|-------------------------------------------------|------------------------------------------------|
| Great blue heron, fannini ssp. ( <i>Ardea herodias fannini</i> )* | Birds (wading birds and shorebirds)             | Special Concern                                |
| Horned grebe ( <i>Podiceps auritus</i> )*                         | Birds (waterbirds)                              | Special Concern                                |
| Western grebe ( <i>Aechmophorus occidentalis</i> )*               | Birds (waterbirds)                              | Special Concern                                |
| Barn owl ( <i>Tyto alba</i> )                                     | Birds (species adapted to human infrastructure) | Threatened                                     |
| Barn swallow ( <i>Hirundo rustica</i> )*                          | Birds (species adapted to human infrastructure) | Threatened (SARA)<br>Special Concern (COSEWIC) |

| Species name                                                                       | Species Group Assessed                          | Federal Species at Risk Status                  |
|------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Peregrine falcon, <i>anatum</i> ssp. ( <i>Falco peregrinus anatum</i> )            | Birds (species adapted to human infrastructure) | Special Concern (SARA)<br>Not At Risk (COSEWIC) |
| Little brown myotis ( <i>Myotis lucifugus</i> )                                    | Mammals                                         | Endangered                                      |
| Pacific water shrew ( <i>Sorex bendiri</i> )                                       | Mammals                                         | Endangered                                      |
| Red-legged frog ( <i>Rana aurora</i> )                                             | Amphibians and reptiles                         | Special Concern                                 |
| Western painted turtle, Pacific Coast population ( <i>Chrysemys picta bellii</i> ) | Amphibians and reptiles                         | Threatened                                      |
| Western toad ( <i>Anaxyrus boreas</i> )                                            | Amphibians and reptiles                         | Special Concern                                 |

Migratory birds, protected under the Migratory Birds Convention Act (1994), have been identified with an asterisk in this table and further assessed in [Appendix 15](#) of this Report as a requirement under the IAA. The proponent did not assess migratory birds separately, grouping them according to the bird community categories listed in this table.

#### 17.7.4 Potential Project Effects by Proponent

The Proponent has evaluated the potential effects of the Construction, Operation, and Decommissioning activities of Tilbury Phase 2 that may directly or indirectly interact with the wildlife and wildlife habitat VC in [Section 7.8.4](#) of the Revised Application.

Three potential effects were identified in the Revised Application:

##### 17.7.4.1 Loss or Alteration of Wildlife Habitat:

Construction, Operation, and Decommissioning of the Project will create noise, vibration, and artificial light. These disturbances may make nearby habitat less suitable for wildlife, especially sensitive species or those at risk. For example, birds might avoid nesting or feeding near loud or brightly lit areas, and bats could have trouble finding food if noise interferes with how they hunt insects. Some animals might adjust to these conditions, and in some cases certain species may utilize lit areas where prey is concentrated; however, artificial light can also disrupt predator-prey relationships, alter behaviour, and lead to avoidance by light sensitive species, including bats.

These effects are temporary during Construction and Decommissioning but could continue to some degree during Operation. However, because the Project is in an already industrialized area, increase in lighting and noise levels compared to existing conditions are expected to be negligible to low magnitude. Still, the disturbances could affect how often some wildlife, including culturally important species like ducks, geese, and eagles, use nearby habitat.

While the habitat is planned to stay physically intact, the added disturbance from the Project could reduce how effective it is for wildlife—at least during certain times of year like nesting or migration for birds.

##### Changes to Wildlife Movement

Tilbury Phase 2 is not expected to affect wildlife movement. The existing fenced facility already restricts animal access, and the Project avoids major disturbances through the removal of the MOF, barging and any related activities such as dredging;

##### 17.7.4.2 Increased Wildlife Health and Mortality Risk

The Project may increase wildlife health risks and mortality due to land-based activities during Construction, Operation, and Decommissioning. Potential sources of increased risk include:

- **Vehicle Collisions & Human-Wildlife Conflict:** Increased traffic during Construction may slightly elevate collision risk, particularly for barn owls that forage along roads. There is no predicted interaction with wildlife mortality risk from vehicle collisions during Operation of the project, as traffic levels are anticipated to be the same as the existing levels. Odour from waste may attract urban wildlife like coyotes or raccoons, increasing human-wildlife encounters and mortality risk;
- **Habitat Disturbance:** Disturbance of occupied habitat features during construction site preparation activities has the potential to cause accidental mortality to wildlife. However, with the removal of the MOF and no barging of construction materials, no physical habitat disturbance is predicted;
- **Sensory Disturbance:** Project-related noise, lighting, and activity may disturb nesting birds and increase mortality risk. However, given the industrial setting, most wildlife in the area is already habituated. Lighting may also increase bird collision risk, particularly during migration. Noise can negatively affect bats and their foraging abilities and navigation of an industrial setting;
- **Flaring:** Use of a TEGF (low-noise, totally enclosed ground flare) is expected to minimize risks, though heat plumes and low-visibility conditions could still pose a limited collision or injury risk to birds;
- **Deleterious Substances:** With the removal of the MOF and no instream works, there is no potential for remobilizing legacy contaminants or sedimentation in the Fraser River Historical soil contamination within the existing Tilbury site won't be disturbed; any within the Project Footprint will be contained and removed before construction. Runoff is diluted before reaching Tilbury Slough, and any sediment mobilization would be negligible. No water quality or wildlife impacts are expected. The Project's normal operation is not expected to have a significant effect on air quality, plants or animals. Dust from construction might affect air quality nearby but will be controlled and is predicted to cause minimal impact; and
- **Pest Control:** Rodenticides may harm raptors (e.g., barn owls) through secondary poisoning.

#### 17.7.5 Proposed Mitigation Measures by Proponent

The Proponent included a list of all proposed mitigation measures for the wildlife and wildlife habitat VC in [Table 7.8-6](#) of the Revised Application.

The Proponent identified the following relevant mitigation measures to reduce potential effects on the wildlife and wildlife habitat VC:

- Complete wildlife surveys prior to construction to identify habitat features that warrant site-specific mitigation measures to reduce potential project effects to wildlife and wildlife habitat. Where practical, plan Construction activities within wildlife habitat or buffers of identified wildlife habitat features during the least-risk timing windows for applicable species;
- For any work within the buffer zone during a sensitive timing window, consult with Indigenous nations and a wildlife QP and the appropriate regulatory agencies to determine whether additional feature-specific mitigation is required to be incorporated into the CEMP;
- Develop and implement soil-management and soil-handling practices that are effective at managing the introduction and spread of invasive noxious plant species, as required under provincial regulations and municipal bylaws. These measures will be incorporated into the CEMP;
- Lighting for the project will be designed in a manner that is consistent with the BCER's Light Control Best Practices Guideline;

- Develop mitigation and contingency measures in consultation with Indigenous nations and a QP to reduce the potential for adverse interactions with wildlife and wildlife habitat (such as human wildlife conflict, vehicle collisions, and sensory disturbance) and incorporate these measures into the CEMP;
- During Construction and Operation of the Project, develop mitigation and contingency measures through engagement with a QP to manage acoustic disturbance to human and wildlife receptors, and incorporate these measures into the CEMP and OEMP;
- Establish a refuelling and spill response plan, which will be incorporated into the CEMP;
- Develop dust-control measures to be described in the CEMP to limit particulate matter emission during the construction phase;
- If rodent population control is needed at the Project site, employ best practices to manage rodent populations onsite during Construction and Operation and these measures will be included in the CEMP; and
- Monitor and report wildlife incidents associated with transportation (i.e. vehicle strikes) within the project Footprint.

As part of the substituted process, the EAO has identified KMMs for effects within federal jurisdiction to inform IAAC's draft potential federal conditions. The KMMs related to wildlife and wildlife habitat VC as it relates to migratory birds, species at risk, or species of cultural importance under the IAA are outlined in [Appendix 2](#).

### 17.7.6 Key Issues Raised

Based on a review of the Revised Application and with feedback from the TAC, participating Indigenous nations, the CAC, and the public, the following key issues related to the assessment of the wildlife and wildlife habitat VC for Tilbury Phase 2 were identified.

#### 17.7.6.1 Migratory Birds, Bats, and Mitigation Measures

Cheam First Nation, x̱m̱əθḵ'əyám, Quw'utsun Nation, and ECCC provided comments relating to birds, bats, and potential mitigation measures.

Cheam raised concerns about migratory waterbirds and the Boundary Bay-Roberts Bank-Sturgeon Bank Important Bird Area (IBA). The IBA habitat supports species that are traditionally hunted, such as ducks and geese that are of cultural importance, and raised concerns that localized impacts could reduce bird populations further up the Fraser River. Quw'utsun Nation, and other reviewers, indicated that additional detail on how bald eagle nest monitoring would take place and if a qualified environment professional would conduct the monitoring, and how the effectiveness of the proposed mitigation measures applicable to the wildlife and wildlife habitat VC would be determined.

FortisBC stated that, with the implementation of proposed mitigation, no adverse residual effects are expected on waterbirds as the Project is occurring in an existing brownfield site with limited vegetation and generally low-quality wildlife habitat, although some anthropogenic structures may be used by certain species (birds and bats) for nesting or roosting. No clearing of vegetation will occur for the Project, and no work will occur in or directly adjacent to the Fraser River, where the IBA overlaps the wildlife and wildlife habitat LAA.

FortisBC also stated that species-specific mitigation measures will be developed by a QP as part of the CEMP and OEMP, which will consider the applicability and effectiveness of least risk timing windows for applicable species. A QP will provide expert advice regarding protective buffers that are needed for specific species of birds and their nests, including bald eagles.

Where appropriate and practical, protective buffers may be applied, depending on factors including the wildlife species and habitat feature, degree of tolerance of the species, life stage of the wildlife species, surrounding conditions and landscape context, timing (such as overlap with peak activity period within a sensitive timing window), and the potential for planned construction activities to cause disturbance. FortisBC noted that the evaluation of implemented mitigation measure success, such as through post-construction monitoring, will be considered in the development of the CEMP and OEMP.

x̣ṃəθḳəỵəm and ECCC proposed specific mitigation and enhancement measures to reduce potential effects of artificial lighting on birds and bats. For instance, mitigation measures could include the use of specific lighting types (strobe, LED), consider the direction and intensity of lighting (automatic sensor lighting and down shielding) and the periods of its usage (avoiding wildlife sensitive periods).

FortisBC stated that species-specific mitigation measures to reduce potential effect to bats and migratory birds from artificial lighting will be developed as part of the CEMP, as recommended by a QP.

If issued, the EAO proposes that the Certificate should include Conditions 12 (CEMP) and 13 (OEMP) that would require a Holder to outline how the mitigation measures applicable to wildlife would be implemented during Construction and Operation. The consultation will be required with First Nations and agencies on the development of the CEMP and OEMP prior to approval. Both plans would also be required, under the proposed Condition 3 (Document Development), to outline how adaptive management will be implemented, and how the effectiveness of any mitigation measures will be evaluated including the schedule(s) for evaluating effectiveness.

#### 17.7.6.2 Wildlife Mortality Reporting

Tsawwassen First Nation (TFN) and the Ministry of Transportation and Transit (TRAN) provided comments related to wildlife mortality reporting. TFN recommended that wildlife mortality monitoring should occur during Operation, while TRAN recommended reporting associated with vehicle strikes during Construction.

FortisBC stated that detailed mitigation and monitoring plans will be developed through the CEMP and OEMP, in consultation with regulators and Indigenous nations.

The EAO noted that wildlife incidents must be reported under Section 75 of the *Wildlife Act*. To support holistic monitoring of the Project, the EAO has proposed EAC Conditions 12 (CEMP) and 13 (OEMP) which would require wildlife mortality reporting during Construction and Operation.

#### 17.7.6.3 Habitat Enhancements

Snuneymuxw First Nation asked how the Project could support and improve surrounding habitat areas, such as riparian zones, habitat corridors, parks, and conservation areas (e.g., Fraser River riparian habitat, Tilbury Slough riparian habitat, Burns Body Ecological Conservancy Area, and Deas Island Regional Park). Snuneymuxw First Nation raised that enhancement measures for wildlife habitat could mitigate potential impacts to Snuneymuxw's rights to hunt and harvest species.

FortisBC noted that no anticipated habitat clearing or riparian impacts due the current project design and committed to exploring native vegetation planting and voluntary water quality measures in collaboration with Snuneymuxw.

### 17.7.7 The EAO's Characterization of Residual Effects

After considering the proposed mitigation measures and conditions proposed, the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that the Project would result in the following residual adverse effects on the wildlife and wildlife habitat VC:

- Loss or alteration of wildlife habitat; and

- Increased wildlife health and mortality risk.

The EAO's characterization of the expected residual effects of the Project on wildlife and wildlife habitat is summarized below, as well as the EAO's level of confidence in the effects determination (including their likelihood and significance).

Table 57: Summary of Residual Effects for Wildlife and Wildlife Habitat VC

| Residual Effect                              | Assessment Rating*                                                                                                                                                                                                                                                              | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Loss or Alteration of Wildlife Habitat       | Context (resilience): Low<br>Magnitude: Negligible to Low<br>Extent: Local<br>Duration: Medium-term<br>Frequency: Continuous<br>Reversibility: Fully reversible<br>Affected Populations: N/A<br>Risk (likelihood and consequences): Low<br>Uncertainty: Low<br>Importance: High | <p><b>Not significant</b></p> <p>The receiving environment is already stressed from industrial development and fragmentation, which suggests lower resilience to further habitat loss or alteration, especially for species at risk. This supports a rating of low resilience. While some species may be adapted to the existing disturbance, the degraded state of the habitat overall and the presence of vulnerable species suggest that the environment would not easily adapt to additional stresses.</p> <p>The Project Footprint contains little natural wildlife habitat, as it lies entirely within an existing fenced industrial site. While the site does not provide high-quality or diverse habitat, it may be used opportunistically by some wildlife (particularly birds) for activities such as overflight, perching, resting, or short-term use of existing or Project-related infrastructure. In addition, wildlife habitat immediately adjacent to the Project Footprint, including shoreline or industrial-edge areas, may be exposed to Project-related noise, light, vibration, and human activity during Construction, Operation, and Decommissioning. Effects are expected to be negligible for most wildlife species, given the limited number and nature of interactions expected with the implementation of wildlife specific mitigation measures, with a low rating applied to species at risk due to their lower resilience and recovery status'. This reflects the Project's minor contribution to potential effects on wildlife and wildlife habitat and the expected effectiveness of mitigation measures.</p> <p>Since potential residual effects to wildlife habitat are limited to the LAA, the extent is rated as local.</p> <p>Duration is expected to be medium-term as the residual effect will be felt during all the project phases until Decommissioning of the Project.</p> <p>The residual effect frequency will be continuous.</p> <p>Effects are considered reversible because the habitat is expected to recover to its pre-project state after the project is decommissioned and the infrastructure is removed.</p> <p>Following mitigation measures, there is a medium likelihood of effects occurring, and a low level of consequence given there is limited habitat and low magnitude, therefore overall risk is rated as low.</p> <p>Uncertainty is low, as the effect characterization is based on good understanding of cause effect relationships, the known effectiveness of mitigation measures, and data pertinent to the Project area.</p> <p>Loss or alteration of wildlife habitat is a key concern for Indigenous nations and government agencies, so its importance is rated as high.</p> |
| Increased wildlife health and mortality risk | Context (resilience): Low<br>Magnitude: Negligible to Low<br>Extent: Local<br>Duration: medium-term                                                                                                                                                                             | <p><b>Not significant</b></p> <p>The existing industrial setting suggests some wildlife habituation, but ongoing stress and the presence of vulnerable species reduce the species and area's ability to absorb further impacts. A low resilience rating reflects this limited capacity to adapt to increased health and mortality risks.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



| Residual Effect                                                                                                                   | Assessment Rating*                                                                                                                                                | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   | Frequency: Irregular<br>Reversibility: Reversible<br>Affected Populations: N/A<br>Risk (likelihood and consequences): Low<br>Uncertainty: Low<br>Importance: High | <p>Given the project's scope and planned mitigation, residual effects are expected to be negligible for most wildlife. However, due to the lower resilience of species at risk (e.g. barn owl and Little Brown Myotis), a precautionary low magnitude rating is applied to reflect their increased vulnerability.</p> <p>Residual effects are limited to the LAA.</p> <p>As effects end after Decommissioning, the duration of residual effects is considered medium-term.</p> <p>Effects on wildlife health and mortality risk occur year-round but may increase seasonally (e.g. during bird nesting or amphibian breeding), so frequency is rated as irregular.</p> <p>Effects are considered reversible because the habitat is expected to recover to its pre-project state after the project is decommissioned.</p> <p>The likelihood of the effect is medium, but with minor consequences due to its low magnitude and local extent, the overall risk is rated as low.</p> <p>Uncertainty is low as the effect characterization is based on good understanding of cause-effect relationships and data pertinent to the Project area.</p> <p>Increased wildlife health and mortality risk has been a consistent priority raised by Indigenous nations and government agencies during engagement, so importance is rated as high.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

### 17.7.8 Cumulative Effects Assessment

The assessment of a designated project must take into account any cumulative effects that are likely to result from the Project in combination with other known, past, present or reasonably foreseeable physical activities that have been or will be carried out.

There are four reasonably foreseeable projects and activities that have the potential to act cumulatively with Tilbury Phase 2, as described in [Section 7.8.5](#) of the Revised Application. These include Tilbury Phase 1 LNG Expansion Project, Tilbury Marine Jetty Project, natural hazards (e.g. flooding), and climate change.

The key cumulative effects assessment results are summarized in [Table 7.8-9](#) of the Revised Application, with two residual effects carried forward to the assessment:

- Loss or alteration of wildlife habitat; and,
- Risk to wildlife health and mortality.

The wildlife and wildlife habitat RAA is subject to extensive cumulative effects from past and ongoing industrial and urban development, including habitat loss and degradation and ongoing pressures on wildlife health and mortality (See Section 1.1.3 Existing Conditions). These conditions are expected to continue under current and reasonably foreseeable land use patterns. Tilbury Phase 2 is located within the existing Tilbury LNG facility, a long-established and already disturbed brownfield site with limited wildlife habitat value. After mitigation measures and conditions are applied, Tilbury Phase 2's incremental contribution to cumulative effects on wildlife and wildlife habitat is characterized as negligible for non-listed species and low for species at risk for both habitat loss/alteration and health/mortality risk.

Accordingly, Tilbury Phase 2 is not anticipated to measurably alter cumulative wildlife or wildlife habitat conditions at the RAA scale and is not expected to result in an adverse cumulative effect on the wildlife and wildlife habitat VC when considered in combination with past, present, and reasonably foreseeable future projects and activities.



### 17.7.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or significant cumulative effects on the wildlife and wildlife habitat VC. The extent of significance for federal effects to migratory birds are found in [Appendix 15](#). This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; the proposed Mitigation Measures identified in the provincial Table of Conditions including, Conditions 12 (CEMP), 13 (OEMP) and 3 (Document Development), and identified and where appropriate recommended federal Key Mitigation Measures and Follow-up Programs for the wildlife and wildlife habitat VC as it may pertain to migratory birds, species at risk, and Indigenous use of traditional lands and resources under the IAA ([Appendix 2](#)).

## 17.8 Fish and Fish Habitat

### 17.8.1 Summary

The fish and fish habitat VC was selected and assessed due to the potential for the Tilbury Phase 2 LNG Expansion Project (Tilbury Phase 2 or Project) to adversely affect fish and fish habitat, including changes in habitat, fish movement, and mortality risk. Fish and fish habitat are integral to functioning aquatic and terrestrial ecosystems, and provide economic, sustenance, and cultural value and the exercising of Section 35 rights, especially for Indigenous fisheries.

The key issues raised by reviewers related to fish and fish habitat are the potential water quality effects on the Tilbury Slough and concerns related to 6-PPDQ from increased truck traffic and potential effects on fish.

Because of issues raised, the EAO has proposed Condition 12 (CEMP) and Condition 13 (OEMP) that would require the implementation of erosion and sediment control measures, measures to address spill prevention and response related to hydrocarbon storage and leaks or other accidental emissions from machinery or equipment, and measures to address surface water quality and quantity including testing requirements for discharge into the City of Delta's stormwater system. The EAO also proposed as part of Condition 12 (CEMP) will also include requirements for an LNG Storage Tank Hydrostatic Testing Plan during Construction, and as part of Condition 17 the submission of a report on the effectiveness of Dry Street Sweeping as a mitigation measure related to 6-PPDQ.

The EAO concluded that there would be negligible magnitude effects related to the fish and fish habitat VC due to the removal of all in water works from the scope of the Project's assessment, and that no water releases from the Project into the environment are expected to exceed thresholds that would cause harm to fish or fish habitat. Therefore, the EAO concludes that after a review of the proposed mitigation measures and conditions there is a negligible magnitude effect and no significant cumulative effects to fish and fish habitat that is expected to result from the Project interacting with the effects of other past, present and reasonably foreseeable future projects and activities.

### 17.8.2 Assessment Boundaries

The spatial boundaries for the fish and fish habitat assessment included:

- Project Footprint – defined as the area directly disturbed by project activities;
- Local Assessment Area (LAA) for fish - defined as the lower Fraser River for 1,000 meters upstream and downstream of the Project's Footprint;
- Local Assessment Area (LAA) for fish habitat - defined as the lower Fraser River for 100 metres upstream and 200 metres downstream of the Tilbury Phase 2 Project Footprint. The fish habitat LAA also includes the Tilbury Slough for 100 metres upstream and 200 metres downstream of Delta stormwater outlets that drain stormwater from the Project's Footprint and adjacent properties;
- Regional Assessment Area (RAA) for fish and fish habitat includes the lower Fraser River for 2,000 metres upstream and downstream of the Project's Footprint and adjacent properties.

The temporal boundaries for fish and fish habitat include the Construction (3-6 years), Operation (40+ years), and Decommissioning (2 years) phases of Tilbury Phase 2.

Project components and anticipated duration of activities are described in detail in [Section 1.2](#) (Project Description and Schedule) of the Assessment Report.

### 17.8.3 Existing Conditions by Proponent

The Proponent assessed fish and fish habitat conditions in [Section 7.9](#) of the Revised Application, which includes an assessment of existing conditions for the fish and fish habitat VC and in [Appendix E Aquatic Biophysical Technical Data Report](#).

The existing conditions at the Project Footprint, located within the Tilbury LNG facility, are characterized by a heavily industrialized area that does not include fish habitat. The site is a long-standing brownfield consisting of about 70 percent gravel and the remaining area being the existing infrastructure, and equipment laydown areas. The suitability of fish habitat in the Fraser River is described as a tidally influenced ecological transition zone, highly biodiverse, and subject to saltwater wedge intrusion.<sup>1</sup> Fish habitat in the lower reach of Tilbury Slough below MacDonald Road has potential to support a wide range of fish species. Although a tidal gate at MacDonald Road restricts fish access to upstream sections of the slough, some non-anadromous species are known to inhabit these waters

The lower Fraser River has been subject to anthropogenic activity since settlers arrived, with modifications such as dike and jetty construction, dredging, and water diversions occurring since the 1900's. Dike construction along the Fraser River has occurred over decades with varying standards in response to flood events. Until 1985, a dike extended along the Fraser River, protecting the entire reach of the Tilbury Slough. In 1985, the diking area was partly reclaimed by breaking a portion of the dike and excavating a tidal channel system to improve tidal flushing up to MacDonald Road.

Shallow waters around Tilbury Island were previously used by Indigenous people to harvest eulachon as these waters provide excellent spawning habitat for eulachon. White Sturgeon has been identified as a fish species with ecological importance because they are vulnerable to habitat disturbances. A traditional and integral fishing site was located on the Fraser River beside Tilbury Island opposite the historic Indigenous village site where Indigenous people would spear sturgeon and conduct drift- and set-netting along the shoreline for salmon. Salmon are of particular importance to Indigenous Nations in the Fraser River region, serving as a key source of sustenance, cultural practice, and knowledge transmission, and are closely tied to social, ceremonial, and governance systems. As such, access to and the health of salmon populations are central to maintaining cultural continuity and relationships with the river.

A desktop review of literature, environmental data, government studies, and technical reports was completed to identify fish presence, sensitive habitats, local biodiversity, and species at risk. Field studies, in 2021, surveyed riparian and intertidal fish habitat along the Fraser River foreshore and assessed Tilbury Slough, including 100 metres upstream and 200 metres downstream of the Delta stormwater outlet that are within the vicinity of the Project Footprint.

#### The Lower Fraser River:

The lower Fraser River is a tidally influenced, ecologically diverse, transition zone with saltwater intrusion. The lower Fraser River provides habitat for various fish species, which includes intertidal marsh, mudflats, and riparian vegetation that are important for fish rearing and foraging. The mainstem channel of the lower Fraser River serves as migratory habitat for Pacific salmon, while nearshore areas provide rearing habitat for salmonids. Juvenile white sturgeon are believed to use habitat in the lower Fraser River and Tilbury Slough adjacent to the Project Footprint; however, shallow water conditions and elevated salinity levels during periods of low flow may reduce its suitability. Adult white sturgeon are also known to inhabit this reach of the Fraser River, typically utilizing deeper nearshore habitats associated with higher flow conditions. The shallow waters around Tilbury Island provide spawning habitat and harvesting potential for eulachon, however there are limitations within the lower Fraser River including brackish conditions, sediment deposition, and a lack of small gravels.

Sediment quality in the lower Fraser River is influenced by local scour and deposition, with some guideline exceedances for metals within the range measured in the lower Fraser River south arm. Existing ambient underwater noise levels are influenced by shipping traffic and machinery in the lower Fraser River. The Project Footprint is adjacent to the Seaspan Ferry terminal, which has frequent vessel movements. Fish species found in the lower Fraser River are:

- Pacific salmon species
- White sturgeon
- Eulachon
- Estuarine/brackish species
- Freshwater resident species
- Benthic invertebrates
- Seals and sea lions may also occur within the LAA.

#### The Tilbury Slough:

Tilbury Slough provides limited fish habitat suitability due to a combination of physical barriers and degraded water quality. The upstream and downstream tidal flood gates restrict tidal exchange with the lower Fraser River, resulting in stagnant water conditions when closed; additionally, the railway crossing on the eastern side of the Island further constrains hydrological connectivity by limiting water movement from the upstream gate. The tidal gate at MacDonald Road does not allow fish passage, effectively isolating upstream habitat from migratory species such as Pacific salmon. Habitat upstream of the gate is characterized by low flows, abundant instream vegetation, and marginal water quality, which limits suitability to species tolerant of low dissolved oxygen, elevated temperatures, and variable conditions (such as, threespine stickleback and brassy minnow). The lower reach of Tilbury Slough below the tidal gate benefits from tidal exchange and supports more productive fish habitat, including rearing areas for several salmonid species. Water from the isolated upper section of the Tilbury Slough, which may be of lower quality, is periodically discharged into the lower reach, influencing habitat conditions.

Baseline water quality monitoring conducted in 2021 and 2023 revealed seasonal stressors that further constrain habitat suitability upstream of the tidal gate. Dissolved oxygen levels were found to be variable and reached stressfully low levels throughout much of the year, while water temperatures exceeded thresholds for salmonid health during summer months. Salinity remained freshwater upstream but became brackish near and downstream of the gate during high tides. Elevated concentrations of metals (including iron, aluminum, copper, and zinc) were detected. Iron levels exceeded provincial guidelines by up to two orders of magnitude, posing risks to fish health. High phosphorus levels likely contributed to eutrophication and algal growth. Turbidity was also elevated and variable, influenced by sediment-rich conditions and runoff from adjacent industrial areas (see Figure 11).

First Nations expressed the potential of Tilbury Slough as habitat for juvenile chum and Chinook salmon, culturally significant species, especially under current restoration efforts to restore connectivity between fish spawning and rearing habitat. For example, TWN highlights that the Tilbury Slough has been identified as a high-priority site for restoration under the Resilient Waters Program, aimed at restoring the connection between fish spawning and rearing habitat. The fish and fish habitat Local and RAAs do not overlap with any known occurrences of Critical Habitat for federally-listed fish species at risk or provincially defined fisheries sensitive watersheds. Brassy minnow occur in Tilbury Slough within the LAA, and are a species listed as Special Concern by the COSEWIC and in consideration for listing under SARA.



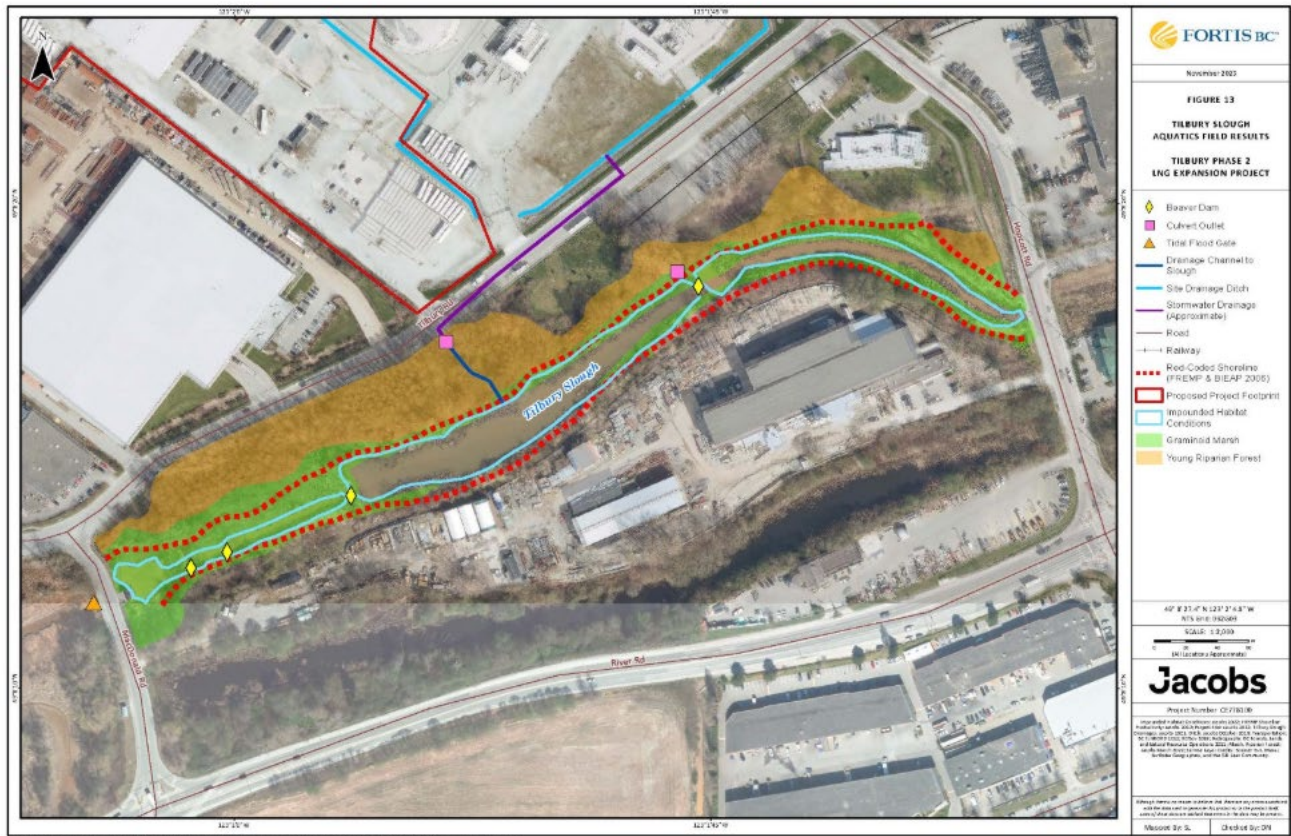


Figure 11: Map of Tilbury Slough



Figure 12: Image of Tilbury Slough

#### 17.8.4 Potential Project Effects by Proponent

The Proponent assessed potential effects on fish and fish habitat, including marine mammals (as defined under the *Fisheries Act*), focusing on changes to habitat, movement, and mortality risk from direct and indirect pathways during construction, operation, and decommissioning.

Potential effects considered by the Proponent include changes to the following:

- **Fish Habitat Availability:** refers to the available habitat that can support fish species in the LAAs and RAAs of the Project's Footprint. FortisBC stated in the Revised Application that there is no projected project activities or interaction with fish habitat availability. This is mainly due to the removal of all in-water works and construction of the MOF, which was in response from First Nations who stated concerns with the delivery of modular components and bulk construction materials being delivered to the Project Footprint during construction and the potential impacts to the lower Fraser River from in-water works, fishing practices, accidents and malfunctions, or effects to species of cultural importance.
- **Fish Habitat Quality:** refers to the measurable environmental parameters that determine the suitability and health of aquatic environments for fish and other aquatic species. During operation, the Project's air emissions may contribute to acid rain and nitrogen deposition in the lower Fraser River. Emissions such as nitrogen dioxide (NO<sub>2</sub>), carbon monoxide, sulphur dioxide, and fine particulate matter can increase nitrogen inputs to the aquatic environment, potentially leading to eutrophication and degraded water quality. The Project is not expected to cause exceedances of air quality standards (during steady state Operation conditions) and is anticipated to have a negligible effect on air quality compared to existing conditions. Artificial lighting during nighttime Construction and Operation is expected to have a limited and incremental effect on fish habitat quality due to its localized nature, the high turbidity of the Fraser River, and the presence of light sources from adjacent industrial activities. Underwater noise generated during Construction and Operation is not expected to exceed thresholds that would reduce fish habitat quality. Potential impacts to riparian habitat and benthic invertebrates have been mitigated through the removal of all in-water works and construction of the MOF. The Proponent also considered the risk of deleterious substances entering the Delta stormwater system via spills and runoff, which could alter water quality and affect fish habitat in Tilbury Slough and downstream in the Fraser River.
- **Fish Health, Injury, and Mortality:** Underwater noise and vibrations from Construction activities and Operation have the potential to adversely affect fish health by causing hearing loss, ruptures in the swim bladder, and other tissue damage, which may result in internal bleeding and mortality. However, with the removal of the MOF from the Project plans, all underwater noise will originate from land-based sources and is not expected to exceed regulatory thresholds for the protection of fish and marine mammals. Stormwater runoff into the Tilbury Slough could result in potential changes in water quality, which could harm fish. Increased air emissions during project Operation may introduce constituents such as NO<sub>2</sub>, which can contribute to acid deposition and elevated nitrogen inputs in the lower Fraser River and Tilbury Slough. These inputs have the potential to degrade water quality through eutrophication, where excessive algal growth can reduce dissolved oxygen levels and create unsuitable conditions for many aquatic species. Acid deposition may also lower pH levels, further impairing fish habitat quality. However, under steady-state operational conditions, the Project is not expected to exceed applicable air quality standards and is anticipated to have a negligible impact on ambient air quality relative to existing conditions.
- **Fish Distribution and Abundance:** refers to the potential changes in fish species presence, absence, and relative abundance resulting from temporary and longer-term habitat effects due to project activities. With the removal of all in-water works, the potential project effects on fish distribution and abundance were determined by the Proponent to be negligible.

### 17.8.5 Proposed Mitigation Measures by Proponent

The Proponent identified the following relevant mitigation measures to reduce potential effects on fish and fish habitat including:

- Develop erosion- and sediment-control measures to manage surface water in consultation with First Nations and a QP and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers.

- Establish a refuelling and spill response plan.
- Collect contact water with the use of containments and impoundments. Contact water captured in sumps will be measured for field parameters prior to being released to the onsite drainage ditches that flow into the Delta storm sewer.
- Design site to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer.
- Conduct testing and treatment of hydrostatic test water prior to discharge to Delta's storm sewer, if required. Discharge procedure requirements of hydrostatic test water will be described in the CEMP.
- Lighting for the project will be designed in a manner that is consistent with the BCER's Light Control Best Practices Guideline.

As part of the substituted process, the EAO has identified KMMs for effects within federal jurisdiction to inform the Impact Assessment Agency of Canada's draft potential federal conditions.

### 17.8.6 Key Issues Raised

Based on a review of the Revised Application and with feedback from the TAC, participating First Nations, the CAC, and the public, the following key issues related to the assessment of fish and fish habitat VC for Tilbury Phase 2 were identified.

#### 17.8.6.1 Sediment Controls & Water Quality

The key issues raised for stormwater runoff and Tilbury Slough water quality are discussed in [Section 7.4](#) of the Revised Application, key issues raised, Section 7.4.6.1 (Sediment Controls for the lower Fraser River & Tilbury Slough) and Section 7.4.6.3 (Water Quality – Tilbury Slough & the lower Fraser River).

#### 17.8.6.2 6PPD-Quinone

TWN, Tsawwassen First Nation, the STSA, Ts'uubaa-asatx, Qu'wutsun Nation, xʷməθkʷəy̓əm, and kʷikʷəłəm First Nation raised concerns about the potential effects of truck traffic on fish and fish habitat due to the emerging chemical 6-PPDQ. 6-PPDQ is an emergent contaminant contained in the rubber of vehicle tires that can be lethal for fish species, especially salmonoids, like coho and chinook salmon and steel head trout.

The Proponent stated that since 6-PPDQ is an emerging contaminant, with minimal information available, they have committed to conducting a street sweeping study to contribute to the body of knowledge on 6-PPDQ.

The EAO requested information on potential mitigation measures or follow-up programs identified by the Proponent, First Nations, or TAC members to address the effects of 6-PPDQ and the associated study that FortisBC (the Proponent) committed to conducting. Further to this, there were measures, such as experimental bioswales<sup>3</sup>, proposed by TAC members to reduce or eliminate these potential effects; however, the overall impact specifically from Tilbury Phase 2 is minimal in comparison to the truck traffic in the area from other industrial activities that require transport trucks in daily operations.

The EAO has recommended that if an EA Certificate is issued that it includes Condition 17 which would require the submission of a report on the effectiveness of dry street sweeping as potential mitigation measures within eighteen months of a certificate being issued. If dry street sweeping is determined to be an effective mitigation measure, then an update would be required to the CEMP to implement it during Construction.



The EAO has also recommended as part of Condition 12 (CEMP) and Condition 13 (OEMP) which require both management plans include measures to address surface water quality and quantity. For Construction, this would include how discharges into the storm water system would be monitored. Consultation would be required on the substances to be tested for.

### 17.8.7 The EAO's Characterization of Residual Effects

After reviewing FortisBC's assessment, the proposed mitigation and conditions, and information in the [Joint Permitting/Regulatory Coordination Plan](#) and [Regulatory Coordination Issues Tracking Table](#), the EAO concludes Tilbury Phase 2 could cause the following negligible adverse effects:

- Reduced fish habitat quality
- Increased risk to fish health, injury, and mortality
- Changes in fish distribution and abundance

For the purposes of this assessment, a negligible magnitude residual effect is one that does not result in a measurable change from existing conditions, or results in no observable change at all at the scale of the LAA or RAA.

The Project is not expected to reduce fish habitat availability because all in-water works were removed from the project scope, which eliminates any potential interaction with existing fish habitat in the Fraser River. As the Project footprint is entirely upland within a longstanding industrial area that contains no riparian, intertidal, or subtidal habitat, no residual effects on fish habitat availability are expected.

The EAO's characterization of the potential residual effects of the Project on Fish and Fish Habitat VC is summarized below in Table 62, as well as the EAO's level of confidence in the effects determination (including their likelihood and significance).

Table 58: Summary of Residual Effects for Fish and Fish Habitat

| Residual Effect              | Assessment Rating*                                                                                                                                                                                                                                          | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reduced Fish habitat quality | Context (resilience): Low<br>Magnitude: Negligible<br>Extent: Local<br>Duration: Medium-Term<br>Frequency: Irregular<br>Reversibility: Fully Reversible<br>Affected Populations: Disproportionate<br>Risk: Low<br>Uncertainty: Moderate<br>Importance: High | <p><b>Overall Significance: Not Significant</b></p> <p><b>Context:</b> The receiving environment is characterized by degraded conditions, including elevated turbidity, reduced water quality, and ongoing industrial influences, indicating low resilience to additional stressors.</p> <p><b>Magnitude:</b> Tilbury Phase 2 is anticipated to have no direct effects on fish habitat quality in the Fraser River, as all in-water works have been removed from the Project scope, eliminating primary pathways such as instream disturbance, turbidity generation, scour, and habitat alteration. Remaining pathways, including discharge or hydrostatic testing water, dewatering during construction, release of contact water and surface water are indirect and controlled through engineered systems, including mitigations and conditions as discussed above, regulatory requirements, and are not expected to result in measurable changes to surface water quality or fish habitat function, health or mortality and therefore rated as negligible.</p> <p><b>Extent, Duration, and Frequency:</b> Potential interactions are limited to localized areas near stormwater discharge points and the immediate shoreline. Effects may occur intermittently during construction and operation phases but are not expected to persist beyond decommissioning.</p> <p><b>Reversibility:</b> No permanent physical alteration of aquatic habitat or sustained contaminant loading is expected. Any minor, temporary changes to environmental conditions are anticipated to diminish following cessation of Project activities,</p> |

| Residual Effect                                                                                                                          | Assessment Rating*                                                                                                                                                                                                                                              | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                          |                                                                                                                                                                                                                                                                 | <p>allowing the system to return to conditions prior to the construction/operation phases</p> <p><b>Affected Populations:</b> Effects may be experienced more acutely by certain species or life stages that are more sensitive to localized changes; however, no population-level effects are expected.</p> <p><b>Risk:</b> The likelihood of an adverse effect is low, as impact pathways are limited and existing mitigation measures and regulatory protections for fish are expected to be effective. Given the negligible magnitude of potential effects, the consequence is considered minor and overall risk is rated as low.</p> <p><b>Uncertainty:</b> Uncertainty remains related to contaminant pathways, including stormwater and groundwater interactions and environmental variability; however, these uncertainties are bounded by conservative assumptions and mitigation requirements.</p> <p><b>Importance:</b> Fish habitat quality is of high ecological and cultural importance to First Nations.</p> |
| Increase risk to fish health, injury, and mortality                                                                                      | Context (resilience): Low<br>Magnitude: Negligible<br>Extent: Local<br>Duration: Medium-term<br>Frequency: Irregular<br>Reversibility: Fully reversible<br>Affected Populations: Disproportionate<br>Risk: Low<br>Uncertainty: Moderate<br>Importance: High     | <p><b>Overall Significance: Not significant</b></p> <p>See rationale for Reduced Fish Habitat Quality, above.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Changes in fish distribution and abundance                                                                                               | Context (resilience): Low<br>Magnitude: Negligible<br>Extent: Local<br>Duration: Medium-Term<br>Frequency: Irregular<br>Reversibility: Fully reversible<br>Affected Populations: Disproportionate<br>Risk: Low<br>Uncertainty: Low-moderate<br>Importance: High | <p><b>Overall Significance: Not Significant</b></p> <p>See rationale for Reduced Fish Habitat Quality, above.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p>* Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a></p> |                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

### 17.8.8 Cumulative Effects Assessment

The assessment of a designated project must consider cumulative effects that may result from Tilbury Phase 2 in combination with other past, present, and reasonably foreseeable future projects and activities.

For the Fish and Fish Habitat VC, the reasonably foreseeable projects with potential to interact cumulatively with Tilbury Phase 2 include the Tilbury Marine Jetty (TMJ), the Fraser River Tunnel Project (FRTTP), and the Delta Grinding Facility (DGF), based on their proximity to the lower Fraser River and their potential to contribute to shared pathways affecting aquatic conditions (e.g., shoreline disturbance, surface water quality changes, lighting, noise, and stormwater discharge).

Residual effects of Tilbury Phase 2 on Fish and Fish Habitat are limited to stormwater quality interactions in Tilbury Slough, localized artificial lighting along the shoreline, negligible air-deposition pathways, and upland construction noise. These occur within an area already characterised by high turbidity, poor water quality in Tilbury Slough, industrial shoreline development, and elevated ambient noise and lighting in the lower Fraser River system. Residual effects are negligible in magnitude, localized, and medium-term, and fully reversible with prescribed mitigation and adaptive management measures such as erosion and sediment control, oil–water separation, lighting design, and stormwater monitoring.

The cumulative effects assessment examines whether these negligible residual effects may interact with similar pathways generated by TMJ, FRTTP, and DGF such that they would materially alter the future condition of the Fish and Fish Habitat VC. The RAA already experiences long-standing industrial and transportation pressures. These existing conditions reflect historical and ongoing cumulative pressures on aquatic habitat function, fish species, and water quality (see Section 17.8.3 Existing Conditions by Proponent).

Mitigation and management measures under the CEMP and OEMP, such as erosion and sediment control, stormwater treatment, lighting management, and the proponent's commitment to conduct a 6-PPDQ street-sweeping study, further limit the Project's incremental contribution to cumulative aquatic effects. Continued engagement with Indigenous Nations provides additional opportunities to identify concerns related to culturally important fish species and cumulative aquatic health.

Indigenous Nations have described long-standing cumulative pressures on fish populations, water quality, and access to fisheries throughout the lower Fraser River. These broader cumulative conditions are acknowledged and addressed in Section 11 of the Assessment Report. At the scale of the Fish and Fish Habitat VC, however, Tilbury Phase 2's residual effects are too small, localized, and reversible to meaningfully influence the cumulative state of aquatic conditions in the RAA.

Accordingly, based on the highly industrialized existing setting, degraded existing conditions in Tilbury Slough, and the negligible magnitude of Project residual effects, Tilbury Phase 2 is not predicted to result in an adverse cumulative effect on the Fish and Fish Habitat VC when considered in combination with past, present, and reasonably foreseeable future projects and activities.

### 17.8.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or cumulative effects on the fish and fish habitat VC. The extent of significance for federal effects to fish and fish habitat are found in [Appendix 15](#). This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; the proposed mitigation measures identified in the provincial Table of Conditions including the Condition 12 (CEMP), Condition 13 (OEMP), and Condition 17 (Dry Street Sweeping Report), and federal Key Mitigation Measures and Follow-up Programs under the IAA for the fish and fish habitat VC in [Appendix 2](#).

## 17.9 Employment and Economy

### 17.9.1 Summary

A strong economy and high employment support a healthy standard of living and contribute to overall community well-being. Employment and the economy are directly related to [Appendix 6, Section 17.11](#) (Infrastructure and Services) as they shape demand for, and availability of, tax revenue to support infrastructure and services depended on by all British Columbians.

In the Revised Application, FortisBC assessed how Tilbury Phase 2 LNG Expansion Project (Tilbury Phase 2 or Project) could impact employment and the economy (including wages, skills development, training, access to opportunities, revenues, and Gross Domestic Product (GDP)). FortisBC's (the proponent) assessment found that the project could generate positive regional effects, such as more jobs, higher incomes, and increased revenues for businesses and governments. FortisBC also outlined measures to enhance these benefits and minimize potential negative effects.

Reviewers raised concerns about how Indigenous peoples and underrepresented groups would access these opportunities, as well as the potential impacts on traditional economic activities and associated indigenous rights and interests. In response, the EAO proposed Certificate Condition 17 (First Nations and Local Economic Inclusion and Monitoring Plan) to enhance benefits associated with the Project and assist in First Nation and Provincial government planning.

The EAO considered FortisBC's assessment, the positive regional and national effects to employment and economy generated, the proposed mitigation and enhancement measures, as well as the draft Certificate condition.

The EAO is satisfied that though there are no adverse residual effects associated with the employment and economy VC, there are no significant adverse effects. Proposed conditions, mitigation measures and regulatory requirements adequately address the key issues raised.

### 17.9.2 Assessment Boundaries

The spatial boundaries for the employment and economy assessment include:

- The Project footprint defined as the area directly disturbed by project activities;
- The Local Assessment Area (LAA): Metro Vancouver (METRO VAN), with a focus on Delta, Richmond, and Tsawwassen Lands; and
- The Regional Assessment Area (RAA): METRO VAN.

The assessment also considered some effects beyond METRO VAN, as applicable (e.g. economic benefits may be applicable to B.C. or Canada).

The temporal boundaries for employment and economy include the Construction (3-6 years), Operation (40+ years), and Decommissioning (2 years) phases of Tilbury Phase 2.

Project components and anticipated duration of activities are described in detail in [Section 1.2](#) (project description and schedule) of this Report.

### 17.9.3 Existing Conditions by Proponent

An overview of existing employment and economic conditions is provided in [Section 7.10](#) of the Revised Application. Information was collected through publicly available data, engagement activities, and project-specific studies.

The Revised Application notes that METRO VAN, including Delta and Richmond, face significant housing pressures due to population growth and land-use constraints. Rising property values have exacerbated housing affordability challenges, particularly for lower-income and marginalized groups.

The Revised Application highlights that METRO VAN faces socio-economic challenges that disproportionately impact specific populations:

- Economic and social inequity is a key long-term issue;
- Marginalized populations experience systemic barriers, discrimination, and oppression;
- Indigenous communities are particularly vulnerable to economic shifts that deepen existing disadvantages, including higher unemployment and poverty rooted in settler colonialism;
- Racialized communities experience disparities in income, employment, and commuting, with lower median incomes and higher rates of part-time or seasonal work; and
- New immigrants face employment barriers, including discrimination, lack of familiarity with Canadian labor practices, and difficulties in recognizing foreign qualifications.

Historically, the regional economy transitioned from traditional Indigenous trade networks to an export and service-based economy following colonization. Indigenous Peoples have long relied on the Fraser River for harvesting, transportation, and trade. Specific First Nations, including the xʷməθkʷəyám, Tsawwassen First Nation, TWN, Squamish Nation, Semiahmoo First Nation, and Quw'utsun Nation, have historically used the Fraser River and surrounding lands for economic and trade purposes. The Fraser River and surrounding lands continues to be utilized by First Nations for a range of purposes.

#### 17.9.4 Potential Project Effects by Proponent

According to the Revised Application, Tilbury Phase 2 LNG Expansion Project is anticipated to generate both positive and adverse economic effects during Construction, Operation, and Decommissioning phases.

Table 59 below summarizes potential effects and effects pathways by project phase, as identified in the Revised Application. For a detailed breakdown of these anticipated effects see [Section 7.10.4](#) of the Revised Application.

Table 59: Potential Effects, Indicators and Effect Pathways for Employment and Economy Identified in the Revised Application

| Potential Effect                                                          | Effect Indicator                                                                                        | Project Phase                            | Effect Pathways as Identified in the Revised Application                                                                                                                                              |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Increase in employment</b>                                             | FTE Jobs created<br>Unemployment rate and increase in labour force participation rate (%)               | Construction, Operation                  | Construction and Operation activities will generate direct, indirect, and induced employment.                                                                                                         |
| <b>Increase in income</b>                                                 | FTE Jobs created<br>Income (median and mean [\$])                                                       | Construction, Operation                  | The increase in employment opportunities is expected to increase labour income, in turn, increasing living standards for workers and families.                                                        |
| <b>Enhancement of the workforce</b>                                       | Level of education<br>Job market and skills<br>Employment, education, and skills for Indigenous peoples | Construction, Operation                  | Tilbury Phase 2 activities may influence demand for specific skills and training programs, in turn encouraging more participation in the skilled trades.                                              |
| <b>Increase in contracting and procurement opportunities</b>              | Unemployment rate (%)<br>Labour force Participation rate (%)                                            | Construction, Operation, Decommissioning | Tilbury Phase 2 is expected to provide bidding opportunities for contracts and procurement of goods and services in the local and RAAs.                                                               |
| <b>Economic benefits to local, regional, B.C., and Canadian economies</b> | GDP                                                                                                     | Construction, Operation                  | Tilbury Phase 2 activities will contribute to the provincial and Canadian GDPs.                                                                                                                       |
| <b>Increase in government revenues</b>                                    | Municipal and regional Government revenues, including property tax revenue and total revenue            | Construction, Operation                  | Tilbury Phase 2 will generate tax revenues at municipal, provincial, and federal levels.                                                                                                              |
| <b>Increase in business revenue</b>                                       | Consumer expenditures (\$)<br>Business revenue (\$)                                                     | Construction                             | Construction activities will indirectly interact with local businesses through worker spending.                                                                                                       |
| <b>Decrease in business revenue</b>                                       | Consumer expenditures (\$)<br>Business revenue (\$)                                                     | Construction                             | Construction activities will generate traffic on roads, causing delays, disruptions and dust, which could impact agricultural operations and other local businesses, contributing to economic losses. |
| <b>Decrease in labour availability in other industries</b>                | Unemployment rate (%)<br>Labour force participation rate (%)<br>Job market and skills                   | Construction, Operation                  | Tilbury Phase 2 activities may indirectly create a labour shortage for other industries. Some professional or skilled trades workers may need to be sourced from outside the RAA.                     |
| <b>Change to property values</b>                                          | Business revenue (\$)                                                                                   | Operation                                | Tilbury Phase 2 may adversely affect adjacent land values.                                                                                                                                            |
| <b>Decrease in opportunities for traditional economic activities</b>      | Employment, education, and skills for Indigenous peoples                                                | Construction, Operation                  | Tilbury Phase 2 may adversely affect the ability of Indigenous peoples to practice traditional economic activities.                                                                                   |

| Potential Effect                | Effect Indicator                                                     | Project Phase           | Effect Pathways as Identified in the Revised Application                                                                                                                                                                                                           |
|---------------------------------|----------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Change to Cost of Living</b> | Cost of living<br>Availability and cost of housing and accommodation | Construction, Operation | The construction and operation phases will involve a large workforce and high demand for specialized trades and skills, which may increase pressure on local infrastructure and services, especially housing, resulting in higher housing prices and living costs. |

Tilbury Phase 2 would provide jobs for Direct, Indirect, and Induced jobs during all Project Phases. For information regarding expected jobs during Construction and Operation, see Table 60.

Table 60: Expected direct, indirect, and induced jobs from Tilbury Phase 2

| Phase                     | Job Type                  | Number of Jobs (FTE)* | Description                                                                        |
|---------------------------|---------------------------|-----------------------|------------------------------------------------------------------------------------|
| <b>Construction Phase</b> | Direct Jobs               | 6,200                 | Jobs directly involved in construction activities on-site over six years.          |
|                           | Indirect Jobs             | 4,800                 | Jobs in industries supporting the project (e.g., suppliers, logistics).            |
|                           | Induced Jobs              | 2,300                 | Jobs created by spending from construction workers and suppliers.                  |
|                           | <b>Total (Cumulative)</b> | <b>13,300</b>         | Total employment impact during Construction.                                       |
| <b>Operation Phase</b>    | Direct Jobs               | 100                   | Jobs at the LNG facility, including skilled trades, professionals, and management. |
|                           | Indirect Jobs             | 400                   | Support industry jobs (e.g., maintenance, operations-related suppliers).           |
|                           | Induced Jobs              | 100                   | Jobs created by spending from employees and supporting businesses.                 |
|                           | <b>Total (Annual)</b>     | <b>600</b>            | Sustained annual employment during operation.                                      |

\*Full-Time Equivalent 6,200 FTEs during Construction means the equivalent of 6,200 net new full-time jobs spread over the entire 6-year Construction phase. It could include combinations of part-time or shorter-term roles adding up to that total.

According to the Revised Application, the project will increase tax revenues at municipal, provincial, and federal levels, while also contributing to GDP through economic activity generated during both Construction and Operation phases. These effects are summarized in Table 61 (Expected GDP contribution, labour income, and tax revenue resulting from Tilbury Phase 2). Section 2.5 (Project Anticipated Expenditures) of the Report describes project expenditures, which for Construction are currently estimated at between \$3 to \$3.5 billion.



Table 61: Expected GDP contribution, labour income, and tax revenue resulting from Tilbury Phase 2

| Phase                     | Category         | Amount (CAD)             | Description                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------|------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Construction Phase</b> | GDP Contribution | \$1.7 billion (total)    | Contribution to B.C.'s GDP, including \$699M in direct effects, \$625M in indirect effects, and \$405M in induced effects over 6 years. This represents the value added to the economy, calculated as the difference between the value of final goods and services produced and the cost of the inputs used in the production process.                                         |
|                           | Tax Revenues     | \$308.9 million (total)  | Tax revenues for B.C. governments from direct, indirect, and induced effects (\$152M from provincial taxes, \$46M from municipal taxes, \$22M from corporate income tax and \$89M from personal income tax). <sup>64</sup>                                                                                                                                                     |
|                           | Labour Income    | \$1.2 billion (total)    | Total wages earned by workers across direct, indirect, and induced jobs.                                                                                                                                                                                                                                                                                                       |
| <b>Operation Phase</b>    | GDP Contribution | \$499.5 million (annual) | Contribution to B.C.'s GDP from direct and indirect economic effects related to the Tilbury facility's LNG production and associated upstream natural gas purchases. This represents the value added to the economy, calculated as the difference between the value of final goods and services produced and the cost of the inputs used in the production process.            |
|                           |                  | \$594.6 million (annual) | Contribution to the Canadian GDP from direct and indirect economic effects related to the Tilbury facility's LNG production and associated upstream natural gas purchases. This represents the value added to the economy, calculated as the difference between the value of final goods and services produced and the cost of the inputs used in the production process.      |
|                           | Tax Revenues     | \$63.8 million (annual)  | Direct, indirect, and induced B.C. governments tax revenues, including \$43M from LNG production (\$12M from provincial taxes, \$8M from municipal taxes, \$11M from corporate income tax, \$5M from personal income tax and \$7M from royalties) and \$21M from natural gas (\$11M from provincial taxes, \$6M from corporate income tax, and \$4M from personal income tax). |
|                           |                  | \$144.8 million (total)  | Direct, indirect, and induced Federal government tax revenues (\$87M from LNG production and \$58M from natural gas).                                                                                                                                                                                                                                                          |
|                           | Labour Income    | \$122 million (annual)   | Wages across direct, indirect, and induced employment annually during Operation.                                                                                                                                                                                                                                                                                               |

### 17.9.5 Proposed Mitigation Measures by Proponent

FortisBC identified the mitigation and enhancement measures, in [Table 7.10-14 of the Revised Application](#), related to employment and economy which include:

- Implement cultural awareness programs, which may include training, to acknowledge, respect and understand that Indigenous nations, employees, consultants, and contractors have unique histories, cultures, protocols, values, beliefs, and governments;

<sup>64</sup> For additional information on the expected tax revenue please see [Section 7.10 of the Revised Application](#), and [Tilbury Phase 2 Memo 3 PwC Economic and GHG Analysis – 2021-04-13](#).

- Engage with potentially affected Indigenous nations for the purpose of outlining work packages that are available for Indigenous-affiliated companies to undertake, as well as the skills necessary for the work. These discussions will take place well in advance of when the work needs to be done, to provide Indigenous nations with opportunities to qualify and bid for the work. Encourage Indigenous businesses to prequalify for medium- and high-risk work when businesses can gain experience working on construction or operation of components of the project, or on other contracting opportunities in advance of the project. Specific commitments in confidential agreements with individual Indigenous nations may also include information for nation owned or affiliated companies wishing to participate in contracting for the project;
- Continue to work with Indigenous nations to identify economic opportunities, to identify current capacity, and to identify how Indigenous groups and nations may be included in project construction, operation, and decommissioning. Efforts will be made with advanced notice to allow for the Indigenous nations to address these needs and opportunities;
- Prohibit the collection of heritage resources by project personnel and implement the site-specific Archaeological Chance Find Management Guide through engagement with participating Indigenous nations should resources be identified during construction;
- Encourage the use of local and regional human resources in design, planning, Construction, restoration, and Operation, to the extent practical;
- Promote awareness of local and regional business opportunities through the timely dissemination of information regarding project service and supply requirements. Continue communications with community stakeholders;
- Engage with potentially affected Indigenous nations to outline available work packages for Indigenous-affiliated companies and the skills necessary for the work, well in advance of when the work needs to be done;
- Support local training initiatives and opportunities to support the development of project-relevant skills;
- Implement FortisBC's Human Resource Policy to recruit workers for the project, targeting groups that are traditionally underrepresented in the construction labour force, including women, Indigenous workers, and new immigrants;
- Receive, record, investigate, and follow-up on complaints from Indigenous nations, the public, and adjacent businesses regarding project-related disturbances;
- Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums;
- Implement the construction-related mitigations listed in the CEMP to ensure project effects are managed throughout the construction phase; and
- Develop and implement a Net-Zero Plan that utilizes Best Available Technology (BAT) to ensure the project's direct operational GHG emissions follow government policies and regulations.

These measures are intended to maximize positive outcomes, such as increased employment and revenue, while minimizing any potential negative impacts on the local and regional economy and labour force.

As part of the substituted process, the EAO has identified KMM for effects within federal jurisdiction to inform the IAAC's draft potential federal conditions. The KMM related to employment and economy VC are outlined in [Appendix 2](#).

### 17.9.6 Key Issues Raised

Based on a review of the Application and with feedback from the TAC, participating Indigenous nations (PINS), and the public, the following key issues related to the assessment of the employment and economy VC for Tilbury Phase 2 were identified.

#### 17.9.6.1 Impacts on Indigenous and Underrepresented Groups Employment and Economic Opportunities

Richmond, Quw'utsun Nation, Employment and Social Development Canada, IAAC, TWN, Tsawwassen First Nation, x̣ṃəθḳẉəỵəm, Snuneymuxw First Nation, Ts'uubaa-asatx, and the Ministry of Post-Secondary Education and Future Skills (PSFS), requested more information on how the Tilbury Phase 2 would benefit First Nations and underrepresented communities through employment, training, and economic opportunities. While there were shared concerns about fair access to jobs, targeted training programs, and procurement opportunities, many Nations emphasized issues specific to their own communities.

For example, Quw'utsun Nation sought clarity on how Tilbury Phase 2 would impact their ongoing economic practices, such as fishing, within the LAA. TWN and x̣ṃəθḳẉəỵəm raised concerns about protecting and engaging in traditional economic activities, such as fishing, and ensuring project activities would not negatively affect their rights and interests. x̣ṃəθḳẉəỵəm requested the proponent consider how Tilbury Phase 2 could affect fishing rights, particularly in terms of ensuring people have the time and opportunity to participate in this traditional economy. They proposed a cultural leave policy to support their request. Tsawwassen First Nation and Snuneymuxw First Nation highlighted the need for targeted training programs that align with their workforce development goals. Quw'utsun Nation and Snuneymuxw First Nation specifically questioned whether Indigenous People would receive priority for training and employment and how barriers to workforce participation would be addressed. Additionally, cultural competence among hiring managers was identified as essential to fostering an inclusive and supportive work environment.

In response, the FortisBC acknowledged that past projects and activities have constrained Indigenous peoples' ability to use the land and water in the local assessment area. It is the proponent's view that the negligible or low magnitude changes to noise and other sensory conditions are not expected to affect indigenous rights to fish. The proponent reiterated that the removal of the Marine Offloading Facility from Phase 2 will result in no in-river work occurring in the Fraser River, reducing impacts to Indigenous economic practices and rights related to fishing and activities on the water. Nations have requested continued engagement with the Proponent to ensure that potential impacts on Indigenous rights and economic interests are understood and addressed through effective, proactive, and culturally appropriate mitigation measures.

FortisBC used GBA Plus to assess how Tilbury Phase 2 may disproportionately affect underrepresented groups, including Indigenous peoples, women, racialized communities, newcomers, and people with disabilities. The analysis acknowledged that systematic inequalities, such as those rooted in settler colonialism, social exclusion, and economic marginalization, can compound vulnerabilities and influence access to employment and economic opportunities. The proponent identified that racialized communities in METRO VAN experience lower median incomes and higher rates of part-time or seasonal work; newcomers face barriers such as credential recognition and discrimination; and women are overrepresented in lower-wage sectors and face advancement barriers. Tilbury Phase 2 may also contribute to increased housing demand, which could disproportionately affect low-income households. While these effects were acknowledged, Quw'utsun Nation raised concerns that the analysis did not sufficiently reflect the lived realities and intersectional experiences of Indigenous peoples, particularly in relation to identity, place, and cultural context. Quw'utsun Nation and FortisBC also recognized that there are some data gaps, particularly detailed data for First Nation communities, and that benefits may not be evenly experienced by all First Nations and residents near the project.

FortisBC has committed to engaging and working with indigenous and local communities to create fair and accessible employment and training opportunities, including the development of indigenous participation plans with project contractors. FortisBC also committed to work collaboratively with SkilledTradesBC to identify educational and training opportunities on Tilbury Phase 2, with programming specifically for Indigenous communities in trades.

In consideration of these issues and FortisBC's commitments, the EAO has proposed Condition 17 (First Nation and Local Economic Inclusion and Monitoring Plan) to support access to employment and training associated with the project by members of First Nations and local communities. This includes seeking to recruit workers that are traditionally underrepresented in the construction labour force, including women, Indigenous workers, and new immigrants.

The EAO notes that disproportionate effects on distinct human populations, including underrepresented groups, such as Indigenous communities, women and immigrants, are further assessed in [Appendix 8 – Human and Community Well-Being](#).

#### **17.9.6.2 Workforce Availability Impacts on Housing Costs and Availability**

Employment and Social Development Canada (ESDC), x̣ẉməθḳẉəỵəm, and Quw'utsun Nation raised concerns that professional or skilled trades workers may need to be sourced from outside the RAA and the possibility of this affecting already high housing costs and availability.

FortisBC committed to prioritizing and supporting hiring local labour for Tilbury Phase 2. They anticipate that most of the required workers can be sourced within the region, with only a small percentage of the construction workforce expected to come from outside the RAA due to a local skilled trades shortage.

According to ESDC, if more than the anticipated amount of labour comes from outside of the region, and the additional labour force relocates for employment, it could create additional strain on services such as early learning and child care (ELCC). Already characterized by limited spaces and long waitlists, additional populations may not be able to be served by the ELCC system. ESDC further notes that the temporary/cyclical nature of work rotations for project workers, the lack of child care options may prevent some tradespeople, especially women, from becoming and staying employed for the duration of this project. ESDC indicates that increasing the number of spaces through the Canada-wide Early Learning and Child Care system would help alleviate this pressure and that communities surrounding the project may also want to consider increasing access to flexible child care for shift work (e.g., overnight and non-standard hours).

The EAO notes that the assessment of potential project effects on “Housing and Accommodation” has been considered as part of [Appendix 6.11, Section 17.11](#) (Infrastructure and Services). The EAO has proposed Condition 17 (First Nation and Local Economic Inclusion and Monitoring Plan) which directly relates to the issue by enhancing First Nations and Local Employment.

#### **17.9.7 The EAO's Characterization of Residual Effects**

After considering FortisBC's assessment, the proposed mitigation measures and conditions proposed, the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), for Tilbury Phase 2 the EAO concludes that there would be no adverse residual effects on the employment and economy VC for the following reasons:

- The workforce for the Project is expected to be primarily sourced from Metro Vancouver;
- Tilbury Phase 2 is anticipated to generate positive effects on local and Indigenous employment and income, as well as contribute to increasing local, provincial, and national economic growth and government revenues;

- Mitigation and enhancement measures outlined in the Revised Application, including commitments to ongoing engagement and collaboration with local and Indigenous communities to ensure access to meaningful employment, training opportunities, and related support; and
- With the implementation of the mitigation and enhancement measures identified, no measurable adverse residual effects on employment and economy are anticipated.

If issued, the EA Certificate will require FortisBC to develop and implement a First Nation and Local Economic Inclusion and Monitoring Plan as Condition 17 to further support these outcomes.

No additional characterization of residual effects was completed for employment and economy.

#### 17.9.8 Cumulative Effects Assessment

The Revised Application and the EAO's assessment determined that the Project would not result in residual adverse effects to employment and economy. As no residual effects were identified for the employment and economy VC, a cumulative effects assessment was not warranted.

#### 17.9.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or significant cumulative effects on the employment and economy VC. The extent of significance for federal effects to the health, social, and economic conditions of Indigenous peoples are found in [Appendix 15](#). This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; the proposed provincial Table of Conditions including, Condition 16; and federal Key Mitigation Measures and Follow-up Programs under the IAA for the health, social, and economic conditions of Indigenous peoples ([Appendix 2](#)).

The EAO also acknowledges that Tilbury Phase 2 would contribute to a number of positive effects to employment and the economy in the region, including:

- Increased regional employment;
- Increased regional economic activity (e.g., the gross domestic product);
- Increased government revenues in the form of taxes and royalties;
- Economic potential for regional businesses, including opportunities for increased revenues, and opportunities for establishing new businesses; and
- Increased consumer spending from direct, indirect and induced workforce.

## 17.10 Land and Resource Use

### 17.10.1 Summary

Land and resource use was identified as a VC for the Tilbury Phase 2 LNG Expansion Project (Tilbury Phase 2 or Project) environmental assessment due to the potential for effects from the Project on the surrounding area. The assessment of land and resource use considered effects to private property, agriculture, tenure and licenced resource use, public land and resource use, parks and protected areas, and visual quality.

The key issue raised by reviewers was potential effects to Indigenous peoples' use and enjoyment of lands and tenures. This included how First Nations perspectives and knowledge were incorporated into the assessment, their abilities to exercise rights near the Project, and the effectiveness of mitigation measures.

The EAO has proposed that the proposed Certificate Condition 12 (CEMP) and Condition 13 (OEMP) to require consultation on the implementation of mitigation measures proposed by FortisBC (Proponent). The EAO has also proposed Condition 3 (Document Development) which will require a schedule for evaluating the effectiveness of mitigation measures included in the CEMP and OEMP.

The EAO assessed potential effects on land and resource use based on the Proponent's assessment, proposed mitigation, and Certificate conditions. While some residual effects—such as changes to tenure use and visual quality—were identified, they were not considered significant. Cumulative effects from Tilbury Phase 2 in combination with other projects were also assessed and found not to be significant.

### 17.10.2 Assessment Boundaries

The spatial boundaries for the land and resource use assessment include the following:

- The Project Footprint – the area directly disturbed by the project activities;
- Local Assessment Area (LAA) – The land and resource use LAA includes the boundaries of Delta, B.C. and Richmond, B.C., in a 5-km radius from Tilbury Phase 2's footprint, directly north and across the Fraser River. The LAA includes a section of the lower Fraser River from east of Annacis Island to east of Kirkland Island and includes Westham Island.
- Regional Assessment Area (RAA) – The land and resource use RAA includes the boundaries of Metro Vancouver (METRO VAN)

There are three temporal boundaries used for Tilbury Phase 2 land and resource use assessment which are: Construction (3-6 years); Operation (40+ years); and Decommissioning (2 years).

Project components and anticipated duration of activities are described in detail in [Section 1.2](#) (Project Description and Schedule) of this Report.

### 17.10.3 Existing Conditions by Proponent

The assessment of land and resource use conditions was completed using a combination of desktop reviews, information gathered through engagement activities, and available and approved Indigenous knowledge. It also incorporated visual and sensory elements that influence how land and water are experienced and valued.

These conditions are those most likely to interact with Project activities and contribute to potential effects on land and resource use, as discussed in [Section 7.11.4](#) of the Revised Application.

#### Project Location and Land Use Context

The Project is located on Tilbury Island in Delta, B.C., within METRO VAN. The Project Footprint lies on private land owned by FortisBC. Tilbury Island is zoned for industrial use, and includes warehouse operations, manufacturing, cement production, and marine terminals.

Surrounding land uses include agriculture, conservation and recreation, and urban development. Across the Fraser River in Richmond, similar industrial, agricultural and urban uses are present.

#### Cultural and Recreational Significance

The Fraser River, adjacent to the Project Footprint, supports commercial marine transportation, commercial, Indigenous and recreational fisheries, and boating and other recreational activities. The river holds deep cultural and economic importance for First Nations. However, cumulative effects from urbanization and industrialization have altered the landscape and the river and reduced access to traditional lands and resources. First Nations continue to assert rights to fishing, hunting, and cultural practices, though these are increasingly constrained by development and regulatory pressures. First Nations consistently expressed concerns with potential effects to fisheries and fishing rights related to the project and surrounding development, as well as to the Historic Indigenous Village Site.<sup>1</sup>

#### Visual Resources and Landscape Setting

The visual landscape includes a mix of natural and industrial features—foreshore vegetation, the Fraser River, industrial infrastructure, and distant mountain views. Existing visual quality was assessed from publicly accessible Key Observation Points (KOPs), with sensitivity to visual change rated as low to moderate. Areas with residential, recreational, or Indigenous cultural use had higher sensitivity. Indigenous nations emphasized that views are integral to cultural identity and well-being, with Tsawwassen First Nation highlighting the importance of landscape to social and human health.

#### Lighting and Nighttime Conditions

Existing lighting from nearby industrial facilities contributes to varying levels of nighttime brightness. While most KOPs showed low light trespass typical of rural or industrial areas, one KOP on Tilbury Island exhibited a high level of brightness due to street and facility lighting. Skyglow from Metro Vancouver also affects nighttime visibility across the area.

#### Sensory Environment

- **Air Quality:** Generally good, although localized Nitrogen dioxide (NO<sub>2</sub>) and Particulate Matter (PM) levels are elevated due to industrial activity and traffic. Odour complaints in the area have been linked to nearby waste and composting facilities.
- **Ambient Sound:** Noise sources include road traffic, industrial operations, and marine vessels. Sound levels near the Project range from 58–62 dBA (urban) to 53–57 dBA (suburban), depending on proximity.
- **Surface Water Quality:** The Fraser River has high sediment loads and low visibility, affecting navigation and recreation. Water quality is influenced by natural erosion, agricultural runoff, and treated municipal wastewater discharges.

Changes to sensory conditions—particularly noise, light, and air quality—have been identified by Indigenous Nations as affecting current use and cultural health.

#### Land Tenure and Use Designations

The LAA includes 633 active Crown tenures, including:

- Industrial leases and marine navigation reserves;
- Cultural significance tenures (e.g., Historic Indigenous Village Site across the river);
- Utility and pipeline rights-of-way (e.g., FortisBC, BC Hydro);
- Transportation corridors (roads, rail);
- Marine tenures (wharves, float homes, marinas); and



- Environnemental tenures (parks, conservation lands).

#### Planning and Regulatory Context

The Project is subject to municipal permitting and BCER guidelines, including those addressing visual impacts and lighting. The EAO has assessed the Project's consistency with applicable land use plans in [Appendix 11](#) (Consistency of the Project with Land Use Plans).

#### 17.10.4 Potential Project Effects by Proponent

FortisBC considered changes to land and resource use activities would occur due to Tilbury Phase 2, including from Project components (e.g. height of the LNG Storage Tank and Totally Enclosed Ground Flare (TEGF)) and activities (e.g., increased traffic, temporary road closures, increased light scatter), and the interaction of effects in other VCs such as acoustic and air quality could interact with land and resource use. FortisBC's assessment considered effects to the following land and resource subcomponents:

- **Private Property:** Construction and operational activities could impact air quality, generate noise and odors, increase light pollution and cause temporary disruption to property access.
- **Agriculture:** Agricultural areas around the Project site consist of crops and some livestock operations within 2km radius. Noise and odour effects are expected to be minimal, and dust from construction activities and vehicle traffic is expected to remain localized with limited offsite effects.
- **Tenures and Licensed Resource Use:** Air emissions, noise, and light from the Project could affect the sensory experience at the Historic village site across the Fraser River particularly if long-term occupation of the tenured site occurs in the future. Construction and Operation may cause temporary disruptions to access due to traffic along River Road and other routes, especially during peak construction periods.
- **Change to the Use and Enjoyment of Public Lands and Water:** The use of public lands, waters, and resources in the LAA includes both consumptive uses, such as fishing, hunting, and gathering, and nonconsumptive uses, such as boating, walking, bicycling, and wildlife viewing. The Project has the potential to affect the quality of experience for people engaged in activities on public lands and waters. The effects pathways include potential sensory effects from the Project's air emissions (including odours), noise, and light, as well as changes in access to public areas.
- **Parks and Protected areas:** Increased traffic during construction may cause delays along River Road, which could affect access to Deas Island Park and Dow Delta Bar Fishing Park.
- **Visual Quality:** Construction and Operation will alter views from nearby public viewpoints and areas along the Fraser River. Visual changes during the day will occur during Construction from temporary visibility of equipment, lighting, and activities and in Operation from the LNG Storage Tank and Totally Enclosed Ground Flare. At night, lighting at the project site may be seen. Visual effects will be more pronounced from the Historic village site across the Fraser River.

#### 17.10.5 Proposed Mitigation Measures by FortisBC

FortisBC identified mitigation measures for land and resource use in [Table 7.11-6](#) of the Revised Application, which include:

- Implement a documented, regular inspection and maintenance program to ensure all equipment is in proper working order;
- Notify Indigenous nations whose traditional territories overlap with the project, as well as stakeholders, before the commencement of construction;
- Develop and implement a communications process with adjacent businesses;

- There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required;
- Use of TEGF technology to reduce noise and light from flaring;
- Lighting for the Project will be designed in a manner that is consistent with the Light Control Best Practices Guideline (BCER 2024);
- Develop and implement a refuelling and spill response plan to be incorporated into the CEMP;
- Develop erosion and sediment control measures in consultation with Indigenous nations and a QP to manage surface water and sediment deposition;
- Implement soil-management practices to manage the introduction and spread of invasive Noxious plant species;
- Develop dust-control measures to be described in the CEMP to limit particulate matter emission during the construction phase;
- Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums;
- Receive, record, investigate, and follow-up on odour and noise complaints from Indigenous nations, the public, and adjacent businesses;
- All compressors will be enclosed to attenuate noise to a level consistent with the BCER noise regulations;
- Develop mitigation and contingency measures through engagement with a QP to manage acoustic disturbance to human and wildlife receptors;
- Develop and implement a vehicle idle reduction policy that focuses on reducing noise and vibration emissions from construction vehicles. These measures are to be incorporated into the CEMP; and
- Implement all construction-related air emission mitigations and compliance requirements as outlined in the CEMP and Environmental Management System.

#### 17.10.6 Key Issues Raised

Based on a review of the Application and with feedback from the TAC, participating Indigenous nations, and the public, the following key issues related to the assessment of the land and resource use VC for Tilbury Phase 2 were identified.

##### 17.10.6.1 Potential Effects and Impacts to Indigenous Rights

Quw'utsun Nation raised concerns regarding inadequate recognition of their interests and integration of First Nation perspectives, rights, traditional practices, governance and stewardship related to the land and resource use VC, particularly as it relates to the Historic Village site directly across the river from the project site. FortisBC notes that there is language in the Revised Application regarding future planning for the Historic Village site by Indigenous nations. In addition, the Revised Application includes updated text regarding the Quw'utsun Nation Declaration for Reconciliation for the site and the Cultural Significance tenure (the tenure is the site of the historic Indigenous village) identified by Quw'utsun Nation as an important place for conducting resource harvesting activities, cultural practices, and economic participation.

Many Indigenous nations also expressed concerns about air pollution and excess noise from existing development in the area and the project. FortisBC noted that the Historic Village site has been included in the air and noise assessments, at the request of Quw'utsun Nation and other First Nations, due to its cultural importance as well as a receptor site for the visual quality, and for the assessment of effects to ambient air quality and noise.

Numerous First Nations, including Cheam First Nation, Kwantlen First Nation, Katzie First Nation, k'wik'əłəm First Nation, x'wəθk'əyəm, TWN, Quw'utsun Nation, the STSA, Semiahmoo First Nation, Snuneymuxw First Nation, and Tsawwassen First Nation, raised specific concerns regarding the potential effects of the project on First Nation access to the site, or areas close to the site for harvesting and cultural practices.

These concerns are situated within an already severely constrained baseline for utilizing traditional resources in the Lower Mainland region, largely due to the cumulative impacts from past and present industrial projects and activities. This high level of existing development and industrialization means that First Nations engaged in land and water based cultural practices are particularly disproportionately affected by subsequent minor changes in the environment, including effects on fish and fish habitat which are foundational to cultural practices.

FortisBC believes that the mitigation measures are sufficient to mitigate the potential effects from the Project on land and resource use, and it will engage with First Nations in the development of related management plans.

The EAO proposed that, if issued, the Certificate includes Condition 3 (Document Development) which outlines requirements for mitigation effectiveness evaluations and adaptive management. Condition 3 is applicable to Conditions 12 (CEMP) and 13 (OEMP), which will require the implementation of the mitigation measures identified in the Revised Application applicable to land and resource use, as well as measures to address visual quality.

### 17.10.7 The EAO's Characterization of Residual Effects

After considering the proposed mitigation measures and conditions, the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that the Project would result in the following residual adverse effects on the land and resource use:

- Changes to use of tenures and licensed resource uses.
- Change to visual quality of the landscape.

The EAO's characterization of the expected residual effects of the Project on land and resource use is summarized below in Table 62, as well as the EAO's level of confidence in the effects determination (including their likelihood and significance).

Table 62: Summary of Residual Effects for Land and Resource Use

| Residual Effect                                      | Assessment Rating*                                                                                                                                                                                                                                                                     | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Changes to use of tenures and licensed resource uses | Context (resilience): Low<br>Magnitude: Low<br>Extent: Local<br>Duration: Medium-term<br>Frequency: Regular<br>Reversibility: Reversible<br>Affected Populations: Disproportionate<br>Risk (likelihood and consequences): Moderate<br>Uncertainty: Low<br>Importance: Moderate to High | <b>Not significant</b><br>Land and resource use has been severely affected by industrial development on Tilbury Island and surrounding areas. A First Nation historical site is in Richmond, B.C., on Lulu Island's shoreline, across the Fraser River from the project site. This historical First Nation village that has been identified as an important location to First Nations, and it represents an area of Indigenous value.<br>The receiving environment is already stressed due to industrial development, indicating potentially lower resilience to further land and resource use loss or alteration.<br>Increased light will be noticeable at the Historic Village site; however, the residual effect is expected to be mostly adjacent to existing disturbance, which will be mitigated and of low magnitude.<br>The effects are considered reversible and will cease when the Project is decommissioned.<br>Effects on land and resource use would be disproportionately experienced by First Nations. |

| Residual Effect                                                                                                                   | Assessment Rating*                                                                                                                                                                                                                                                                                                                   | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                      | <p>The likelihood of the effect is medium, as mitigation is expected to be effective, and the consequences are moderate due to the medium-term duration and low magnitude. Therefore, the overall risk is moderate.</p> <p>Uncertainty is low. The link between changes in use of tenure and licensed resources is well understood, and the proposed mitigation measures are expected to be moderately to highly effective.</p> <p>Importance is moderate to high as land and resource use is linked to the exercise of protected Indigenous rights and the maintenance of cultural integrity. The potential for changes to tenure and licensed use was not identified as a concern by local communities and residents</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Change to visual quality of the landscape                                                                                         | <p>Context (resilience): Low</p> <p>Magnitude: Low</p> <p>Extent: Local</p> <p>Duration: Medium-term</p> <p>Frequency: Continuous</p> <p>Reversibility: Reversible</p> <p>Affected Populations: Disproportionate</p> <p>Risk (likelihood and consequences): Moderate</p> <p>Uncertainty: Low</p> <p>Importance: Moderate to High</p> | <p><b>Not significant</b></p> <p>The Project area has low resilience to further changes due to the Tilbury LNG facility and other industrial activities that impact on key viewing locations associated with residential, recreational, and First Nations cultural use, which are integral to land use activities</p> <p>Residual effects after the application of proposed mitigation measures would generally create a minor degree of visual contrast with the existing landscape and a change from existing perceived lighting conditions, that would be characteristic of the existing, predominately industrial, landscape character.</p> <p>Existing and expected projects, industrial activities, transportation, and other activities contribute to the visual alteration of the landscape in the LAA. While the Project will be visible in the LAA it is not dissimilar to existing infrastructure on Tilbury Island. The residual effect is expected to be mostly adjacent to the Project Site, and directly across from the Fraser River, and is of low magnitude.</p> <p>The effects are considered reversible when the Project is decommissioned.</p> <p>Effects on land and resource use would be disproportionate, affecting both First Nation communities, residents and recreational users.</p> <p>The likelihood of the effect is medium, as mitigation is expected to be effective, and the consequences are moderate due to the medium-term duration and low magnitude. Therefore, the overall risk is moderate.</p> <p>Uncertainty is low. The link between changes in visual quality is well understood, and the proposed mitigation measures are expected to be moderately to highly effective</p> <p>Importance is moderate to high; while not a primary concern for local residents, this rating acknowledges that visual effects are disproportionately experienced by First Nations and are intrinsically linked to cultural integrity.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### 17.10.8 Cumulative Effects Assessment

The assessment of a designated project must consider any cumulative effects that are likely to result from the Project in combination with other physical activities that have been or will be carried out.

The following pathways were assessed further to assess cumulative effects to land and resource use in [Section 7.11.5](#) of the Revised Application:

- Change to the use of tenure and licensed resource use; and
- Change to the visual quality of the landscape.

Table 7.11-9 of the Revised Application provides a full accounting for all the projects and activities considered in the cumulative effects assessment that may interact with Tilbury Phase 2. These projects and activities include T1B, TMJ, Delta Grinding Facility Project, natural hazards (e.g. flooding), and climate change.

Tilbury Phase 2 is located primarily within a heavily disturbed industrial landscape, where the effects of industrialization are widespread and expected to persist. Ongoing pressures from other projects and the effects of climate change are also likely to contribute to the decreased accessibility and use of land and resources to the full extent possible and change the visual quality of an already highly impacted industrial zone.

Given the footprint and scope of Tilbury Phase 2, any residual effects related to land and resource use are expected to be low in magnitude and would occur mainly during the Construction and Operation phases of the project. The Construction phase potentially has an increased level of impact due to the overlap with periods of activity from other projects in the region. Tilbury Phase 2, TMJ, and Delta Grinding Facility will likely cause associated changes to air contaminants and sensory conditions due to project-related lighting. The magnitude of the effects associated with these interactions may shift as the various projects transition from Construction to Operation phases.

The RAA continues to experience long-term cumulative effects on land and resource use from ongoing and reasonably foreseeable industrial and transportation activities, including reduced accessibility, changes to visual quality, and other pressures typical of a heavily industrialized landscape; see local government and port authority land use plans, [Appendix 11](#). These cumulative conditions reflect decades of development and are expected to persist irrespective of Tilbury Phase 2 (see Section 17.10.3 Existing Conditions by Proponent). The incremental contribution of Tilbury Phase 2 to this broader cumulative context is expected to be minor, with residual effects largely limited to the Construction and Operation phases and reversible upon decommissioning.

Accordingly, based on the documented existing industrial and transportation context of the RAA and the limited magnitude of Project residual effects, Tilbury Phase 2 is not predicted to cause an adverse cumulative effect on the Land and Resource VC when considered in combination with past, present, and reasonably foreseeable future projects and activities.

The EAO acknowledges that effects to First Nations' rights and interests are closely linked to existing and proposed land use activities. More information about the predicted cumulative effects to each First Nation's rights and interests due to Tilbury Phase 2 can be found in their respective sections of this Report.

#### 17.10.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or significant cumulative effects on the land and resource use VC. The extent of significance for federal effects on the current use of lands and resources for traditional purposes are found in [Appendix 15](#). This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; the proposed mitigation measures identified in the provincial Table of Conditions including, Condition 3 (Document Development), Condition 12 (CEMP) and Condition 13 (OEMP).

## 17.11 Infrastructure and Services

### 17.11.1 Summary

The Infrastructure and Services VC was selected to represent the potential interactions of the Project components and activities with local and regional infrastructure. The assessment identified adverse effects of Tilbury Phase 2 on the Infrastructure and Services VC and developed proposed mitigation measures to reduce or avoid these effects, ensuring Tilbury Phase 2's interaction with community infrastructure and services does not lead to significant negative impacts on people and communities in the area.

The assessment considered two main subcomponents: community infrastructure and services and transportation infrastructure subcomponents. These included potential effects related to the availability and cost of housing and accommodation, the demand on healthcare, recreation, education and childcare, the demand on emergency response services, effects on domestic water supply, landfills and recycling facilities, transportation infrastructure and safety, and effects on dikes and other flood protection systems.

The key issues raised by reviewers include Tilbury Phase 2's potential impacts on traffic and transportation infrastructure, and housing availability and affordability.

To address these concerns, the EAO proposed Condition 12 CEMP and Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan).

The EAO concluded after the implementation of mitigation measures and proposed conditions no significant adverse effects to infrastructure and services are expected from Tilbury Phase 2.

### 17.11.2 Assessment Boundaries

The spatial boundaries for the assessment of effects on infrastructure and services included:

- The Project Footprint, which is the area directly disturbed by Project activities, including associated physical works and activities.
- The Local Assessment Area (LAA): includes Delta, Richmond, and the shoreline from the western edge of Garry Point Park to Shoal Point on Annacis Island.
- The Regional Assessment Area (RAA): includes the boundaries of Metro Vancouver.

The temporal boundaries for Infrastructure and Services include the Construction (3-6 years), Operation (40 plus years), and Decommissioning (2 years) Phases of Tilbury Phase 2.

Tilbury Phase 2 components and the anticipated duration of activities are described in detail in [Section 1.2](#) (Project Description and Schedule) of this Report.

### 17.11.3 Existing Conditions by the Proponent

The existing conditions for the Infrastructure and Services VC were described in [Section 7.12](#) and [Appendix R](#) of the Revised Application by the Proponent and are summarized here.

Utilities across the LAA and RAA include critical infrastructure such as water supply, sewage systems, electrical power, natural gas, and communication networks. These utilities vary in capacity and coverage, with some areas relying on municipal services while others depend on private systems like wells and septic tanks. The assessment indicates that the infrastructure is generally adequate to meet current demands.

Housing in Metro Vancouver is limited and unaffordable. Population growth and rising real estate prices make living costs high. Affordability issues disproportionately affect vulnerable groups, including seniors and those on public assistance. Short-term accommodation (hotels, motels, Bed and Breakfast (B&B)s, campgrounds) has declined since the early 2000s despite rising demand.

Short-term rentals (Airbnb, VRBO) are increasing, especially in Vancouver, raising concerns about competition with long-term housing.

The transportation network within the Project area includes provincial highways (Highway 17, 17A, 91, and 99) and major municipal roads such as River Road and Ladner Trunk Road. Access to the Tilbury Phase 2 site in Tilbury Island from River Road is primarily via Hopcott Road, with MacDonald Road providing an alternative route to the west.

Traffic data collected in June 2022 for River Road between MacDonald St. and Hopcott Road revealed an average weekday two-way traffic volume of approximately 16,040 vehicles per day. Parking is limited to private lots, a few public spots, and permitted roadside areas, including Hopcott Road. Large trucks often park along Tilbury Road.

Currently, healthcare and social services are experiencing challenges due to a shortage of family doctors. Access to primary care is highly constrained in Delta and Metro Vancouver, with an aging population expected to add to an increase in demand for healthcare. Lack of access to family doctors puts pressure on walk-in clinics and emergency services, leading to delayed diagnoses.

There are concerns regarding the current capacity of emergency response services due to the area's large land area, increase in population, emerging health issues (opioid crisis), and traffic congestion.

In terms of waste management, the region is served by a combination of municipal collection services, regional landfills, and transfer stations. The capacity of these facilities is considered sufficient for current needs, with no extensive capacity issues reported. However, the future growth and potential impacts of Tilbury Phase 2 on waste generation and management are noted for further consideration.

The educational services are not currently experiencing demand constraints. However, childcare services in the LAA and RAA are identified as being inadequate to meet current demand, with a very limited supply of spaces available. Tilbury Phase 2 related employment could potentially increase demand for childcare, but not beyond the existing constraints.

#### 17.11.4 Potential Project Effects by Proponent

The activities associated with the Construction, Operation, and Decommissioning Phases of Tilbury Phase 2 have the potential to interact directly and indirectly with two subcomponents of the Infrastructure and Services VC, community infrastructure and services and transportation infrastructure.

The community infrastructure and services subcomponent considers potential effects on the capacity of municipal and regional facilities and services. These facilities and services include housing and accommodation, health care and social services facilities, emergency response services, domestic water supply, sewage/water treatment facilities, utilities, landfills and recycling facilities, community recreational facilities, and educational services and facilities, including childcare.

The transportation infrastructure subcomponent considers potential effects associated with roads and traffic, including potential changes in road access, increased traffic, and parking changes. No potential effects are expected on sewage/water treatment facilities and utilities as no additional sewage/water treatment and power or other utilities are required for Tilbury Phase 2.

The effects pathways were identified during engagement with the TAC, First Nations, and the public during the EA process. Table 63 below summarizes potential effects and effects pathways by project phase, as identified in the Revised Application.



Table 63: Potential Effects, Indicators and Effect Pathways for Infrastructure and Services Identified in the Revised Application

| Potential Effect                                                     | Effect Indicator                                                                   | Project Phase                    | Potential Effects and Effect Pathways as Identified in the Revised Application                                                                                                                                                     |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Increase in demand for housing and accommodation                     | Availability and cost of housing and accommodation                                 | Construction and Operation       | Movement of workers into Tilbury Phase 2 area for construction and operation activities could potentially increase the demand for housing and accommodation, resulting in rising prices and reduced affordability                  |
| Decreased capacity in the delivery of healthcare and social services | Availability of Healthcare and Social Services                                     | Construction and Operation       | Workers moving temporarily to the Project site may require services from walk-in clinics or local healthcare providers, adding to existing constraints of access to primary care.                                                  |
| Increase in demand for use of recreational facilities and parks      | Availability of recreational facilities and parks                                  | Construction and Operation       | Workers relocating with their families could potentially increase the demand for the use of recreational facilities and parks.                                                                                                     |
| Increase in demand for education and childcare services              | Availability of education and childcare services                                   | Construction and Operation       | The number of people requiring education and childcare may increase with employment and the influx of workers from outside the Project area, contributing to existing demand for childcare services, especially for shift workers. |
| Reduced capacity of emergency response services                      | Number of requests for emergency response services                                 | Construction                     | Potential safety incidents, including malfunctions, accidents, and worker injuries could increase the demand for existing community emergency resources such as the police, fire, and ambulance services.                          |
| Increase in demand for portable water                                | Capacity of domestic water supply                                                  | Construction                     | Demand of water for one-time hydrostatic testing of the LNG tank, dust control and concrete during construction could potentially impact water supply in the Project area.                                                         |
| Reduced capacity of landfills and recycling facilities               | Capacities of landfills and recycling facilities                                   | Construction and Decommissioning | Generation of construction waste and decommissioning waste could put a strain on the existing landfill condition and recycling facilities.                                                                                         |
| Increase in demand for transportation infrastructure                 | Volume of traffic, wear and tear on road infrastructure, limited access to parking | Construction                     | Increase in vehicle movement due to movement of materials, equipment, and workers could potentially lead to an increase in traffic volume, road delays, and limited access to parking.                                             |
| Potential effect on flood protection infrastructure                  | Potential effects to dikes and other flood protection infrastructure               | Construction                     | Potential effects of wake to dikes and other flood protection infrastructure.                                                                                                                                                      |

### 17.11.5 Proposed Mitigation Measures by the Proponent

FortisBC identified mitigation measures applicable to infrastructure and Services in [Table 7.12-18](#) of the Revised Application and committed to their implementation through Tilbury Phase 2 design, procedures, and management plans. Mitigation measures identified include:

- Waste management mitigation measures will be developed and implemented as part of the CEMP. The CEMP will identify appropriate local waste management, recycling, compost, and segregation measures. Waste management will minimize use of municipal waste facilities, if practical. To the extent that use of local landfills is part of that plan, the Tilbury Phase 2 team will engage with them during development of the plan. Non-hazardous solid waste will be recycled, re-used, or collected in a central secure area onsite and then disposed of in a licensed waste receiver facility. Hazardous liquid and solid waste will be collected and stored and transported in accordance with applicable regulations or requirements.
- Measures to encourage the use of multi-passenger vehicles and offsite areas will be developed with the contractors and included in the CEMP, where applicable and appropriate, given the scope of work taking place and construction activities underway.
- Traffic management mitigation measures will be developed and incorporated into the CEMP and OEMP. Contractor personnel will comply with road-use and safety requirements outlined in the CEMP and OEMP, applicable Municipal and Provincial traffic regulations, including truck routes and approved access routes.
- Contribute to the maintenance of roads, as required by applicable permits, such as the Delta Development Permit;
- Ensure there are no waterborne deliveries of modular components or construction materials to the project site, and that no Marine Offloading Facility will be required or utilized;
- Develop emergency response measures to prevent and manage emergencies, including complete onsite fire control and response systems independent of Delta Fire and Emergency Services (DFES). Additionally, FortisBC will maintain an Emergency Response Plan (ERP) with procedures, training, and response plans developed alongside the local, fire, police, and medical services and BCER. The ERP will be tested annually in accordance with the requirements of the BCER. These emergency response measures will be incorporated into the CEMP
- Provide onsite emergency health services to meet or exceed WorkSafeBC requirements.
- Implement worker health and safety educational approaches, including mental well-being, as described in the CEMP to avoid project-related incidents;
- Encourage the use of local and regional human resources in design, planning, construction, restoration, and operation, to the extent practical
- Support local training initiatives and opportunities to support development of project -relevant skills
- Conduct testing and treatment of hydrostatic test water prior to discharge to the Delta storm sewer and ensure contact water captured in sumps is measured for field parameters prior to release into onsite drainage ditches
- Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums.
- Contribute to the maintenance of roads, as required by applicable permits (Delta Development Permit).

As part of the substituted process, the EAO has identified KMMs for effects within federal jurisdiction to inform the IAAC's draft potential federal conditions. The KMMs related to the Infrastructure and Services VC are outlined in [Appendix 2](#).

### 17.11.6 Key Issues Raised

Based on a review of the Revised Application and with feedback from the TAC, participating Indigenous nations, and the public, the following key issues related to the assessment of the Infrastructure and Services VC for Tilbury Phase 2 were identified.

#### 17.11.6.1 Traffic and Transportation Infrastructure

Delta, Richmond, xʷməθkʷəyám, and Ministry of Transportation and Transit (MoTT) provided comments relating to transportation and transportation infrastructure.

Delta expressed concern about the potential impacts to parking in the area during construction and roadways during construction, while MoTT provided feedback on route selection and timing, and also identified that consultation should occur with them and the Highway 17 Concessionaire on traffic management plans.

FortisBC stated that mitigation measures would be developed as part of the CEMP relating to traffic management, which will include consultation with Delta and MoTT.

The EAO and Delta identified that a Highway Use Permit may also be required from Delta for the moving of oversized loads, traffic impacts and lane closures related to Tilbury Phase 2.

xʷməθkʷəyám noted concerns regarding changes of access due to road traffic to access to Dow-Delta Bar Fishing Park and Deas Island Regional Park. FortisBC identified that impacts to the parks were considered in [Section 7.11.4.1](#) of the Revised Application.

If issued, the Certificate will require FortisBC to develop and implement a Traffic Management Plan as part of Condition 12 (CEMP) which requires the creation of a CEMP. The CEMP will require consultation with First Nations, MoTT, and Delta, and approval by the EAO, prior to the commencement of construction.

#### 17.11.6.2 Housing

Reviewers identified concerns regarding potential effects of workers arriving from Metro Vancouver being needed for Tilbury Phase 2, and impacting the housing supply or local services, particularly during Construction which has the highest number of expected workers.

FortisBC indicated that it believes it can source workers from the local area and does not anticipate a change in demand for housing and accommodations as a result of Tilbury Phase 2. FortisBC identified support for local training initiatives and regional employment as a mitigation measure to reduce strain on housing, childcare, and healthcare services.

The EAO has proposed that if issued, the Certificate should include Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan) requiring the development of a First Nation and Local Economic Inclusion and Monitoring Plan to support involvement of First Nation and local employment in Tilbury Phase 2, and to minimize the potential for workers being required from outside of Metro Vancouver. The plan will also include monitoring and reporting requirements to support the ability of First Nations, local governments, training providers, and the Province to maximize positive and decrease potential adverse effects of Tilbury Phase 2.

Also, the EAO notes that provincial government is implementing measures to encourage the expansion of the provincial housing supply. This includes "[Homes for People: An action plan to meet the challenges of today and deliver more homes for people, faster](#)" that was announced on April 3, 2023, and the [Housing Supply Act, 2022](#).

### 17.11.7 The EAO's Characterization of Residual Effects

After considering the proposed mitigation measures and proposed conditions, and the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that Tilbury Phase 2 would result in no residual effects for several Infrastructure and Services pathways, and negligible residual effects for the remaining pathways. For the purposes of this assessment, a negligible residual effect is one that does not result in a measurable change from existing conditions, or results in no observable change at all at the scale of the Local or RAA.

Tilbury Phase 2 is not expected to have an impact on the following potential effects, and therefore are not need carried forward for further assessment:

#### No Residual Effects

- Housing availability and cost: The number of workers expected to relocate to Metro Vancouver is very small, and no discernible changes to availability, affordability, or disproportionate impacts on vulnerable subpopulations are anticipated.
- Health care and social services: The small number of relocating workers is not expected to affect access to primary care, specialist care, or social services within the region.
- Recreation facilities and parks: Given the wide availability of urban recreation amenities and the absence of identified cultural and limited public use near the Project footprint, no increase in demand is expected.
- Education and childcare services: Regional systems have sufficient capacity to absorb any incidental demand; no changes to availability, affordability, or access for existing users are anticipated.
- Emergency response services: Tilbury Phase 2 includes onsite first aid, emergency response capabilities, and fire protection systems designed to operate independently of municipal services, avoiding measurable demand on police, fire, or ambulance response.
- Dikes and flood protection infrastructure: The removal of waterborne delivery and the MOF eliminates barge traffic, wake, and prop-wash interactions; no pathway remains for effects to shoreline stability or dike integrity.
- Sewage/water treatment and other utilities: No new or expanded utility or treatment capacity is required, and no interaction with these systems is expected.

#### Potential Negligible Residual Effects

- Domestic water supply
- Landfill and recycling facilities
- Transportation infrastructure and safety

The EAO's characterization of the potential residual effects of the Infrastructure and Services VC is summarized below in Table 64, as well as the EAO's level of confidence in the effects determination (including their likelihood and significance).

Table 64: Summary of Residual Effects for Culture

| Residual Effect                                                                                                                     | Assessment Rating*                                                                                                                                                                                                                                                                       | Significance and Rationale                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects to domestic water supply                                                                                                    | Context (resilience): High<br>resilience<br>Magnitude: Negligible<br>Extent: Local<br>Duration: Short-term<br>Frequency: Once<br>Reversibility: Fully reversible<br>Affected populations: Even<br>Risk (likelihood & consequences): Low<br>Uncertainty: Moderate<br>Importance: Moderate | <b>Not significant</b><br><br>A single hydrostatic test requires a permitted draw of potable water, with controlled discharge and treatment. Outside this one event, Project water demand is minimal. Residual effects are negligible, short-term, and reversible.          |
| Effects to landfill and recycling facilities                                                                                        | Context: High resilience<br>Magnitude: Negligible<br>Extent: Regional<br>Duration: Short-term<br>Frequency: Irregular<br>Affected Populations: Even<br>Risk (likelihood & consequences): Low<br>Reversibility: Fully reversible<br>Uncertainty: Moderate<br>Importance: High             | <b>Not significant</b><br><br>Construction and decommissioning waste volumes are small relative to regional capacity and will be managed through the CEMP with recycling and diversion measures. The negligible incremental contribution is unlikely to be detectable.      |
| Effects to transportation infrastructure and safety                                                                                 | Context: Moderate Resilience<br>Magnitude: Negligible<br>Extent: Local<br>Duration: Medium-term<br>Frequency: Irregular<br>Affected Populations: Disproportionate<br>Reversibility: Fully reversible<br>Risk (likelihood & consequences): Low<br>Uncertainty: Low<br>Importance: High    | <b>Not significant</b><br><br>Construction traffic increases total volumes by <1% (≈5% of commercial vehicles at peak) on designated truck routes. With traffic management included in the CEMP and OEMP, no measurable change in traffic operations or safety is expected. |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> . |                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                             |

### 17.11.8 Cumulative Effects Assessment

The assessment of a designated project must consider cumulative effects that may result from Tilbury Phase 2 in combination with other past, present, and reasonably foreseeable future projects and activities. For the Infrastructure and Services VC, only the following residual pathways were carried forward: Domestic water supply, Landfill and recycling facilities, and Transportation infrastructure and safety. Reasonably foreseeable projects in the Local and RAAs include the Tilbury Marine Jetty (TMJ), the Fraser River Tunnel Project (FRTTP), and the Delta Grinding Facility (DGF).

Tilbury Phase 2's water interaction is limited to a single hydrostatic test of the LNG tank ( $\approx 95,000$  cubic meters ( $m^3$ )), undertaken under municipal permits with controlled discharge and testing prior to release. There is no material operational water demand beyond standard domestic use by staff. Given the one-time nature, permitting controls, and the scale of Metro Vancouver's potable supply network, Tilbury Phase 2's contribution to any cumulative draw on domestic water is not measurable. Concurrent or overlapping construction from TMJ, F RTP, or DGF would not materially change this conclusion, as those projects rely on routine municipal supply and do not introduce large, discrete potable demands of the same magnitude within the same short window.

Project construction (and eventual decommissioning) generates typical industrial waste streams managed through the CEMP with diversion and disposal at licensed regional facilities. Relative to Metro Vancouver's established solid waste system, Tilbury Phase 2's incremental volumes are small and absorbed within existing capacity. While TMJ, F RTP, and DGF may each produce construction wastes, these are staggered in time and dispersed across multiple receivers, with each project applying its own diversion plans. In aggregate, the combined contribution does not demonstrably change regional landfill performance or lifespan.

During peak periods of the Construction Phase, Project trucking raises total volumes by less than 1 percent of overall traffic ( $\approx 5$  percent of commercial vehicles during peak weeks) on designated truck routes (e.g., River Road/South Fraser Perimeter Road (SFPR)), with effects managed through a Traffic Management Plan under the CEMP/OEMP. Regional baselines already reflect heavy goods movement in the Tilbury/Lower Fraser corridor. While F RTP construction will contribute substantial corridor activity and DGF/TMJ will add intermittent industrial traffic, these occur on arterials designed for goods movement and are subject to dedicated traffic management and staging. Against this background, Tilbury Phase 2's incremental trucking remains minor, short-term, and reversible, and does not alter network performance or safety trends.

Considering the limited magnitude and duration of Tilbury Phase 2's residual effects, the capacity and management practices of regional systems, and the mitigation applied to reasonably foreseeable projects in the area, the EAO concludes that Tilbury Phase 2 is not predicted to cause adverse cumulative effects on Domestic water supply, Landfill and recycling facilities, or Transportation infrastructure and safety.

#### 17.11.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or significant cumulative effects on the Infrastructure and Services VC. The extent of significance for federal effects on the current use of lands and resources for traditional purposes are found in [Appendix 15](#). This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; the proposed mitigation measures identified in the provincial Table of Conditions including, Condition 12 (CEMP), which requires the creation of a CEMP and Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan) which requires the development of a First Nations and Local Economic Inclusion and Monitoring Plan.

## 17.12 Archeological and Heritage Resources

### 17.12.1 Summary

Archaeological and Heritage Resources include fossils, cultural materials (e.g., campsites, culturally modified trees), historical structures, and burial sites. These non-renewable resources are vulnerable to land-altering activities and hold value for Indigenous communities, the public, and stakeholders.

FortisBC (the Proponent) assessed potential project impacts of Tilbury Phase 2 LNG Expansion Project (Tilbury Phase 2 or Project) to archaeological and heritage resources through a review of provided Indigenous knowledge, desktop reviews of recorded historic and paleontological sites, and Archaeological Impact Assessments under the *Heritage Conservation Act*. Key risks include disturbing previously unidentified sites during construction or decommissioning.

Reviewers also provided comments on the Archeological Chance Find Management Guidelines (CFMG) ([Appendix S](#) of the Revised Application), noting the need for clearer procedures on Ancestral Remains, and discussions for the buffer zone size in the event of chance finds.

As outlined in the [Joint Permitting / Regulatory Coordination Plan](#), pre-1846 archaeological sites are protected under the *Heritage Conservation Act*, which requires permits for site investigation or alteration. To address key issues raised on archaeological and heritage resources, and implement mitigation measures identified in the Revised Application, the EAO has proposed Condition 15, requiring the development and implementation of a Chance Find Protocol.

Based on the assessment, mitigation measures, proposed condition, and permitting requirements, the EAO concluded there would be no significant adverse effects. As no residual effects were anticipated, cumulative effects were not assessed, and no potential cumulative impacts from other projects were identified.

### 17.12.2 Assessment Boundaries

The spatial boundaries for the archaeological and heritage resources assessment included:

- Project Footprint – defined as the area directly disturbed by project activities;
- The Local Assessment Area (LAA): the Project Footprint, which contains areas of proposed and potential ground disturbance, plus a 100-metres buffer around the Project Footprint.
- The Regional Assessment Area (RAA): the area of the LAA and the south arm of the Fraser River from the proposed Project Footprint, downstream to Sand Heads, upstream to Annacis Island, and extending 1 km inland from the north and south shores of the river.

The temporal boundaries for Archaeological and Heritage Resources include the Construction (3-6 years), Operation (40 plus years), and Decommissioning (2 years) phases of Tilbury Phase 2.

Project components and anticipated duration of activities are described in detail in [Section 1.2](#) (project description and schedule) of the Report.

### 17.12.3 Existing Conditions by Proponent

The existing archaeological and heritage resources conditions in the region were assessed in [Section 7.13](#) of the Revised Application by the Proponent and are summarized here. A desktop review identified one previously recorded archaeological site (DgRs-17) (the historic Indigenous village site<sup>1</sup>) within the RAA. DgRs-17 is located within 1 km of Tilbury Phase 2 on Lulu Island, directly across the Fraser River from the Project Footprint. It contains precontact heritage resources consisting of surface fire-broken rock, subsurface lithics, and a fishing weir. The review indicated there are no recorded archaeological sites within the LAA.

DgRs-17 is known as a cultural site of high significance to several Indigenous nations. The Revised Application noted sources referencing the site and information about the site was received from xʷməθkʷəy̓əm, Quw'utsun



Nation, Ts'uubaa-asatx, Tsawwassen First Nation, TWN, Kwantlen First Nation, Semiahmoo First Nation, and Stó:lō communities. First Nations also shared that when there is a village site on one side of a river, there is often a related site on the other side, which could include the location of Tilbury Phase 2. Quw'utsun Nation indicated a desire to re-establish permanent use of the historic Indigenous village site.<sup>65</sup>

Two Archaeological Impact Assessments conducted under the *Heritage and Conservation Act* (permits 2013-0332 and 2020-0137) were conducted that included areas of the current Tilbury LNG facility, the Tilbury Phase 2 project area, and the Tilbury Marine Jetty (TMJ) project area. Nine First Nations were involved in the Archaeological Impact Assessments through the issuance of their own permits or authorizations. The Archaeological Impact Assessments did not identify any archeological and heritage resources in the LAA.

The Project area contains bedrock with fossil potential. However, the Revised Application notes that these materials lie 200 to 1,000 metres below modern sediments and would not be affected by Tilbury Phase 2 components or activities.

#### 17.12.4 Potential Project Effects by Proponent

The Revised Application identified the following potential effects to archaeological and heritages sites or resources during the construction and decommissioning of Tilbury Phase 2:

- Construction and decommissioning works could lead to ground disturbance of previously unidentified archaeological and or heritage resources.

#### 17.12.5 Proposed Mitigation Measures by Proponent

In addition to the avoidance of archaeological and heritage resources, and legislative requirements, the following are the mitigation measures proposed by the Proponent:

- Prohibit the collection of heritage resources by project personnel on the site.
- If archaeological and/or heritage resources are identified during construction and decommissioning activities, then the project archaeologist will develop and implement appropriate mitigation measures through engagement with regulators and participating Indigenous nations, and in accordance with the site-specific Archaeological Chance Find Management Guide.
- Notify Indigenous nations whose traditional territories overlap with the project before commencement of construction, as well as stakeholders within the project area.

#### 17.12.6 Key Issues Raised

Based on a review of the Application and with feedback from the TAC participating Indigenous nations, and the public, the following key issues related to the assessment of the archaeological and heritage VC for Tilbury Phase 2 were identified. Comments were also provided on CFMG which is in [Appendix S](#) of the Revised Application.

##### 17.12.6.1 Chance Find Protocol

xʷməθkʷəyám, TWN, Ts'uubaa-asatx and BCER provided comments on the CFMG.

xʷməθkʷəyám identified that if Ancestral Remains were present, it would be inappropriate to take photographs. TWN recommended that CFMG should indicate that the Proponent should be responsible for all additional costs regarding the disturbance, removal, ceremony, specialty analysis, and reburial of any Ancestral Remains, and requested that the CFMG be updated to include fragmentary bone, salmon vertebrae, and sturgeon scutes.

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<sup>65</sup> See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site.

xʷməθkʷəyám, TWN and BCER provided comments related to buffer zones for chance finds. TWN also identified the need for the CFMG to include First Nations communities' guidelines and requirements for Ancestral Remains.

Ts'uubaa-asatx identified a lack of confidence in relying in a Chance Find Protocol as the primary mitigation measure for Archeological and Heritage Resources.

FortisBC's view that a 50 metre buffer is appropriate given the size of the site, committed to update the CFMG based on xʷməθkʷəyám's comments relating to photographs, and committed to considering TWN's comments and requests and discuss with the Nations when revising the plan prior to the start of construction.

The EAO recommend the CFMG be required for Tilbury Phase 2 as part of Condition 15. FortisBC will be required to consult with First Nations and the BCER on an updated version of the CFP which, along with consultation logs, must be submitted to the EAO prior to the commencement of construction.

#### 17.12.7 The EAO's Characterization of Residual Effects

After considering the proposed mitigation measures and conditions proposed, the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that the Project would not result in residual effects on the archaeological and heritage resources valued component for the following reasons:

- The current conditions of the Project Footprint and potential for interactions between Project activities and archaeological and heritage resources is well understood with Archaeological Impact Assessments having been conducted at the Project Footprint;
- The required chance finds procedure would help mitigate effects to any sites that are discovered during Construction and Decommissioning; and,
- Any pre-1846 archaeological sites discovered would be protected under the *Heritage Conservation Act* and permits would be required for inspection, investigations, and alterations of these sites.

Therefore, no additional characterization of residual effects was completed for archaeological and heritage resources.

#### 17.12.8 Cumulative Effects Assessment

The Revised Application and the EAO's assessment determined that the Project would not result in residual adverse effects to terrain, soil quality, or soil quantity. As no residual effects were identified for the archaeological and heritage resources valued component, a cumulative effects assessment was not warranted.

#### 17.12.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not have significant adverse residual or significant cumulative effects on the Archeological and Heritage Resources VC. The extent of significance for federal effects are found in [Appendix 15](#). This conclusion considers the information and analysis presented in this section; the views of the TAC, First Nations, and FortisBC; the proposed Mitigation Measures identified in the provincial Table of Conditions, including Condition 15.

## 17.13 Culture

### 17.13.1 Summary

Culture was identified as a VC for the Tilbury Phase 2 LNG Expansion Project (Tilbury Phase 2 or Project) due to its significance to First Nations the public, and stakeholders. The Fraser River, central to both Indigenous and non-Indigenous communities, has been used since time immemorial by Indigenous peoples for harvesting, transportation, trade, and spiritual practices. The area contains historic fishing camps, settlements, and cultural sites. Continued access to these resources is vital for preserving intergenerational knowledge and cultural heritage.

Reviewers raised concerns about potential impacts on Indigenous cultural practices, ways of life, and significant sites—affecting cultural continuity, intergenerational knowledge transfer, and community well-being. Additional concerns included the limited integration of Indigenous Knowledge in the assessment and insufficient consideration of cumulative effects and the ongoing impacts of colonialism on Indigenous culture.

If issued, the EAO has proposed that the Certificate include Condition 12 (CEMP) and Condition 13 (OEMP) which would require a Holder implement the mitigations measures identified in the Revised Application applicable to culture. The development of both plans will require consultation with First Nations.

After reviewing the proposed mitigation measures and conditions, the EAO concluded there would be no significant residual or cumulative effects on culture.

### 17.13.2 Assessment Boundaries

The spatial boundaries for the culture assessment includes the Project Footprint, the LAA and the RAA, as described below:

- The Project Footprint is the area directly disturbed by project activities, including the associated physical works and activities;
- The Local Assessment Area (LAA) includes the City of Delta, and largest LAA of the VCs that may interact with potential direct effects on the culture VC; and
- The Regional Assessment Area (RAA) includes the boundaries of Metro Vancouver and the largest RAA for other VCs that may interact with potential indirect or cumulative effects on the culture VC.

The temporal boundaries for culture include the Construction (3-6 years), Operation (40+ years), and Decommissioning (2 years) phases of Tilbury Phase 2.

Project components and anticipated duration of activities are described in detail in [Section 1.2](#) (Project Description and Schedule) of this Report.

### 17.13.3 Existing Conditions by Proponent

An overview of existing culture conditions was provided in [Section 7.14.3](#) of the Revised Application. This section provides a description of existing conditions of the aspects of culture most likely to be affected by the Project.

The Project is located on a brownfield site owned by FortisBC at the Tilbury LNG facility in Delta, B.C. The site is part of Metro Vancouver, a regional district that is comprised of 21 municipalities, one treaty First Nation, and one electoral area. The LAA includes Tsawwassen First Nation lands and xʷməθkʷəyám Indian Reserve No. 4, a 57.2-hectare reserve within the Agricultural Land Reserve, leased to a private farmer.

### 17.13.4 Cultural History and Identity

The Fraser River and surrounding lands, including Tilbury Island, have been used by local First Nations since time immemorial for habitation, sustenance, and cultural practices. The area contains several culturally significant sites,

including spiritual sites, fishing camps, and harvesting areas. Tilbury Island was traditionally used for hunting and gathering, and an historic<sup>66</sup> Indigenous village of high significance lies just across the river.

Kinship ties, social networks, and harvesting protocols fostered cooperation among First Nations, creating a cultural and social continuum of villages and resource sites. Fishing remains central to Indigenous identity, with knowledge passed through generations, reinforcing social bonds and stewardship responsibilities. Indigenous communities maintain a sacred duty to protect land, water, air, and resources for future generations.

The Fraser River delta also attracted European and Asian settlers for its agricultural and fisheries potential, shaping the cultural identity of Delta's communities—Ladner, Tsawwassen, and North Delta. While agriculture continues, land use is shifting toward industrial and urban development, especially along the river's south arm. Salmon fisheries have declined significantly.

Despite these changes, the Fraser River remains culturally vital to many First Nations, supporting fishing and serving as a key travel route.

### 17.13.5 Governance and Stewardship Systems

Governance and stewardship systems were included as cultural indicators because they reflect the socio-environmental values and priorities of the communities they represent. Changes in policy direction or decision-making structures are used as measurable parameters. For both First Nations, and non-First Nation municipal governments, their cultural identity and core values are deeply intertwined with their approach to land and resource management, including climate action and GHG reduction plans.

For First Nations environmental stewardship is deeply rooted in culture, worldview, and a sacred responsibility to both ancestors and future generations. This connection is reflected in their governance and climate plans.<sup>67</sup>

For municipal governments in the Local and RAAs, environmental stewardship and climate action are core cultural values, embedded in governance through specific plans and frameworks:

- Delta views the Fraser River's natural environment as central to its cultural identity. Its OCP promotes ecological protection and stewardship education, while its climate goals, net-zero by 2050 and a 45 percent emissions reduction by 2030, reflect a deep cultural commitment to sustainability;
- Richmond's OCP frames environmental health as essential to the city's long-term well-being. Its climate strategies, including a 50 percent emissions reduction by 2030 and net-zero by 2050, are integral to its cultural vision of sustainability; and
- Metro Vancouver's Climate 2050 and Ecological Health Frameworks reflect a regional culture that values nature, ecosystems, and intergenerational environmental responsibility. These plans guide efforts to reduce emissions and conserve ecological health as part of the region's identity.

### 17.13.6 Customs, Beliefs and Values

Cultural identity is deeply shaped by customs, beliefs, and values, especially for Indigenous communities, where cultural practices are closely tied to specific places and local ecosystems. The assessment focused on two key cultural dimensions: access to culturally significant lands and waters and the quality of those places and resources. These factors directly affect the ability of communities to carry out cultural activities, sustain traditional practices,

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<sup>66</sup> See [Section 2.1](#) for naming and jurisdictional context regarding the Historic Indigenous Village Site

<sup>67</sup> See [Appendix 5](#) for more information about the predicted effects to each First Nation rights and interests because of Tilbury Phase 2 may be found in their respective sections of this Report and the Indigenous Peoples' Cultural Heritage and Current Use of Lands and Resources for Traditional Purposes, as assessed under the IAA, are considered in [Appendix 15](#).

and pass on knowledge. Section 11 of the Revised Application provided additional detail on Indigenous perspectives.

In the broader Local and RAAs, the cultural landscape reflects a mix of Indigenous and non-Indigenous identities. Over the past 150 years, the region has been shaped by successive waves of settlement and resource use. Activities like fishing, farming, and forestry have played a foundational role in shaping B.C.'s non-Indigenous cultural identity and continue to be culturally significant. These practices support a sense of place and continuity for many communities, particularly in rural and semi-urban areas.

Access to land and water is central not only for traditional harvesting and ceremonial use but also for a wide range of everyday cultural and recreational practices. Both residents and visitors engage in consumptive (e.g., fishing, farming) and non-consumptive (e.g., hiking, birdwatching, boating) uses of land and water that are part of personal, family, and community identity. However, not all groups have equal access. Barriers such as time, cost, and transportation can limit opportunities for outdoor and cultural activities, particularly for lower-income and racialized communities.

In Delta, agriculture is a key part of local cultural identity, with many farms being family-run and supported by local non-profits that help preserve the area's farming and fishing heritage. This connection to land and intergenerational stewardship reinforces community ties and shared cultural values.

Near the Project Footprint on Tilbury Island, several informal trails reflect how local residents engage with the landscape. These include a shoreline path along the northern edge of the island, situated on the dike between the Project Footprint and the Fraser River, as well as trails beside Tilbury Slough and along the eastern flood dike. While not formally recognized as recreational infrastructure, these routes are part of how people interact with and experience the land, contributing to a sense of place and local identity. See [Appendix 6, Section 17.10](#) (Land and Resource Use) more information about potential effects to recreational opportunities.

#### Language and Intergenerational Knowledge Transfer

Language is a vital expression of culture and a key mechanism for passing down knowledge, values, and traditions across generations. For Indigenous communities, language is deeply tied to identity, worldview, and place-based knowledge. Despite the impacts of colonization and assimilation—such as the residential school system—that have led to a decline in traditional languages, many Indigenous peoples continue to rely on oral traditions to sustain cultural continuity.

Intergenerational knowledge transfer is dynamic and community-driven, often occurring through ceremonies, storytelling, and land-based practices. However, disruptions to access or degradation of culturally significant lands and resources can hinder these practices, affecting the ability to maintain and transmit cultural knowledge and responsibilities.

Non-Indigenous communities place high value on intergenerational knowledge transfer, especially regarding local settler history. In Delta, institutions like the Douglas J. Husband Discovery Centre and local heritage societies preserve this history, while Metro Vancouver museums also contribute to cultural understanding.

Language plays a vital role in shaping culture and worldview, serving as a key tool for passing down cultural knowledge. In Delta, Richmond, and Metro Vancouver, ethnocultural diversity is high, with over half the population in Metro Vancouver and nearly half in Delta identifying as racialized. Common non-official languages spoken at home include Mandarin, Cantonese, Punjabi, and Tagalog. For South Asian and Chinese communities in particular, maintaining cultural cohesion and intergenerational knowledge transfer is especially important due to historical and ongoing experiences of racism and exclusion.

### Community, Cultural Cohesion, and Continuity

Communities are built through shared geography, culture, values, and relationships, supported by institutions and events that foster belonging and cultural continuity. In Delta and Metro Vancouver, diverse cultural celebrations—including Indigenous events like National Indigenous Peoples Day and powwows, as well as multicultural festivals such as Pride and Chinese New Year, help strengthen community ties.

However, marginalized groups, particularly in low-income areas, often face discrimination and social segregation. Anti-racism initiatives and local cultural institutions play a key role in promoting inclusion and cohesion.

For Indigenous communities, well-being is deeply connected to cultural identity, language, and stewardship of land and resources. Despite the impacts of colonization, surveys show a strong sense of belonging and community cohesion among Indigenous peoples.

Religious diversity in the region includes large secular populations and major faith groups such as Sikhism and Catholicism. Indigenous spirituality is uniquely rooted in land, ancestry, and traditional practices, often centered in longhouses and sacred sites.

#### 17.13.7 Potential Project Effects by Proponent

For detailed assessments of Indigenous interests, potential effects, and mitigation measures related to cultural, social, and environmental factors, please refer to Section 11 of the Revised Application.

The Revised Application identified the following potential effects to culture during the Construction, Operation, and Decommissioning of Tilbury Phase 2:

- **Change to the ability of municipalities or Indigenous nations to continue to plan and meet planning objectives for GHG emissions:** The Project will generate GHG emissions during Construction, Operation and Decommissioning, which could challenge the GHG reduction plans of First Nations and local governments. For many First Nations, climate action reflects deep cultural responsibilities to protect the land, water, and future generations. Local governments' climate plans also embody community values tied to preserving the environment, sustaining quality of life, and safeguarding the cultural and natural heritage that defines the region. FortisBC's net-zero by 2030 commitment, along with best available practices, is expected to limit these effects. As a result, the Project is not expected to materially hinder local or Indigenous climate goals. Broader alignment with provincial and national targets is discussed in Appendix 12;
- **Change to land and water-based cultural practices:** The Project may affect land and water-based cultural practices for both Indigenous and non-Indigenous people who maintain personal, spiritual, or community connections to the Fraser River and surrounding areas. For Indigenous communities, these practices are closely tied to identity, spirituality, and stewardship responsibilities, and rely on continued access to culturally significant places and healthy ecosystems. Non-Indigenous communities may also engage in cultural or recreational activities community traditions, and local heritage linked to fishing, farming, and settlement history;
- **Physical Changes to Lands, Waters, and Resources:** Project activities such as site preparation, vegetation clearing, infrastructure development, and industrial operations may result in physical alterations that may physically alter landscapes that support cultural practices. Potential effects include:
  - Disruption or degradation of fish habitat, riparian vegetation, and wildlife corridors;
  - Loss or alteration of plant species used for food, medicine, or ceremonial purposes;

- Disturbance of culturally significant sites, including archaeological or spiritual locations; and
- Reduced availability or quality of natural resources essential to traditional harvesting, fishing, and gathering.
- **Access to Cultural Areas:** Construction and industrial operations may limit access to culturally significant sites through:
  - Temporary or permanent restrictions near work zones;
  - Increased traffic or safety concerns affecting travel routes;
  - Disruption of traditional land and water pathways; and
  - Exclusion from areas of cultural importance, due to perceived changes in safety and risk;
- **Sensory Conditions:** Changes to the sensory environment may affect the quality and integrity of cultural experiences. Potential impacts include:
  - Air emissions or dust affecting health and comfort;
  - Noise disrupting ceremonies, storytelling, or quiet reflection; and
  - Visual changes from industrial structures or lighting.

Further details are in [Appendix 6.01, Sections 17.01](#) (Air Quality), [Appendix 6.02, Section 17.02](#) (Acoustic), [Appendix 6.10, Section 17.10](#) (Land and Resource Use), [Appendix 6.14, Section 17.14](#) (Human Health) and [Appendix 7](#) Accidents and Malfunctions of the Revised Application.

- **Change to intergenerational knowledge transfer:** Indigenous Knowledge transfer relies on cultural practices linked to land and water. Sensory disturbances from the Project could lead to avoidance of key sites, such as the historic Indigenous village site, affecting language, stories, laws, and spiritual beliefs that are central to cultural identity;
- **Changes to the Diversity and Use of Indigenous and Non-Indigenous Languages:** Indigenous languages are deeply tied to landscapes and cultural sites, so limited access due to sensory disturbances could reduce the use of certain place names and words. Non-Indigenous languages in the urban project area are diverse, but the Project is expected to have negligible impact on their use; and
- **Changes to cultural cohesion and community continuity:** Shift work and rotational schedules may reduce employee participation in cultural and social activities, affecting cultural identity and social ties. Indigenous employees may face greater challenges balancing work with traditional activities, which could impact family and community connections. Sensory disturbances near the Project Footprint may also affect Indigenous engagement with cultural practices and their sense of place and community cohesion.
- The assessment also considered perceived effects, including how concerns related to safety, risk, industrial presence, and sensory conditions may influence decisions about accessing or engaging in cultural practices, even where physical access remains unchanged and environmental thresholds are met. These perceptions were evaluated as indirect pathways by which the Project could affect cultural experience and use.



### 17.13.8 Proposed Mitigation Measures by Proponent

FortisBC has identified and committed to the mitigation measures outlined in *Table 7.14-17* (Culture – Potential Effects, Mitigation Measures, and Potential Residual Effects) of the Revised Application. Many of these measures are linked to supporting VC sections, including [Appendix 6, Section 17.01](#) (Air Quality), [Appendix 6, Section 17.02](#) (Acoustic), [Appendix 6, Section 17.10](#) (Land and Resource Use), [Appendix 6, Section 17.06](#) (Vegetation), and [Appendix 6, Section 17.14](#) (Human Health). These measures are designed to limit physical and sensory disturbances to culturally important sites, practices, and landscapes; support continued access to land and water; and minimize disruption to intergenerational knowledge transfer and cultural continuity.

The following mitigation measures are particularly relevant to the key issues raised in relation to potential cultural impacts, see *Table 7.14-17* (Culture – Potential Effects, Mitigation Measures) of the Revised Application for all mitigation measures:

- Notify Indigenous nations whose traditional territories overlap with the project before commencement of construction, as well as other stakeholders within the project area;
- Receive, record, investigate, and follow-up on odour and noise complaints from Indigenous nations, the public, and adjacent businesses;
- Prohibit the collection of heritage resources by project personnel and implement the site-specific Archaeological Chance Find Management Guide through engagement with participating Indigenous nations should resources be identified during construction;
- Communicate project activities, safety measures, and emergency response measures to Indigenous nations, the public, and stakeholders through different media and forums;
- Incorporate emissions reduction and control technologies in the project design to ensure compliance with regulatory air quality requirements and industry best practices;
- Where practical, plan construction activities within wildlife habitat or buffers of identified wildlife habitat features during the least-risk timing windows for applicable species. For any work within the buffer zone during a sensitive timing window, consult with First Nations and a wildlife QP and the appropriate regulatory agencies to determine whether additional feature-specific mitigation is required to be incorporated into the CEMP;
- Develop mitigation and contingency measures through engagement with a QP to manage acoustic disturbance to human and wildlife receptors;
- Design project lighting in a manner consistent with the BCER's Light Control Best Practices Guideline;
- Use of Totally Enclosed Ground Flare technology to reduce noise and light from flaring;
- Develop erosion and sediment control measures to manage surface water in consultation with First Nations and a QP and incorporate them into the CEMP to reduce sediment deposition into watercourses or storm sewers;
- Avoid the use of waterborne deliveries for modular components or construction materials and ensure no Marine Offloading Facility is utilized during any project phase;
- Develop emergency response measures including onsite fire control and response systems independent of local services, to be tested annually in accordance with BCER requirements;
- Traffic management mitigation measures will be developed and incorporated into the CEMP and OEMP. Contractor personnel will comply with road-use and safety requirements outlined in the CEMP and OEMP, applicable municipal and provincial traffic regulations, including truck routes and approved access routes;

and

- FortisBC will develop and implement a Net Zero Plan that will utilize technology to ensure the project's direct operational GHG emissions follow government policies and regulations upon commencement of commercial operation.

As part of the substituted process, the EAO has identified KMMs for effects within federal jurisdiction to inform IAAC's draft potential federal conditions. The KMMs related to the culture VC are outlined in [Appendix 2](#).

### 17.13.9 Key Issues Raised

Based on a review of the Revised Application and with feedback from the TAC, participating Indigenous nations, and the public, the following key issues related to the assessment of the culture VC for Tilbury Phase 2 were identified.

#### 17.13.9.1 Effects on Indigenous cultural practices, ways of life, and sites impacting cultural continuity, intergenerational knowledge transfer, and community well-being

x̣ṃəθḳẉəỵ əm, Quw'utsun Nation, Tsawwassen First Nation, S'ólh Téméxw Stewardship Alliance, Ts'uubaa-saatx and TWN expressed concerns for the potential of Tilbury Phase 2 to negatively impact their cultural practices, ways of life, and significant spiritual and ceremonial sites. This includes impacts to specific places, including the Fraser River, its shoreline and the historic Indigenous village site, as well as those areas that are sacred and confidential, or lost or forgotten through colonisation.

x̣ṃəθḳẉəỵ əm identified that Tilbury Phase 2 would impact their use of and connection to culturally important sites due to noise, air pollution, and visual changes. Additionally, the adequacy and specificity of proposed mitigation measures to address these potential adverse effects on culturally significant practices and sites was raised by both x̣ṃəθḳẉəỵ əm and TWN. They noted that these effects could lead to loss of connection to cultural heritage, changes in community cohesion, impacts on cultural practices, intergenerational knowledge transfer, languages, and community continuity.

TWN expressed concern that the assessment does not adequately consider the implications of increased reliance on methane-based energy and the diversion of hydroelectric power to support fossil fuel processing. TWN indicated that, in their view, these factors contribute to uncertainty regarding the Project's potential to hinder local and Indigenous climate goals, and that the available information is insufficient to support the conclusion presented in the Assessment Report

In response, FortisBC noted that the proposed mitigation measures are based on industry standards, professional judgment, engagement with First Nations and regulators, and lessons learned from operating existing facilities. FortisBC also confirmed that the CEMP and Operational Environmental Management Plan (OEMP) will incorporate all proposed and required mitigation measures. These plans will be developed in consultation with First Nations, local governments, and relevant agencies to ensure effective implementation.

To support and enforce these commitments, the EAO has proposed Conditions 12 (CEMP) and 13 (OEMP), which would require the Holder to detail how mitigation measures will be implemented during Construction and Operation. Both conditions will also require measures be implemented to address effects to visual quality.

These processes, both FortisBC's planning and the EAO's enforceable conditions, are key to addressing potential impacts on culturally important sites, practices, and sensory conditions, and support the ongoing exercise of stewardship responsibilities and cultural continuity.

#### 17.13.9.2 Integration and consideration of Indigenous Knowledge and perspectives in the assessment process

x̣ṃəθḳẉəỵ əm and Quw'utsun Nation raised concerns about accuracy and sufficiency of FortisBC's assessment in integrating and considering Indigenous Knowledge and perspectives. x̣ṃəθḳẉəỵ əm identified the lack of consideration for First Nation thresholds in assessing sensory impacts as a specific example of this, as well as their disagreement with FortisBC's determination that decommissioning activities will return the Project site to industrial use. They requested further engagement, as returning the site to industrial use does not align

with xʷməθkʷəy̓ əm's desired future use of the area and objectives for restoration of the Project area to a non-industrial use.

In response, FortisBC committed to meeting Health Canada and BCER standards and to engage with xʷməθkʷəy̓ əm on its concerns regarding potential sensory disturbance. Furthermore, detailed mitigation measures responding to these concerns will be provided in the CEMP and the OEMP and xʷməθkʷəy̓ əm will be engaged during that process. FortisBC also committed to working in close partnership with xʷməθkʷəy̓ əm pursuant to the Tilbury Projects Master Agreement, dated June 14, 2022, including on Decommissioning.

If issued, the Certificate will include Condition 12 for a CEMP that must be submitted and approved prior to construction, and Condition 13 for an OEMP that must be approved prior to Operation. Under these conditions the Holder is required describe how proposed mitigation measures will be implemented and consult with First Nations as part of the plans' development process. The EAO has also recommended, as part of Condition 3 (Document Development) that when baseline information is included in a document to support monitoring of the efficiencies of mitigations that the baseline information include non-confidential First Nation knowledge when provided by a First Nation.

The EAO notes that the Project requires an LNG Facility Permit; or an amendment to the current LNG Facility Permit held for the existing facility. Section 21 of the LNG Facility Regulation has requirements for site restoration after the closure of a facility. This includes the removal of structures used for the operation of the LNG facility, the restoration of the soil structure and drainage patterns to conditions before alteration, and re-vegetation any exposed soils with an ecologically suitable species that promotes the restoration of the wildlife habitat that existed on the area before the energy resource activity was begun and stabilizes the soil if it is highly susceptible to erosion.

#### **17.13.9.3 Consideration of cumulative effects and the historical and ongoing impacts of colonialism on First Nation culture and well-being**

xʷməθkʷəy̓ əm, Quw'utsun Nation, and Tsawwassen First Nation expressed concerns regarding the adequacy FortisBC's assessment of impacts when considering the historical and ongoing context of development and the enduring effects of colonialism. These First Nations also identified the need to account for past and ongoing impacts on First Nation culture and rights as the true baseline, including the cumulative impacts of colonialism, and that Tilbury Phase 2 may perpetuate existing negative impacts and alienation from traditional lands. Alienation from traditional lands is not only a loss of physical access but disrupts cultural practices, knowledge systems, language use, and spiritual connection to place, all of which are central to Indigenous cultural identity and continuity, as described in [Section 7.14.3](#) of the Revised Application. Indigenous laws and stewardship responsibilities are also tied to the ability to access and care for land and waters.

The EAO acknowledges xʷməθkʷəy̓ əm's, Quw'utsun Nation's, and Tsawwassen First Nation's concerns about cumulative impacts they have experienced as a result of historic and ongoing development in the Lower Mainland and beyond. These impacts are reflected in the "Historical Context" and "Existing Conditions" sections of the Revised Application, which aim to situate the Project within the broader context of land use change and associated effects over time.

Under the environmental assessment process, FortisBC is responsible for identifying the potential effects of the Project and determining whether any residual effects are expected after mitigation. Where no residual effect is anticipated, a cumulative effects assessment is not conducted for that particular VC or Indigenous interest. This approach is consistent with the methodology outlined in the AIR and EAO's Policy.

#### **17.13.10 The EAO's Characterization of Residual Effects**

After considering the proposed mitigation measures and conditions proposed, the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that the Project has the potential for negligible adverse effects to the following cultural subcomponents:

- Change to land- and water-based cultural practices;
- Change to intergenerational knowledge transfer;
- Change to the diversity and use of Indigenous languages; and
- Change to cultural cohesion and community continuity.

For the purposes of this assessment, a negligible residual effect is one that does not result in a measurable change from existing conditions, or results in no observable change at all at the scale of the LAA or RAA.

Tilbury Phase 2 is not anticipated to change to the ability of municipalities or Indigenous nations to continue to plan and meet planning objectives for GHG emissions and therefore was not carried forward as a residual effect because the Project's committed NetZero plan and associated mitigation measures remove any remaining project level influence on achieving GHG planning objectives, and GHG emissions function as a globally driven cumulative issue shaped primarily by worldwide emission patterns rather than emissions at the scale of this Project.

The EAO's characterization of the potential residual effects of the Project on Culture VC is summarized below in Table 65, as well as the EAO's level of confidence in the effects determination (including their likelihood and significance).

Table 65: Summary of Residual Effects for Culture

| Residual Effect                                   | Assessment Rating*                                                                                                                                                                                                                                                                          | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Change to land and water based cultural practices | Context (resilience): Low<br>Magnitude: Negligible<br>Extent: Local<br>Duration: medium-term<br>Frequency: Irregular<br>Reversibility: Partially reversible<br>Affected populations: Disproportionate<br>Risk (likelihood & consequences): Low<br>Uncertainty: Moderate<br>Importance: High | <b>Not significant</b><br><br>Cultural practices are already heavily constrained by longstanding industrial development along the Fraser River and Tilbury Island. Project effects are limited to sensory pathways (noise, light, visual, air quality), with no new access restrictions or physical disturbance of cultural sites. Mitigation measures for noise, air, lighting, erosion/sediment control, and communication protocols reduce residual effects to a negligible to low magnitude. Effects may be disproportionately experienced by some Indigenous Nations, but no measurable change to overall practice or use is predicted.<br><br>Reversibility is considered partially reversible because, although effects are negligible and limited to temporary sensory changes, and air quality effects some Indigenous users closest to the site may experience short-term disruptions to cultural practice that could persist for a period beyond active project activities before fully returning to baseline. |
| Change to intergenerational knowledge transfer    | Context: Low resilience<br>Magnitude: Negligible<br>Extent: Local<br>Duration: medium-term<br>Frequency: Irregular<br>Affected Populations: Disproportionate<br>Risk (likelihood & consequences): Low<br>Reversibility: Partially reversible<br>Uncertainty: Moderate<br>Importance: High   | <b>Not significant</b><br><br>Project activities occur within a long-industrialized shoreline where cultural use is already constrained; effects are primarily sensory (noise, lighting, visual, air quality) and are addressed through CEMP/OEMP controls and ongoing Nation communications. Linked VCs (fish and fish habitat, vegetation, land and resource use) predict measurable negligible to low magnitude changes to resource availability or access following mitigation, and no new access restrictions or measurable disturbance to cultural sites are anticipated. Any remaining influence would be localized to the industrial setting and medium-term during Construction and Operation. While some First Nation users closest to the site could perceive effects more acutely, the Project is not expected to result in a measurable change in intergenerational knowledge transfer and water based cultural practices. See rationale for reversibility above.                                            |

| Residual Effect                                                                                                                   | Assessment Rating*                                                                                                                                                                                                                                                                                | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Change to diversity and use of Indigenous languages                                                                               | Context: Low Resilience<br>Magnitude: Negligible<br>Extent: Regional<br>Duration: Medium-term<br>Frequency: Irregular<br>Affected Populations: Disproportionate<br>Reversibility: Partially reversible<br>Risk (likelihood & consequences): Low<br>Uncertainty: Low<br>Importance: High           | <b>Not significant</b><br><br>Opportunities for the diversity and use of Indigenous languages in place-based teaching and knowledge sharing are expected to be maintained because the Project does not introduce new barriers to access or alter locations relied upon for cultural practice; pathways are limited to temporary changes in sensory conditions during construction and specific operational events. With standard mitigation (noise and light controls, emissions management, erosion and sediment control) implemented through the CEMP/OEMP and supported by linked Value Component conclusions that do not indicate measurable changes to biophysical resources that support cultural activities, no measurable changes in the use, transmission, or diversity of Indigenous languages is anticipated. Any perceived influence would be local and reversible once activities subside and Operation ceases.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Change to cultural cohesion and community continuity                                                                              | Context: Moderate Resilience<br>Magnitude: Negligible<br>Extent: Regional<br>Duration: Medium-term<br>Frequency: Irregular<br>Affected Populations: Disproportionate<br>Reversibility: Partially-reversible<br>Risk (likelihood & consequences): Moderate<br>Uncertainty: Low<br>Importance: High | <b>Not significant</b><br><br><b>Context:</b> The Project is located in an already industrialized area where existing conditions have reduced the resilience of community cohesion and continuity and therefore rated as moderate.<br><br><b>Magnitude:</b> Effects are limited to indirect sensory pathways (e.g., noise, lighting, visual quality, air quality) and represent a small incremental contribution to existing pressures on cultural continuity and rated as negligible.<br><br><b>Extent:</b> Rated as regional, duration rated as medium-term), and frequency rated as irregular. The Project-related effects are distributed across the broader region, occur over the Construction and early Operation phases, and are intermittent in nature.<br><br><b>Affected Populations:</b> Effects may be disproportionately experienced by Indigenous nations due to the importance of land, water, and cultural practices to community cohesion and continuity.<br><br><b>Reversibility:</b> Some effects may diminish over time but not all, therefore rated as partially reversible in the context of ongoing cumulative industrial influences.<br><br><b>Risk:</b> The likelihood and consequence of effects are considered moderate, reflecting the potential for incremental contributions to existing conditions.<br><br><b>Uncertainty:</b> There is variability in how effects may be experienced across communities and uncertainty in predicting changes to complex social and cultural systems.<br><br><b>Importance:</b> Cohesion and community continuity are of high importance due to their cultural and social significance. |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

### 17.13.11 Cumulative Effects Assessment

The assessment of a designated project must consider cumulative effects that may result from Tilbury Phase 2 in combination with other past, present, and reasonably foreseeable future projects and activities. For the Culture VC, the reasonably foreseeable projects with potential to interact cumulatively with Tilbury Phase 2 include the Tilbury Marine Jetty (TMJ), the Fraser River Tunnel Project (FRT), and the Delta Grinding Facility (DGF), based on their proximity and shared sensory disturbance pathways.

Residual effects of Tilbury Phase 2 on the Culture VC are limited to sensory pathways, including noise, lighting, and visual change and changes in cultural experience. The Project does not result in direct alteration of identified cultural sites, changes to land or water features of cultural importance, or new restrictions to access. Residual effects are characterized as negligible in magnitude, localized in extent, and in some cases temporary in duration. As such, the Project's contribution to changes in cultural experience is limited.

The cumulative effects assessment considers whether these residual effects interact with similar effects from TMJ, FRTP, and DGF in a manner that would materially alter the future condition of the Culture VC. The RAA is already characterized by long-standing industrial and transportation development along the lower Fraser River, resulting in fragmentation of cultural landscapes and ongoing sensory disturbance. These conditions reflect historical and continuing land use patterns and are discussed in Section 1.1.1 Existing Conditions by Proponent, above.

When compared to this existing condition, Tilbury Phase 2 does not materially increase access restrictions, alter culturally important land or water features, or introduce new categories of disturbance. The Project's incremental contribution to regional sensory disturbance is negligible-to-low relative to the established industrial context. While reasonably foreseeable projects may also contribute to ongoing sensory conditions, the combined effect of these activities is not expected to result in a measurable change in the overall cumulative trajectory for the Culture VC beyond what is already occurring.

Mitigation measures, including the Totally Enclosed Ground Flare, emissions controls, and noise and lighting management under the CEMP and OEMP, further limit the Project's residual sensory effects. Ongoing engagement with Indigenous Nations provides an additional mechanism to identify and address concerns should conditions differ from those predicted.

Indigenous Nations have identified concerns regarding cultural continuity, access, and cumulative legacy effects in the Project area. These broader cumulative conditions are acknowledged and are addressed in Section 11 of this Report. At the Culture VC scale assessed in this section, however, Tilbury Phase 2 is not expected to materially alter the existing cumulative cultural condition.

Accordingly, based on the documented existing industrial and transportation context of the RAA and the limited magnitude of Project residual effects, Tilbury Phase 2 is not predicted to cause an adverse cumulative effect on the Culture VC when considered in combination with past, present, and reasonably foreseeable future projects and activities.

#### 17.13.12 Conclusion

The EAO acknowledges that effects to Indigenous rights and interests are closely linked to existing and proposed land use activities. More information about the predicted effects to each First Nation rights and interests because of Tilbury Phase 2 may be found in their respective sections of this Report ([Appendix 5](#)). Indigenous Peoples' Cultural Heritage and Current Use of Lands and Resources for Traditional Purposes, as assessed under the IAA, are considered in [Appendix 15](#).

In addition to Indigenous cultural values, the assessment also considered non-Indigenous cultural practices and identity, particularly those linked to historical land use, agriculture, and community life along the Fraser River. While residents continue to engage in outdoor and community-based activities that contribute to a sense of place, no culturally significant non-Indigenous uses were identified within or near the Project Footprint. Given the existing industrial nature of the site, and the lack of anticipated changes to access or resource use for surrounding communities, the Project is not expected to result in adverse residual effects on non-Indigenous cultural practices or identity.

The EAO is satisfied that Tilbury Phase 2 would not result in significant adverse residual or cumulative effects on the culture VC. The extent of significance for federal effects as it relates to changes to cultural heritage is found in [Appendix 15](#). This conclusion considers the information and analysis presented in this Report section; the views of the TAC, First Nations, and FortisBC; the proposed mitigation measures identified in the provincial Table of Conditions including, Conditions 3 (Document Development), 12 (CEMP), 13 (OEMP), and 14 (Air Quality Management Plan).



## 17.14 Human Health

### 17.14.1 Summary

Human Health was selected as a VC because of its importance to the public, First Nations, the Proponent, and local, provincial and federal governments. FortisBC's assessment of the Human Health VC, used a coupled approach by assessing both environmental and social determinants of health, combined with Indigenous Knowledge.

FortisBC's Human Health Risk Assessment (HHRA) evaluated potential risks to human health by identifying chemicals in air emissions from Tilbury Phase 2 and predicting how Tilbury Phase 2 could alter environmental media, such as air, soil, water, and country foods, that people may be exposed to (see [Appendix J](#) of the Revised Application). This section focuses on the biophysical assessment of the Human Health VC, while social determinants of human and community well-being (e.g., economic opportunities; adequate public services and infrastructure; access to nature; and social connections) are further discussed in Appendix 8 of this Report (Summary of Human and Community Well-being) in the context of social, economic, health, or cultural outcomes.

Under worst case scenario, when combined with the existing Tilbury Phase 1A production and storage expansion (Phase 1A) operations and current background air quality, the proposed Tilbury Phase 2 is expected to result in short-term increases in ambient nitrogen dioxide (NO<sub>2</sub>) concentrations that exceed applicable air quality objectives in limited circumstances and the exceedances are not predicted to overlap any sensitive receptors. All other air contaminants, such as Sulphur Dioxide (SO<sub>2</sub>) and Particulate Matter (PM) remain below health-based thresholds.

In contrast, air quality dispersion modelling for flaring (during commissioning and start-up/shutdown events) shows short-term exceedances of the 1-hour NO<sub>2</sub> air quality objective across large portions of the surrounding community, including homes, daycares, and schools, covering large areas of Richmond, parts of Vancouver, and parts of Delta.

To mitigate adverse air quality effects, FortisBC has committed to using emissions control technology in Tilbury Phase 2's design for normal daily operations. These technologies are expected to lower nitrogen oxides (NO<sub>x</sub>) and to further reduce sulfur oxides (SO<sub>x</sub>) emissions which will help reduce potential health impacts from Tilbury Phase 2. However, short-term flaring events during commissioning or maintenance are considered 'unmitigated' and may still result in temporary exceedances of air quality objectives over a wider area.

The HHRA looked at how Tilbury Phase 2 could affect people's sensory environment, including potential health risks from noise and vibration, as noted in [Appendix 6, Section 17.02](#) (Acoustics) of the EAO's Report, caused by Project activities. In addition, the assessment included a qualitative assessment of how odours from Tilbury Phase 2 might affect human health, and any impacts from odours are expected to be unnoticeable.

The Proponent looked at how Tilbury Phase 2 could affect the social factors that influence health, using a population health approach.<sup>68</sup> This included information from other parts of the assessment, such as Culture, Human and Community Well-being, Employment and Economy, Land and Resource Use, and Infrastructure and Services VCs. In assessing these social determinants of health, FortisBC considered how Tilbury Phase 2 might affect people's health and well-being through changes in things like employment rates, job types, and household income. The Application found that Tilbury Phase 2's Construction, Operation, and Decommissioning would likely have a positive effect on socio-economic status. However, it also noted that shift work could have negative effects on the health and well-being of workers and their families.

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<sup>68</sup> Population health is associated with socio-economic conditions on a community level and encompasses health inequities, see Appendix A – Human and Community Wellbeing in this Report for effects on the health and wellbeing of sub-populations.

The EAO recommends for conditions related to human health:

- Certificate condition 14 (Air Quality Management Plan) that includes monitoring of air quality through the operational life of Tilbury Phase 2 and an adaptive management approach where air quality standards are exceeded,
- Certificate Condition 12 (CEMP) that includes a management plan for dust, which is relevant to the human health VC,
- Certificate Condition 13 (OEMP) requiring the development and implementation a plan to manage the environmental effects of Tilbury Phase 2 during Operation.
- Condition 18 (Regional Cumulative Effects Initiatives) may require FortisBC to join BC-led or Metro Vancouver-led airshed initiatives.

Given the assessment, the EAO found that there would not be a significant adverse effect to human health and no significant cumulative effects to human health as a result of the effects of Tilbury Phase 2 interacting with the effects of other past, present and reasonably foreseeable future projects and activities.

#### 17.14.2 Assessment Boundaries

The spatial assessment boundaries for the Human Health VC are defined differently for social and environmental determinants of health, as follows:

- Social determinants of health LAA and RAA both include the boundaries of Metro Vancouver; encompassing 21 municipalities, First Nation reserves, and Treaty lands.
- Environmental determinants of health LAA includes the boundaries of the VCs that may affect human health including Air Quality, Acoustic, Soil, Country Foods,<sup>69</sup> Surface Water, and Groundwater.
- Environmental determinants of health RAA includes the boundaries of the VCs that may have indirect or cumulative impacts to human health from Tilbury Phase 2 including Air Quality, Acoustic, Soil, Country Foods,<sup>70</sup> Surface Water, and Groundwater.

The temporal boundaries for Human Health include the Construction (3-6 years), Operation (40 plus years), and Decommissioning (2 years) Phases of Tilbury Phase 2.

##### 17.14.2.1 Data limitations and technical boundaries for the assessment of human health

Administrative and technical boundaries for the Human Health VC assessment are outlined in Sections 7.15.3.2 and 7.15.3.3 of the Revised Application. Key data limitations included a lack of disaggregated health data for nonbinary and gender-diverse individuals, and limited data for immigrant and racialized communities.

Section 11.1.7.5 of the Revised Application identifies limitations in demographic information for many Indigenous nations, with reliance on Census data in the absence of other sources. As noted in Section 11.1.7, limited primary data and the absence of Indigenous Knowledge from some participating Indigenous nations led to a reliance on secondary data. Section 11.1.7.6 also highlights that some of these sources were outdated or incomplete, such as unpublished 2021 Census data or studies over five years old.

<sup>69</sup> The LAA for country foods quality is the combined LAAs for the Vegetation, Fish and Fish Habitat, and Wildlife and Wildlife Habitat VCs.

See previous footnote.

### 17.14.3 Existing Conditions by Proponent

Tilbury Phase 2 is being proposed in an area that is already heavily developed with urban and industrial activity. The current environmental conditions that affect health reflect the long history of development, urbanization, and industrial land use on and around Tilbury Island.

The existing conditions for the Human Health VC, as described in [Section 7.15](#) of the Revised Application, were based on the more detailed [HHRA Technical Data Report \(Appendix J\)](#). This report included the data FortisBC considered relevant to the assessment, including how certain vulnerable groups might be more affected by Tilbury Phase 2.

For more information on environmental factors that influence human health, see the sections on (Air Quality), [Appendix 6, Section 17.02](#) (Acoustic), [Appendix 6, Section 17.03](#) (Surface Water), [Appendix 6, Section 17.04](#) (Groundwater), [Appendix 6, Section 17.05](#) (Soil), [Appendix 6, Section 17.06](#) (Vegetation), [Appendix 6, Section 17.07](#) (Wildlife and Wildlife Habitat), and [Appendix 6, Section 17.08](#) (Fish and Fish Habitat) in this Report. For social factors that affect health, see the sections on [Appendix 8](#) (Human and Community Well-being), [Appendix 6, Section 17.09](#) (Employment and Economy), [Appendix 6, Section 17.10](#) (Land and Resource Use), and [Appendix 6, Section 17.11](#) (Infrastructure and Services).

#### 17.14.3.1 Environmental determinants of Human Health

Environmental determinants of health describe the environmental factors, external to the individual, that influence human health, including physical, chemical, and biological aspects of the environment. In the context of the Project area, these existing conditions are described as follows:

- **Air Quality:** Poor air quality is associated with increased hospital admissions and mortality. Although Metro Vancouver has improved air quality over the past decade through stricter emission standards and policies, challenges remain due to increased wildfire activity, climate change, and industrial operations. For Indigenous peoples, air quality is an essential part of holistic health and well-being. Key air contaminants monitored in the area include NO<sub>2</sub>, sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), ozone (O<sub>3</sub>), PM (PM<sub>10</sub> and PM<sub>2.5</sub>), and volatile organic compounds (VOCs), all of which are known to negatively impact human health. See [Appendix 6, Section 17.01](#) (Air Quality) for more detailed information.
- **Sensory Conditions (Noise, Vibration, Odour):** These sensory conditions can adversely affect human health. Noise exposure can lead to hearing loss, sleep disturbances, stress, and related illnesses. Vulnerable populations, such as people with lower socio-economic status, children, elderly, and shift workers, may be more sensitive to noise impacts. Odour can also affect mental health by causing stress, fear, and anxiety. The area around Tilbury Island already experiences high ambient noise levels from industrial and transportation sources and has existing odour-emitting facilities, with noise and odour complaints primarily linked to these local operations. See [Appendix 6, Section 17.02](#) (Acoustic) for more detailed information.
- **Drinking Water:** 98 percent of Delta's drinking water is supplied by Metro Vancouver's reservoirs and meets B.C. Contaminated Site Regulations (CSR) standards, while 2 percent is from groundwater. While monitoring wells within the Project footprint showed arsenic levels above B.C. CSR guidelines, these were below regional background levels. See [Appendix 6, Section 17.05](#) (Soil) and [Appendix 6, Section 17.04](#) (Groundwater), for more information.
- **Soil Quality:** Soil can be a pathway for human exposure to harmful substances through accidental ingestion, inhalation of dust, or the movement of contaminants into the food chain. Dust is a significant concern for First Nation and Indigenous communities, and perceived contamination can influence health behaviors and well-being; for example, members of Tsawwassen First Nation (Tsawwassen) raised concerns about black lesions on crabs, initially attributing them to dust. It was later determined that the lesions were caused by a naturally occurring shell disease, not contaminants. The Project footprint is largely disturbed, with little

native topsoil remaining. A localized area with arsenic contamination will be removed prior to construction. See [Appendix 6, Section 17.05](#) (Soil) for more information.

- **Country Foods:** Country foods, such as plants, fish, and animals, are culturally, spiritually, and nutritionally important to the public, First Nation's and Indigenous peoples. They also support physical activity and social connection. However, consumption of country foods has declined due to colonization, limited access, reduced availability of species, and concerns about contamination. Many Nations engaged on the Project assessment identified links to community health to the ability to fish and emphasizes the importance of marine foods to their health. Ongoing development has had cumulative impacts on species abundance and habitat quality. See [Appendix 6.08, Section 17.08](#) (Fish and Fish Habitat), [Appendix 6.07, Section 17.07](#) (Wildlife and Wildlife Habitat), and [Appendix 6.13, Section 17.13](#) (Culture) for more information.

### 17.14.3.2 Social determinants of Human Health

Social Determinants of Health outlines how societal conditions, external to individuals, influence their health and well-being, encompassing social, economic, political, and cultural factors throughout a person's life. These factors also include experiences of discrimination, racism, and historical trauma, especially relevant for vulnerable groups like Indigenous peoples, racialized communities, women, seniors, youth, and new immigrants.

Key existing conditions include:

- **Socio-economic status** in Delta and Metro Vancouver is generally high, but the benefits are not shared equally. Indigenous peoples, racialized communities, and women continue to face disparities in income and employment. The high cost of living, especially housing and childcare, also contributes to food insecurity among vulnerable populations;
- **Population health status** in Delta shows higher rates of certain chronic diseases, such as asthma, diabetes, and high blood pressure, compared to the provincial average. Indigenous peoples experience a disproportionate burden of illness, including shorter life expectancy, higher rates of chronic and communicable diseases, addiction, and infant mortality. Suicide rates are also significantly higher among Indigenous populations than among non-Indigenous groups;
- **Health practices** reflect broader social conditions. Smoking and alcohol use are more common among Indigenous peoples due to colonial impacts and systemic racism. The overdose crisis in Metro Vancouver has severely affected Indigenous communities, particularly women, while construction workers also show higher drug use rates. Diet and physical activity vary by income and education, with food insecurity rising because of high costs and limited access to traditional foods; and
- **Health services** are not always equitably accessed. Indigenous peoples often face significant barriers to care due to systemic racism, historical mistrust, and a lack of culturally safe services.

### 17.14.4 Potential Project Effects by the Proponent

This section outlines the potential effects of Tilbury Phase 2 on the Human Health VC during Construction, Operation, and Decommissioning. The assessment considers how different groups, such as Indigenous peoples, women, youth, and elders, may experience these effects differently.

The analysis is divided into two parts; environmental determinants of health, which include physical exposures such as air, water, soil, and noise, and social determinants of health, which include socio-economic conditions, health behaviours, and access to services.

#### 17.14.4.1 Environmental Determinants of Health

Potential adverse effects on environmental determinants of health were assessed through the HHRA and related VC studies. The assessment began by identifying Contaminants of Potential Concern (COPCs)—the chemicals, gases, and particles that could reasonably affect human health through project activities. These substances formed the basis of the human health analysis. COPCs are identified in air, water, soil, sediments, and country foods (like fish or berries) to determine if they might interact with people.

Ultimately, the HHRA concluded that several of these pathways presented negligible risks to human health and omitted them from further detailed analysis. Key findings regarding these excluded pathways include:

- **Drinking and Surface Water:** These were excluded because Tilbury Phase 2 is not predicted to adversely affect water quality. Although some arsenic and cobalt were detected in local monitoring wells, these concentrations were found to be within regional background levels, and the primary municipal water supply for the area is sourced far outside Tilbury Phase 2's reach.
- **Soil Quality:** The HHRA determined the risk from soil was negligible because the project footprint consists almost entirely of gravel and asphalt with virtually no native topsoil. While a small, localized area of arsenic-contaminated soil was identified, FortisBC committed to excavating and disposing of this material offsite prior to construction, effectively eliminating the potential for human exposure.
- **Country Foods and Secondary Pathways:** Pathways involving the consumption of fish, vegetation, or wildlife were also determined to pose no increased health risks. The assessment found that project-related acid or nitrogen deposition would not be sufficient to alter the quality or quantity of these traditional food sources.

#### Potential Effects to Health and Well-being Due to Changes to Air Quality

The Tilbury Phase 2 Project is located in a developed, urban, coastal industrial area surrounded by residential, commercial, recreational, and agricultural land uses. Project activities during construction, operation, and decommissioning will generate air emissions that can affect local air quality and, in turn, human health.

COPC for air emissions include criteria air contaminants (CACs) NO<sub>2</sub>, SO<sub>2</sub>, PM (PM<sub>2.5</sub> and PM<sub>10</sub>), CO, and VOCs. These air contaminants are regulated because they can harm human health at elevated levels.

The HHRA evaluated potential health risks by comparing predicted concentrations of these contaminants to health-based thresholds such as Toxicological reference values like the World Health Organization's air quality guidelines. The HHRA also evaluated against the Canadian Ambient Air Quality Standards (CAAQS 2025) and Metro Vancouver Air Quality Objectives (MV AAQO 2025). CAAQS and MV AAQO 2025 are set to protect human health and the environment.

Risk was expressed as a hazard quotient (HQ), where HQ > 1.0 indicates the predicted exposure levels exceed the Toxicological reference values; the level below which health effects are unlikely. An HQ > 1.0 indicates a potential for adverse outcomes, such as increased asthma-related emergency room visits and increased risk of respiratory morbidity from chronic exposure. However, an HQ over 1.0 does not mean adverse health effects will definitely occur; rather, it indicates that such effects are possible and that the exposure level has exceeded a health-based guideline.

The assessment considered sensitive receptors within 5 km radius of the Project Footprint, including homes, schools, childcare facilities, seniors' residences, and the Historic Indigenous Village Site.<sup>71</sup> See Figure 13 below from Figure 3-2 in [Appendix B](#) of the Revised Application.

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See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site



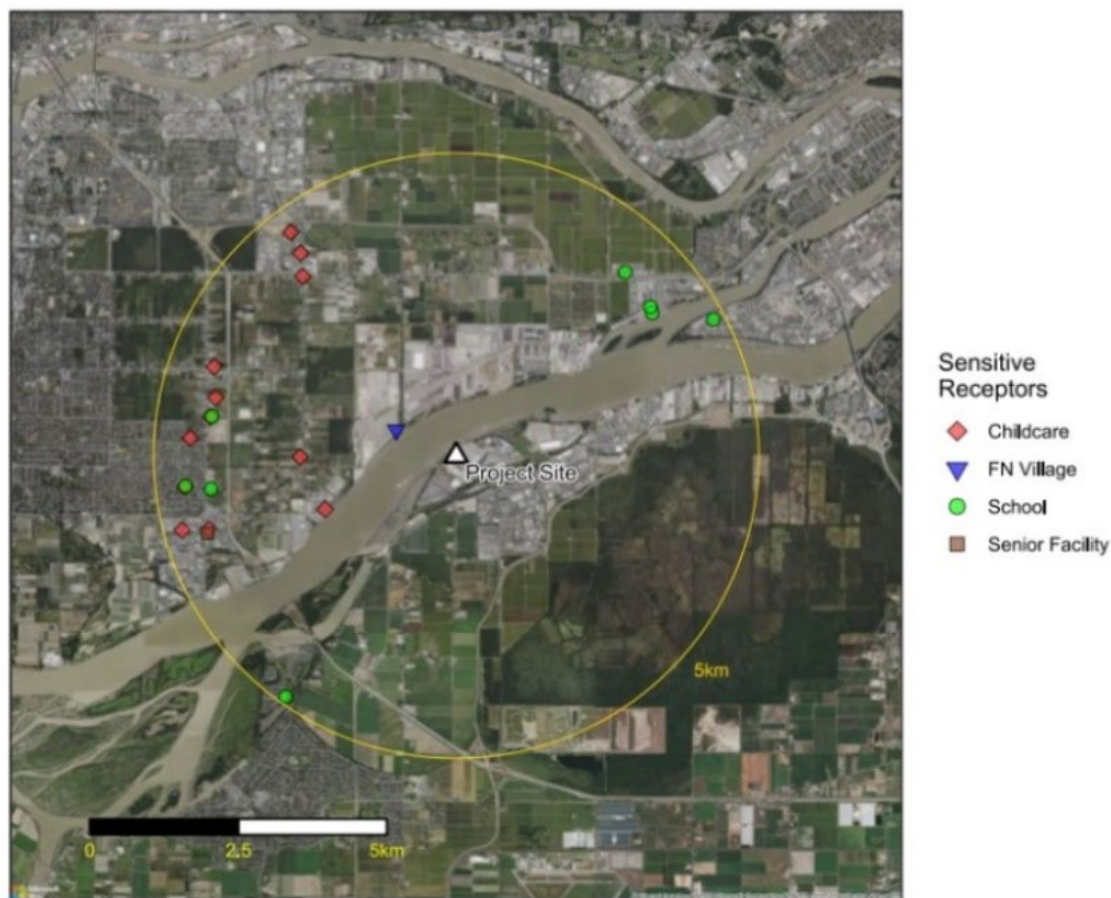


Figure 13: Discrete Sensitive Human Receptors Used in the Predicted Emission Modelling (Source: Air Quality TDR, Appendix B of the Application)

### What do percentile metrics mean?

Percentiles describe how often a certain concentration is reached or exceeded over time. They help us understand whether air quality standards are met under typical and peak conditions. For example:

- 98th percentile means that almost all the time (98 percent of the hours), concentrations are predicted to be at or below this level. Only about 2 percent of hours (175 hours in a year) would concentration be higher. This captures rare but plausible high-concentration conditions, without relying on an extreme outlier.
- 90th percentile means concentrations are at or below this level for 90 percent of the time. About 10 percent of hours (828 hours in a year) could be higher. This reflects more frequent elevated conditions, not just rare peaks.
- 75th percentile means concentrations are at or below this level for 75 percent of the time, with higher concentrations occurring about 25 percent of hours (2070 hours in a year). This represents fairly common upper-range conditions rather than exceptional events

### Construction Phase

Construction activities such as excavation, heavy equipment operation, and truck deliveries will emit CO, NO<sub>x</sub>, SO<sub>x</sub>, PM (PM<sub>2.5</sub> and PM<sub>10</sub>), VOCs, and trace pollutants such as diesel PM (DPM) and polycyclic aromatic hydrocarbons (PAHs).

The HHRA concluded that concentrations of DPM, PAHs, PM<sub>2.5</sub>, PM<sub>10</sub>, VOCs, and CO during Construction would be negligible and unlikely to pose a health risk. Hazard quotients (HQs) for these pollutants were well below the threshold of concern (HQ = 1.0), and background air quality dominates overall exposure. Acute or chronic health effects for sensitive receptors, such as residents, children, elders, and Indigenous communities, are considered unlikely.

Dust generation from earthworks and heavy machinery will occur but is expected to remain within the project footprint. Health risks from dust are limited to occupational exposure scenarios. Contributions of PM<sub>2.5</sub> and PM<sub>10</sub> from construction are predicted to be undetectable against existing background levels.

Mitigation measures for effects from air quality during construction include:

- Vehicle idle reduction policies
- Dust-control measures in the CEMP
- Regular inspection and maintenance of equipment
- Avoidance of waterborne deliveries (no marine offloading facility required)

These measures are expected to be highly effective and implemented immediately. Overall, residual health effects from air quality changes during construction are predicted to be negligible.

### *Flaring*

Non-routine flaring of LNG and other gases are expected to occur during commissioning, start up and shut down, upset conditions and power outages.

VOCs, particulate matter, and carbon monoxide were not carried forward for detailed assessment under non-routine flaring in the HHRA because predicted Project-related increases were negligible, remaining generally below 10% of applicable air quality objectives. As these contaminants do not materially change background conditions or result in exceedances under either Project-only or cumulative scenarios, they were not identified as contaminants of concern driving human health risk during flaring events.

During these non-routine events, operational mitigations are typically bypassed for safety reasons to prevent escalation. Results from the HHRA for each of these events is as follows:

#### **Commissioning:**

- Commissioning includes three activities: LNG tank commissioning, liquefaction train warm commissioning, and liquefaction train cold commissioning, with duration of air emissions approximately 2 weeks, 72 hours, and 144 hours, respectively.
- The highest value, based on the annual 98th percentile of predicted hourly concentrations using background air quality concentrations from years 2013–2015 is 392 µg/m<sup>3</sup> for NO<sub>2</sub> near the Project Footprint, with HQ = 5. Many sensitive receptors could be impacted.
- SO<sub>2</sub> concentrations from Tilbury Phase 2 are expected to remain below the applicable CAAQS and MVAAQO 2025.

#### **Start up and Shut down:**

- Startup and shutdown events are expected to last less than 5 hours and to occur up to five times per year
- Project-related SO<sub>2</sub> and NO<sub>2</sub> concentrations and their geographic extent of concentrations during these events are expected to be the same as those predicted for commissioning



**Upset Conditions:**

- Expected once per year, less than 5 hours and extend into LAA
- Based on the annual 98<sup>th</sup> percentile of predicted hourly concentrations averaged over 2013–2015 under Abnormal Condition without background concentrations are:
  - SO<sub>2</sub> levels are expected to reach 429 µg/m<sup>3</sup> at 98<sup>th</sup> percentile, HQ = 2.3
  - NO<sub>2</sub> levels are expected to reach 278 µg/m<sup>3</sup> at 98<sup>th</sup> percentile, HQ = 3.5

**Grid Power Outage:**

- The frequency of grid power outages is uncertain and was conservatively modeled as 10 hours per year.
- Based on the annual 98<sup>th</sup> percentile of predicted hourly concentrations averaged over 2013–2015 under Abnormal Condition without background concentrations are:
  - NO<sub>2</sub> levels are expected to reach 171 µg/m<sup>3</sup>, HQ = 2.2
  - SO<sub>2</sub> levels are not expected to increase

**Operation**

The Revised Application assessment of the potential effects to air quality from Tilbury Phase 2 includes both the original unmitigated conceptual design for CO, PM<sub>2.5</sub>, PM<sub>10</sub> and VOCs and the preliminary mitigated conceptual design for NO<sub>2</sub> and SO<sub>2</sub> (Appendix B, Updated Air Quality TDR; Section 7.2, Air Quality). In the Revised Application, Section 7.15.5 of the Air Quality section, Operation emissions were modelled within the RAA under the following scenarios:

- **Base Case** – The predicted air concentrations resulting from the existing FortisBC Phase 1A operation and background conditions.
- **Application Case (Base Case + Project)** – The predicted air concentrations resulting from Tilbury Phase 2 during operations with the Base Case.
- **Cumulative Case** – The predicted air concentrations resulting from all reasonably foreseeable projects and activities, such as TMJ, T1B, that may influence future air quality within the RAA, along with Tilbury Phase 2 and Base Case concentrations and is assessed in the Section 1.1.4 Cumulative Effects Assessment (CEA) below.

Unmitigated NO<sub>2</sub> and SO<sub>2</sub> values are not discussed in the context of EAO assessment for Application and Cumulative Case. See Appendix B (Air Quality TDR) of the Revised Application for full details. CO, PM, and VOCs remained below MV AAQO and CAAQS 2025 under the conservative unmitigated scenario; therefore, they were not modelled with mitigation.

**Acute and chronic exposures to NO<sub>2</sub>**

According to the HHRA, short-term (acute) exposure to NO<sub>2</sub> can irritate the lungs, trigger asthma symptoms, and increase emergency room visits for respiratory issues. Long-term (chronic) exposure may lead to reduced lung function, increased risk of developing asthma, and possibly cardiovascular effects.

Under Base Case, when background concentrations are included, the highest short-term NO<sub>2</sub> levels (1-hour levels 87.3 µg/m<sup>3</sup>), represented by the 98<sup>th</sup> percentile, already exceed MV AAQO & CAAQS 2025 (79 µg/m<sup>3</sup>). This percentile means concentrations are above the standard for less than 2 percent of the time (about 175 hours per year), representing infrequent but realistic peak conditions that regulators use to assess short term air quality impacts.

Because the Base Case alone exceeds the standard, Tilbury Phase 2, even after mitigation, will still contribute to exceedances: it adds a small increment of  $0.86 \mu\text{g}/\text{m}^3$  under these peak conditions ( $\text{HQ} = 1.1$ ), extending the area of exceedance to an adjacent business receptor near the Project footprint. However, under more typical conditions, represented by lower percentiles such as the 90th or 75th,  $\text{NO}_2$  concentrations remain below the standards, meaning that for the vast majority of operating hours, air quality meets regulatory objectives. See Air Quality section of the Assessment Report for more details.

For all sensitive receptor locations, during regular operation mitigated  $\text{NO}_2$  emissions HQs were less than 1.0.

Non-routine flaring events can result in short-term (acute) increases in nitrogen dioxide ( $\text{NO}_2$ ) concentrations, with modelling indicating that 1-hour  $\text{NO}_2$  levels may exceed applicable air quality objectives by several times under worst-case conditions, corresponding to acute hazard quotients (HQs greater than 1.0) at some sensitive receptors. These elevated HQs indicate the potential for transient respiratory effects, such as airway irritation or asthma exacerbation, during flaring events. However, flaring is infrequent and short-duration, and the HHRA concludes that while acute effects are possible during these episodic events, they do not translate into sustained or chronic health risk over the life of the Project.

Chronic exposure refers to exposures that occur over extended periods of time, potentially leading to longer-term health effects. Chronic exposure to  $\text{NO}_2$  was also assessed, and while workers near the facility may face a slightly elevated levels of COPC, all business receptors fall below HQ of 1.0 in the mitigated scenario. (HHRA, Appendix J of Revised Application).

EAO notes that for provincially regulated workplaces the *Workers Compensation Act* and Regulation specify the requirements for employers to ensure the health and safety of workers in all work. This includes specific requirements associated with indoor air quality, as well as other requirements that ensure employers consider safety of workers outdoors if for example air quality is affected by high concentrations of PM.

#### *Acute and chronic exposures to $\text{SO}_2$*

For  $\text{SO}_2$ , short-term exposure can also cause breathing difficulties, especially in people with asthma or other respiratory conditions. Children are considered particularly sensitive.

$\text{SO}_2$  levels during operation are expected to increase as a result of Tilbury Phase 2; however, mitigation measures are predicted to reduce maximum  $\text{SO}_2$  concentrations from Project sources by more than 70% across all averaging periods compared to the unmitigated scenario. This reduction is achieved through emission control technologies, resulting in a low-magnitude impact confined to the immediate Project footprint.

All predicted mitigated project concentrations of  $\text{SO}_2$  for the Base Case, and Application Case are below the 1-hour and annual CAAQS and MV AAQO 2025 target for chronic and acute exposure of HQ of 1.0.

#### *$\text{NO}_2$ and $\text{SO}_2$ Mitigation*

FortisBC has committed to implementing emission control technologies during the detailed Design Phase, which are expected to significantly reduce  $\text{NO}_2$  and  $\text{SO}_2$  emissions, as indicated by the results of the preliminary mitigated conceptual model. In addition, broader air quality improvements are anticipated through regional initiatives such as CleanBC. As such, the actual health risks associated with Tilbury Phase 2's  $\text{NO}_2$  and  $\text{SO}_2$  emissions were assessed by FortisBC to be negligible to low, respectively. The EAO notes that emissions associated with non-routine flaring cannot be practically mitigated beyond existing design and safety controls, as these events are required for safe facility operation.

#### *Particulate Matter ( $\text{PM}_{10}$ and $\text{PM}_{2.5}$ )*

Emissions from Tilbury Phase 2 include PM, specifically  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$ , which are known to affect respiratory health and may result in a higher risk of respiratory and cardiovascular disease. The HHRA determined that predicted concentrations for  $\text{PM}_{2.5}$  and  $\text{PM}_{10}$  under the Base Case and Application Case, remain below CAAQS and MV AAQO

2025. Based on these findings, FortisBC concluded that health risks from these concentrations are unlikely to be observable. (Appendix B of the Revised Application).

The HHRA looked qualitatively at potential lung cancer risks from breathing in PM<sub>2.5</sub> and DPM. The assessment found that Project-related PM<sub>2.5</sub> emissions are not expected to lead to any observable increase in lung cancer cases. For DPM, the HHRA noted that construction emissions would be short-term and limited to the Project footprint, which would reduce exposure. As a result, the Revised Application determined that an increase in lung cancer risk from DPM is also considered unlikely.

#### *Volatile organic compounds*

VOC emissions during operation are made up of a mix of volatile compounds and other gases released from fuel combustion, including nitrogen, CO<sub>2</sub>, alkanes, water vapour, and small amounts of benzene, toluene, and xylenes. To assess health risks from VOCs, the HHRA used benzene as a surrogate since it's a common and more toxic component of VOC mixtures. The assessment found that the predicted concentrations of benzene were lower than the Toxicological reference values (HQ=0.09) for the protection of human health. This finding indicated that VOC emissions were unlikely to result in an observable health risk.

#### *Deposition on Land and Water (Impacting Country Foods);*

Some air pollutants, like NO<sub>2</sub> and SO<sub>2</sub>, can transform into substances (sulfates and nitrates) that settle onto soil and water, referred to as deposition. This can affect plants, fish, and animals that people harvest and eat, which is especially important for Indigenous communities who rely on traditional or “country” foods.

There is potential for Tilbury Phase 2 to affect country foods in the LAA and FortisBC considered several direct and indirect routes of exposure through its HHRA. The assessment considered whether contaminants from Tilbury Phase 2 could enter the food chain through soil, water, or air. For example, plants used as foods could grow in contaminated soils or be covered by contaminated dust.

The HHRA found no contamination above health standards in groundwater, drinking water, or soil at the Project site, except for a small area with elevated arsenic, which is expected to be cleaned up before construction (see Section 7.6 of Revised Application?). Sediments are also not expected to be affected by any phase of the project, and Tilbury Phase 2 is not predicted to add contaminants or disturb sediments in a way that could impact food chains or country foods.

The assessment looked at whether airborne pollutants like nitrogen and sulphate could settle on land or water and affect country foods. Modeling showed that any deposition would stay within 100 metres of the facility and occur in areas not sensitive to acidification. Soils and surface waters in these areas are not expected to be significantly affected, and Tilbury Phase 2 is not expected to reduce the quality or quantity of country foods. Because of this, FortisBC did not investigate this pathway further.

#### *Carbon Monoxide*

CO is a gas that can interfere with the way your body delivers oxygen to your organs and tissues because it binds to the hemoglobin in your blood. The HHRA, for the unmitigated Application Case, determined that CO emissions would remain below Toxicological reference values for human health (HQ = 0.097 for 8-hour exposure and 0.042 1 hour).

#### *Sensory Disturbances (Noise, Vibration, Odour):*

The Revised Application identified that Project-related changes in sensory conditions, noise, vibration, and odour, may have direct and indirect adverse effects on Human Health. These disturbances can affect comfort, sleep, stress levels, and overall quality of life, particularly for those living or working nearby. Noise and vibration were assessed in [Appendix 6.02, Section 17.02](#) (Acoustic). Visual effects are addressed in Land and Resource Use [Appendix 6.10, Section 17.10](#) (Land and Resource Use) Potential project effects are as follows:

### Noise and vibration

Potential increases in noise and vibration due to Tilbury Phase 2 project activities and physical works were assessed for potential adverse effects to Human Health.

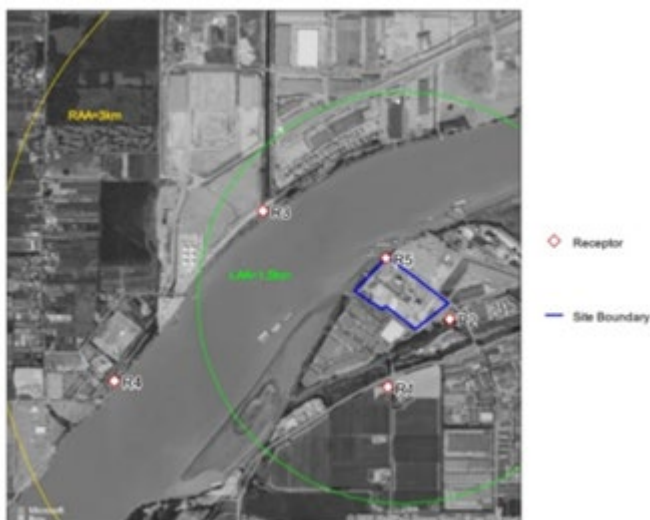


Figure 14: Receptor Location in the LAA and RAA for the Noise Assessment (Source: Acoustic TDR, Appendix C of the Application)

Due to the industrial nature of the LAA, existing ambient noise levels are already relatively high (between 46.6 and 57.1 decibels). The existing ambient sound level at the receptors was measured and found to be dominated by industrial, road, rail, river, and air transportation activities.

Noise and vibration were modelled by FortisBC and the EAO's assessment on the Acoustic VC focuses on Construction and Operation (mainly due to the addition of equipment such as compressor buildings), as decommissioning noise and vibration would be similar to construction.

The HHRA considered five locations:

- **R1:** Residential receptor located 500 meters from the Project Footprint, representing the closest residential dwelling;
- **R2:** Delta Community Animal Shelter ~220 metres away;
- **R3:** Historic Indigenous village site located 700 metres away;
- **R4:** A residential building in Richmond, 1,800 metres away; and,
- **R5:** Informal pathway next to the project site, 5 metres away. The pathway receptor was evaluated for information purposes and is not formally assessed.

### Construction Noise Assessment

- For receptors R1, R2, R3, and R4, the predicted increase in community annoyance (% Highly Annoyed or %HA) due to the Project's Construction is less than the Health Canada threshold of 6.5 percent change, when compared to baseline;
- Sound levels at Receptor R5 (recreational pathway) may exceed Health Canada's guidelines for daytime construction; however, existing conditions at this site already exceed thresholds for speech interference and annoyance;

- The assessment found low frequency noise (LFN) is expected during loud construction phases. More detailed analysis is planned in the design stage;
- If a Certificate is granted, FortisBC will assess LFN potential during construction, per BCER guidelines; certain activities (e.g., alarms, material dropping) could exceed Health Canada's criteria; and
- Tilbury Phase 2 is not expected to significantly increase sleep disturbances during construction because existing noise levels at residential receptors (R1, R4) already exceed Health Canada's 40 Decibel(s) (A-weighted scale) (dBA) threshold and worst-case cumulative predictive noise increases would be below 1 Decibel (dB).

### Operational Noise Assessment

- LFN from the Project is predicted to be above the Health Canada guidance at R1,3,4, and 5 but below BCER's threshold for at R1 and R4 receptors.
- Daytime sound levels at Receptor R5 may exceed Health Canada's high annoyance guidelines (6.5%) during Operation;
- For Operation (minimum 40 years), FortisBC identified that nighttime noise increases will be minimal and likely undetectable from existing level; and
- FortisBC plans to develop mitigation measures with a QP to manage acoustic disturbances, including at R5 (Appendix A, Table A-1, Revised Application).

### *Potential for disproportionate effects of exposure to noise disturbances*

Section 7.15 of the Revised Application outlines that health effects from noise and vibration may differ across subgroups. Key findings include:

### Vulnerable Populations:

- People with lower socio-economic status (SES) may be more susceptible to noise effects due to fewer resources to adapt their daily lives.<sup>72</sup>
- Children and youth are particularly sensitive to increases in noise.<sup>73</sup>
- In the Roberts Bank Terminal 2 (RBT2) Review Panel Hearing, Tsawwassen has previously reported that industrial noise infringes on their peaceful enjoyment of land and waters, an important aspect of their culture.<sup>74</sup>

### Nighttime Noise and Health:

- Nighttime noise can reduce sleep quality and quantity, especially affecting children, the chronically ill, the elderly, and shift workers.<sup>75</sup>
- Lower SES communities are more likely to be exposed to higher levels of noise pollution.

<sup>72</sup> Berkers, et al. 2021. "The relative effects of self-reported noise and odour annoyance on psychological distress: Different effects across sociodemographic groups?" PLoS ONE. Vol. 16, No. 10.

<sup>73</sup> See Footnote above, Berkers et al.

<sup>74</sup> Port Metro Vancouver. 2019. Review Panel Public Hearing: Roberts Bank Terminal 2 Project. June 1. <https://iaac-aeic.gc.ca/050/documents/p80054/130113E.pdf>.

<sup>75</sup> World Health Organization (WHO). 2010. "Noise." World Health Organization Europe. April 27. <https://www.who.int/europe/news-room/fact-sheets/item/noise>.

- Exposure to noise pollution is associated with poorer early childhood developmental outcomes.<sup>76</sup>

**Recreation and Outdoor Use:**

- Noise and vibration may discourage recreational users from accessing the Fraser River and surrounding lands (Revised Application Section 7.11 – Lands and Resource Use).
- FortisBC's Human Health assessment notes that chronic or cumulative noise exposure may result in people avoiding the area for outdoor or recreational activities, which could impact physical activity and overall well-being (Revised Application Section 7.15.3.5 – Physical Activity).

**Well-Being and Use Behavior:**

- Although overall health effects to users of the Fraser Riverbanks and waterways are not expected, some people may change how they use the area due to noise disturbances.
- At the historic Indigenous village (Receptor R3), predicted project-specific noise levels during Construction and Operation are not expected to exceed the change in %HA health guidelines. The human health VC and Appendix J (HHRA) did not assess sleep disturbance at R3 because it was not considered a residential receptor; however, R3 was assessed for sleep disturbance under the acoustic VC due to its identification as a sensitive receptor. This assessment is important to consider in light of First Nations comments regarding potential future use of the historic Indigenous village site. The World Health Organization sleep disturbance threshold of 40 dBA LN outdoors was used as the threshold for assessing night-time construction noise. Predicted noise levels at R3 are expected to exceed the 40 dBA guideline under ambient conditions (50.4), and the cumulative construction scenario (baseline plus Project) (52.1). The predicted increase in noise between the baseline and cumulative construction scenario was assessed to be 1.7 dBA.

See [Appendix 6.10, Section 17.10](#) (Land and Resource Use) of this Report for the EAO's assessment of potential effects to land and resource use.

**Odour annoyances**

The Revised Application acknowledges that odour annoyance can affect health and well-being, particularly for people living near emission sources. Strong odours or visible haze contribute to the sensory environment within the RAA and LAA and may influence stress or anxiety. For example, very high NO<sub>2</sub> concentrations can produce a noticeable odour and brownish haze.

However, Section 7.15 of the Revised Application determined odour from NO<sub>2</sub> is not expected to affect human health in the LAA because the concentrations that result from Tilbury Phase 2's mitigated emissions are lower than those required to produce a strong odour.

Section 7.15 states that Tilbury Island and nearby industrial areas have multiple potential odour-emitting sources, including the Annacis Island wastewater treatment plant, Vancouver landfill, and Delta composting facility. This makes quantifying odour events challenging.

Section 7.15 also states that the Human Health Risk Assessment did not include a specific odour assessment, and no odour modeling or predictions for Tilbury Phase 2 were available. Odour events are difficult to quantify with continuous monitoring equipment, and odour disturbances are typically recorded by complaints made by the public. As such, FortisBC has committed to mitigation measures, including receiving, recording, investigating, and following up on odour complaints from Indigenous nations, the public, and adjacent businesses.

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<sup>76</sup> Berkers, et al. 2021. "The relative effects of self-reported noise and odour annoyance on psychological distress: Different effects across sociodemographic groups?" PLoS ONE. Vol. 16, No. 10.



#### 17.14.4.2 Social Determinants of Health

In addition to environmental exposures, Tilbury Phase 2 may influence human health through social, economic, and cultural pathways, collectively known as social determinants of health. These include factors such as income, education, employment, access to health services, and experiences of discrimination or historical trauma.

##### Potential Effect to Health and Well-being Due to Change to Socio-economic Status

The socio-economic status of workers and their families is expected to be positively affected by Tilbury Phase 2 across all phases, including construction, operation, and decommissioning. These benefits would be driven primarily by increases in employment opportunities, the range of employment types, and household income. See [Section 7.10 \(Employment and Economy\)](#) of the of the Revised Application.

##### *Employment Type*

The assessment indicates that many construction and operational jobs would involve shift work or rotational schedules, which are associated with adverse health and well-being outcomes. Evidence links shift work to disruptions in sleep and mental health, increased risks of substance use, workplace and traffic accidents, and broader effects on family and household well-being. These effects may be more pronounced for women and Indigenous workers.

As shift work would be required during both construction and operation, Tilbury Phase 2 could negatively affect the health and well-being of workers and their families. The proponent has committed to implementing mitigation measures to reduce these effects where feasible.

##### *Household Income*

Tilbury Phase 2 is expected to result in increased household income, with most employment opportunities anticipated to be filled by workers from the Lower Mainland. Overall, labour income in B.C. is predicted to increase by approximately 1.194 billion dollars over construction, or about 0.199 billion dollars annually, with an average Construction-Phase income of about 89,400 dollars per worker. During operations, Tilbury Phase 2 is expected to generate approximately 17.2 million dollars per year in direct labour income.

FortisBC has committed to maximizing the positive socio-economic and health benefits associated with this increased income. This includes applying its Human Resource Policy to recruit workers from groups that are traditionally underrepresented in the construction labour force, such as women, Indigenous peoples, and new immigrants, and implementing cultural awareness programs to support respectful engagement with Indigenous peoples.

FortisBC has also committed to working with Indigenous nations to identify economic opportunities and capacity, provide advance notice to support participation, and communicate Project activities and safety information throughout all phases. In addition, FortisBC's Socio-Economic Impact Program and procurement approach are intended to extend benefits beyond Tilbury Phase 2 by creating broader employment opportunities and supporting local, regional, and Indigenous businesses.

FortisBC acknowledged that First Nations may face additional barriers to employment due to the ongoing legacy of colonization affecting education and employment outcomes. While FortisBC encourages contractors to follow its Statement of Indigenous Principles and "Vendor Code of Conduct" policies, it does not require contractors to set Indigenous employment targets, and wages for contracted positions are outside FortisBC's control.

EAO notes that this limited influence over employment outcomes reflects concerns raised by Indigenous nations. Ts'uubaa-asatx and x'məθk'əyəm noted that positive economic effects are difficult to achieve without addressing systemic barriers, highlighted the persistent income gap between Indigenous and non-Indigenous people, and questioned how hiring practices would meaningfully address this disparity.



x̣ṃəθḳẉəỵəm also raised concerns that project employment could conflict with participation in traditional activities, such as fishing, and suggested measures such as paid cultural leave. Cheam First Nation emphasized the need for Indigenous cultural awareness and safety measures to support the hiring, retention, and advancement of Indigenous workers. Quw'utsun Nation raised concern of creating equitable economic opportunities for Nations (such as Quw'utsun Nation) that are geographically distant from Tilbury Phase 2.

Tsawwassen First Nation (Tsawwassen) stated The Nation also asserts that FortisBC has not presented information in the Revised Application to substantiate how positive benefits would be accrued by Tsawwassen or its members and encourages FortisBC to work on addressing this information gap

x̣ṃəθḳẉəỵəm acknowledged that Tilbury Phase 2 could create positive economic opportunities for their members, particularly through employment, procurement, and training commitments set out in the Tilbury Projects Master Agreement. They also recognized that the Agreement provides a framework for shared benefits, skills development, and long-term economic participation, which they view as meaningful if opportunities are accessible and aligned with community needs.

#### Potential Effect to Health and Well-being Due to Change to Population Health Status

Population health describes the overall health of a community and is shaped by social, economic, and physical conditions, as well as behaviors, coping capacity, and access to services. Effects on population health from Tilbury Phase 2 are expected to be indirect, given the many interacting factors that influence health outcomes.

Section 7.15 of the Revised Application finds that population health is predicted to be both positively and negatively affected by Tilbury Phase 2. Positive effects are primarily linked to improved socio-economic status across construction, operation, and decommissioning, which is expected to indirectly support health and well-being. Potential negative effects are associated with factors such as increased substance use and heightened stress or anxiety among a small portion of nearby communities related to perceived safety and environmental risks.

Perceptions of risk, even where actual risks are low, can affect health through stress, anxiety, behavioral changes, and reduced use of recreational or culturally important areas. These effects may be more pronounced for women and racialized communities.

Overall, EAO anticipates that effects on population health related to perceived safety will be negligible, based on Project design, safety standards, operational experience, and proposed mitigation measures, including transparent communication, advance notification of disruptive activities, and a complaint monitoring system.

#### 17.14.5 Mitigation Measures

FortisBC proposed a range of mitigation and enhancement measures to support positive health outcomes and reduce potential negative effects on human health during the Construction, Operation, and Decommissioning Phases of the Tilbury Phase 2 Project. These measures are designed to address both environmental and social determinants of health, and are linked to other VCs such as Air Quality, Acoustic (Noise), Soil, Surface Water, and Employment and Economy.

- Incorporate emissions reduction and control technologies in Tilbury Phase 2 design to ensure compliance with regulatory air quality requirements and industry best practices.
- Develop and implement waste management mitigation measures as part of the CEMP.
- Electrify Tilbury Phase 2 refrigeration and feed gas compression processes to reduce air emissions.
- Require contractors and subcontractors to implement a fit for duty policy consistent with FortisBC's corporate guidelines.
- Receive, record, investigate, and follow-up on odour complaints from Indigenous nations, the public, and adjacent businesses.

- Final noise mitigation measures for project equipment will be engineered based on detailed noise specifications and incorporated into Tilbury Phase 2.
- Promote awareness of local and regional business opportunities.
- Offer support for FortisBC employees suffering from substance use.
- Implement shift schedules that take into consideration the health and safety implications of shift work.
- Implement FortisBC's Human Resource Policy to recruit workers for Tilbury Phase 2, targeting groups that are traditionally underrepresented in the construction labour force.
- Develop dust-control measures to limit PM emission during the construction.
- Develop mitigations to manage acoustic disturbance to human and wildlife receptors.
- Develop erosion and sediment control measures to manage surface water to reduce sediment deposition into watercourses or storm sewers.
- Develop emergency response measures to prevent and manage emergencies, including complete onsite fire control and response systems independent of Delta Fire and Emergency Services.
- Develop and implement a vehicle idle reduction policy that focuses on reducing noise and vibration emissions from construction vehicles.
- All compressors will be enclosed to attenuate noise to a level consistent with the BCER noise regulations.

For a full list of mitigation and enhancement measures, refer to Table 7.15-14 in the Human Health section of the Revised Application.

In addition to the provincial conditions including Condition 12 (CEMP) which requires the creation of a CEMP, and Condition 14 (Air Quality Management Plan) requiring an Air Quality Management Plan. As part of the substituted process, the EAO has identified KMM for effects within federal jurisdiction to inform IAAC's draft potential federal conditions. The KMM related to the health, social, and economic conditions of Indigenous peoples under the IAA are outlined in [Appendix 2](#).

#### **17.14.6 Key Issues Raised**

Health-related feedback on FortisBC's Revised Application was received through public responses to the EAO's engagement survey, open houses, and letter submissions from non-government organizations during Application Review. These included concerns about increased risks to human health from potential malfunctions and accidents at the project site, increased health risks due to flaring, Tilbury Phase 2's indirect health impacts from climate change, and changes in social determinants of health. For more information related to FortisBC's climate change resilience assessment, see Section 8 of the Revised Application.

During Application Review members of the TAC raised the following key issues related to the assessment of Human Health for Tilbury Phase 2.

##### **17.14.6.1 Human health and air emissions, mitigation controls and scenarios**

Concerns about air emissions and their potential impacts on human health were raised by several reviewers. Vancouver Coastal Health requested FortisBC consider human health risks from emissions during initial start-up of the Tilbury Phase 2 Facility or upset conditions. FortisBC responded by explaining that emissions during these phases are expected to be rare, brief, and low in frequency. To assess worst-case impacts, Fortis modelled continuous upset emissions over a three-year period.

Health Canada, Fraser Health Authority, Vancouver Coastal Health Authority, xʷməθkʷəy̓əm, TWN and Quw'utsun Nation expressed concern over the lack of detail regarding air emission mitigation measures. FortisBC stated these mitigation measures would be developed as part of detailed design, based on permitting, regulatory requirements and available technology. Health Canada requested more detailed information on the types of technologies and their potential to reduce emissions, particularly for Oxides of nitrogen (NO<sub>x</sub>) and Oxides of Sulphur (SO<sub>x</sub>) as well as on commissioning and start-up procedures. FortisBC responded that Appendix P of the Revised Application (Tilbury Phase 2 LNG Expansion Best Available Technology (BAT) Study) outlines the emissions control technologies being considered and their known effectiveness in reducing emissions, and additional information on procedural details was not available. FortisBC also revised the Application to include a mitigated scenario for air quality.

Fraser Health Authority suggested that the conditions of approval specify the use of best available technology, minimum required emission reductions, and air quality monitoring, to be developed in consultation with Metro Vancouver, local governments, First Nations, and health authorities. FortisBC responded that a mitigated scenario, based on the final design, will be modelled as part of Metro Vancouver's air emissions permitting process, which includes engagement with regional health authorities to address health concerns.

Quw'utsun Nation raised specific concerns about ensuring safe emission limits are defined using the proposed technologies and questioned whether Metro Vancouver's permitting process adequately considers the concerns of First Nations. Quw'utsun Nation also requested specific information on the mitigation measures and safe limits to ensure First Nations' interests have been appropriately considered.

FortisBC responded with updated modelling that used mitigated operational scenario (Appendix L), and that future mitigation measures are expected to further reduce any potential risk identified, resulting in no disproportionate health effects expected for Indigenous peoples.

FortisBC has committed to meeting relevant air quality standards once Tilbury Phase 2 begins operation. Health Canada supported this commitment and recommended that FortisBC include details on which air quality standards for which pollutants will be used.

Health Canada also suggested a condition that includes monitoring to verify predicted impacts, supports adaptive management if predictions are exceeded, and requires regular reviews to ensure best practices and available technologies are used to minimize emissions.

EAO also notes that flaring, including during start-up and upset conditions, at gas facilities in B.C. is regulated under permitting requirements set by the BCER. Permit holders must follow regulations and detailed operational guidelines to minimize emissions and protect air quality and public health, including mandatory monitoring, reporting, and, where applicable, notification to nearby residents and the BCER of non-routine flaring events. While the regulatory framework requires operators to quantify and report flaring activity, it does not, in itself, require continuous ambient air quality monitoring of criteria air contaminants (CACs) specifically for flaring emissions, unless such monitoring is imposed as a condition of an LNG facility permit or required under another applicable regulatory instrument. In response to concerns about potential air quality impacts associated with flaring, EAO added an ambient air quality monitoring condition, that requires monitoring, reporting, and adaptive management during the first five years of operation. EAO also added a condition for monitoring and reporting of the use of the flare during the life of the Project.

The EAO is of the view that potential effects to human health from air emissions from Tilbury Phase 2 has been sufficiently assessed in the Revised Application, and any residual effects would be adequately addressed through the current air quality guidelines, future air quality and flaring permitting requirements, and provincial Condition 14 (Air Quality Management Plan) requiring an Air Quality Management Plan that will include consultation with First Nations and technical advisors as part of a technology selection process.

#### 17.14.6.2 Changes in socio-determinants of human health, including Indigenous health and well-being and disproportionate effects

Participating Indigenous nations, including xʷməθkʷəyám, TWN and Quw'utsun Nation, advocated for more meaningful inclusion of Indigenous Knowledge and perspectives in the assessment. They advocated for the integration of Social Determinants of Indigenous Health (SDIH) – a psychosocial approach to health assessment, which includes the impacts of colonialism (both historic and on-going), self-determination, and community perceptions of risk. Additional concerns were raised about the limited consideration of cultural determinants of health, mental health and wellness, food security, proximity to the historic First Nation Village Site, the cultural significance of traditional harvesting practices, and barriers to accessing health services. xʷməθkʷəyám requested that the Proponent commit to monitoring health and well-being using metrics, indicators, and methods developed by xʷməθkʷəyám, and called on FortisBC to acknowledge the insufficient consideration of cultural determinants of health in the current assessment.

FortisBC responded that their assessment included an analysis of human health that goes beyond the SDIH model, and the SDIH model is explicitly considered in Section 13 of the Revised Application. FortisBC is also of the view that perceptions of potential risks from Tilbury Phase 2 and associated health consequences would not be substantively different from perceptions of potential risk and associated health consequences occurring today from the existing Facility.

EAO's assessment and conclusions on Malfunctions and Accidents, included further discussion on real and perceived safety risks, which relate to psychosocial concerns raised by some reviewers, see [Appendix 7](#) of this Report. Also see [Appendix 5](#) related to Indigenous interests. The EAO considers this issue identified and sufficiently addressed through the following Conditions:

- Condition 10 (Community Feedback Process) sets up a process to receive and respond to issues raised by First Nations, their members, and the public during Construction, Operation and Decommissioning Phase;
- Condition 13 (OEMP) requires a plan to manage Project environmental effects during operation;
- Condition 14 (Air Quality Management Plan) requires a plan to manage air quality effects from Tilbury Phase 2; and
- Condition 16 (First Nations and Local Economic Inclusion and Monitoring Plan) requires a plan to support economic participation of First Nations and local communities, including employment, contracting, and training strategies.

#### 17.14.7 The EAO's Characterization of Residual Effects

After considering the comments received from the public, non-government organizations, participating Indigenous nations, and members of the TAC, FortisBC's responses, proposed mitigation measures and conditions, the information contained in the [Joint Permitting/Regulatory Coordination Plan](#) and the [Regulatory Coordination Issues Tracking Table](#), the EAO concludes that Tilbury Phase 2 would result in the following residual adverse effects on Human Health for the following reasons:

- Health and well-being effects associated with inhalation of COPC during operation; and
- Exposure to shift work may have direct and indirect adverse effects on the health and well-being of workers and their families.

The EAO also concludes that Tilbury Phase 2 has the potential to result in positive changes to the socio-economic statistics through changes in employment rates, employment types, and household income. See Table 7.15-12 in [Section 7.15 Human Health](#) of the Revised Application on the predicted effects of Tilbury Phase 2 for more information on this and other potential positive effects of Tilbury Phase 2.

The EAO's characterization of the expected residual effects of Tilbury Phase 2 on Human Health is summarized below, as well as the EAO's level of confidence in the effects determination (including their likelihood and significance). The EAO's characterization considers the adverse residual effects after mitigations, as well as the efficacy of those proposed mitigations.

Table 66: Summary of Residual Effects for Human Health

| Residual Effect                                                              | Assessment Rating*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Human Health from Air Quality<br><br>Health impacts from Inhalation of COPCs | Context (resilience): Low to Moderate<br><br>Magnitude: Low to High<br><br>Extent: Local<br><br>Duration: Long-term<br><br>Frequency: Regular, Irregular, Continuous<br><br>Reversibility: Partially reversible<br><br>Affected Populations: Disproportionate for sensitive receptors, may have more pronounced health risks.<br><br>Identified sub-groups:<br><ul style="list-style-type: none"> <li>• Onsite workers; and</li> <li>• Offsite workers (business receptors)</li> </ul> Risk (Likelihood x consequence): Moderate<br><br>Uncertainty: Moderate to High<br><br>Importance: High | <p><b>Not significant</b></p> <p>The airshed has low to moderate resilience because existing NO<sub>2</sub> concentrations are elevated and other concentrations remain below thresholds. While this increases vulnerability, background levels of COPC, including NO<sub>2</sub>, have been declining, and SO<sub>2</sub> has dropped significantly due to low-sulphur marine fuel requirements.</p> <p>The mitigated proposed Project is predicted to have a negligible (NO<sub>2</sub>) to low-magnitude (SO<sub>2</sub>) effect on air quality compared to existing conditions. The potential residual effect to the health and well-being of mitigated emissions is therefore conservatively predicted to be low magnitude (see Section XX, Air Quality). However, during flaring the HHRA showed a HQ of 5, which is rated as high magnitude.</p> <p>For the mitigated Application Case, maximum predicted air concentrations for SO<sub>2</sub> and NO<sub>2</sub> occur at the facility fence line, and NO<sub>2</sub> marginal exceedances of health-based limits are limited to the immediate vicinity of the property boundary, with no exceedances predicted at any sensitive receptor location. However, Tilbury Phase 2 will increase NO<sub>2</sub> and SO<sub>2</sub> levels beyond the property line throughout the LAAs and RAAs, though these contributions are not in exceedance of health-based limits for sensitive receptors. Additionally, flaring could increase NO<sub>2</sub> concentrations across sensitive receptors throughout the local area of assessment.</p> <p>Predicted increase of health and well-being effects include endpoints that may or may not be irreversible (such as cardiovascular issues, airway hyperresponsiveness, asthma requiring emergency room visits, hospitalization).</p> <p>Exposure to air contaminants is expected to be continuous throughout the Construction, Operation, and Decommissioning Phases of Tilbury Phase 2. Flaring will occur regularly during yearly commissioning, and other flaring events are unpredictable, or irregular.</p> <p>The likelihood of an adverse effect occurring is medium likelihood of occurring, given the variation in conceptual modelling. There is a moderate consequence of a residual effect due to negligible to the low to high magnitude and local extent. Therefore, the risk of an adverse effect occurring to human health as a result of Inhalation of Contaminants of Potential Concern is rated as moderate.</p> <p>Uncertainty is moderate to high because the HHRA relies on conceptual emissions modelling and an incomplete project design. Final emission-reduction technologies have not been selected, and limited information is available on the effectiveness of planned mitigation measures. These details are expected to be refined through permitting, which may or may not introduce additional mitigation or monitoring requirements, adding further uncertainty to the predicted outcomes.</p> <p>This residual effect on human health has high importance and has been identified as an interest to First Nations, government agencies, members of the public, and non-government organizations.</p> |

| Residual Effect                                                                                                                   | Assessment Rating*                                                                                                                                                                                                                                                                                                                        | Significance and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| Human Health and employment type<br>Health impacts from shift work                                                                | Context (resilience): Medium, but low for certain sub-populations<br>Magnitude: Negligible to low<br>Extent: Regional<br>Duration: Long-term<br>Frequency: Continuous<br>Reversibility: Partially reversible<br>Affected Populations: Disproportionate<br>Risk (Likelihood x Consequence) Low<br>Uncertainty: Moderate<br>Importance: Low | <p><b>Not significant</b></p> <p>In Metro Vancouver, many sectors, including healthcare, transportation, manufacturing, and construction, rely on shift work or rotational schedules. While the region's urban workforce generally shows medium resilience to the health impacts of shift work, disparities persist among certain sub-populations. Indigenous peoples, women, and individuals with lower education levels are more likely to experience reduced resilience due to social determinants of health, such as income inequality, limited access to health services, and cultural obligations. These factors can amplify the risks associated with shift work, including sleep disruption, stress, and related health outcomes.</p> <p>The proposed mitigation measures are expected to reduce the potential residual health effects to a negligible magnitude and are unlikely to be discernable from health effects occurring under existing conditions for the majority of the workforce or may be detectable at a low magnitude for some workers, such as more vulnerable population subgroups.</p> <p>Health effects associated with shift work extend across the Regional Area of Assessment, acknowledging that health effects may extend beyond Tilbury Phase 2 site to where workers and their families reside.</p> <p>These health impacts are expected to occur continuously across the Construction, Operation, and Decommissioning Phases, with the greatest effects anticipated during Construction due to higher employment and more frequent shift work.</p> <p>Certain chronic health impacts, such as sleep disorders and stress-related conditions, may persist beyond employment and require on-going management, especially for vulnerable individuals. Therefore, the effects are considered partially reversible and to last long-term.</p> <p>Adverse health effects may be experienced by all shift workers and their families. However, female and Indigenous workers, and those with lower education levels, are expected to be disproportionately affected due to increased socio-economic vulnerability and reduced access to protective resources. These effects can extend beyond the individual, indirectly impacting families and households.</p> <p>The likelihood of an adverse effect is considered medium. While FortisBC's HR policies provide some mitigation, these policies do not consistently apply to all contractors, which may limit their effectiveness. Given the negligible to low magnitude of potential health effects and the positive socio-economic benefits from increased employment, the consequences are minor. Overall, the residual risk is assessed as low.</p> <p>Uncertainty is considered moderate with links between shift work and adverse health effects well understood.</p> <p>The importance of health effects from shift work is considered low, as no parties, Indigenous nations, or TAC members, raised it as a specific concern. However, broader issues around social determinants of health and culturally relevant monitoring were highlighted, particularly for Indigenous well-being. This indicates that while shift work itself was not a priority issue, addressing related impacts through culturally informed strategies and meaningful consultation remains important.</p> |
| * Note: Criteria and assessment ratings are defined in <a href="#">Appendix 3 - Residual Effects Characterization Definitions</a> |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



### 17.14.8 Cumulative Effects Assessment

The current conditions of human health within the RAA, including historical context that provides context for existing conditions, are previously described Section 7.15 of the Revised Application and in Existing Conditions by Proponent and Potential Project Effects by the Proponent sections above ([Section 17.14.3](#)) and considered in the Section [17.14.7](#) of the EAO's Characterization of Residual Effects assessment.

FortisBC's Revised Application identified 5 potential future projects or activities that would have potential to impact cumulatively with Tilbury Phase 2 (see Table 7.15-16 in Revised Application):

- T1B Expansion (proposed);
- TMJ (in permitting);
- Delta Grinding Facility (being assessed);
- RBT2 (procurement); and
- Climate Change.

Of these, T1B, TMJ, and the Delta Grinding Facility are expected to overlap spatially and temporally with Tilbury Phase 2 during construction and operation, contributing to increased emissions of COPC and elevated ambient concentrations. RBT2 was excluded from the Human Health CEA due to its distance (16 km) and limited overlap with Tilbury Phase 2's residual effects.

FortisBC assessed two primary pathways for cumulative effects on human health (see Table 7.15-17 in Revised Application):

- Ambient COPC concentrations during operation, particularly NO<sub>2</sub> and SO<sub>2</sub>; and
- Health and well-being effects from shift work, including sleep disruption, mood and gastrointestinal issues, and mental health impacts.

FortisBC also considered cumulative interactions related to climate change, which were raised during public and stakeholder engagement (see Section 7.15.6.3). FortisBC acknowledged that climate change is contributing to complex and interrelated effects in the RAA, including sea level rise, flooding, wildfires, extreme temperatures, and drought. These events can damage infrastructure, disrupt livelihoods, and cause physical and mental stress, particularly among vulnerable populations. These effects are expected to continue for the foreseeable future. The Climate Change Resiliency Assessment (Appendix G) outlines how these effects may alter environmental and social determinants of health and well-being over time.

Air contaminants from existing conditions, including emissions from the existing facility and Phase 1A, were also considered in the CEA.

#### 17.14.8.1 Health Impacts from Increase COPC Concentrations

The RAA for air quality includes a section of the Fraser River with intensive industrial and commercial activity, significant NO<sub>2</sub> and SO<sub>2</sub> emissions, heavy vessel traffic, and ongoing shoreline development. Elevated ambient concentrations of these contaminants can increase respiratory health risks, including airway hyperresponsiveness, asthma requiring emergency care, and hospitalization.

As outlined in Section 7.15 of the Revised Application, under the Cumulative Case scenario, exceedances of the 1-hour NO<sub>2</sub> MV AAQO and the 2025 CAAQS are predicted at certain sensitive receptors—including residential areas and an Indigenous Village Site, even after mitigation measures for Tilbury Phase 2 are applied. These exceedances are primarily attributable to background levels, and other anticipated regional developments.



The predicted effect is classified as high in magnitude ( $HQ = 2.04$ ). Predicted 98<sup>th</sup> percentile 1-hour  $NO_2$  exceedances are expected across the full three-year modelling period (2013-2015) when all background percentile levels (98<sup>th</sup>, 90<sup>th</sup>, and 75<sup>th</sup>) are included, indicating that elevated concentrations are not isolated events but reflect a persistent, ongoing effect.

Annual  $NO_2$  exceedances are limited to a small area over water near the TMJ facility.

Although current background  $NO_2$  levels are elevated, they are expected to decline with regional emission reduction efforts, including CleanBC initiatives, low-sulphur fuel regulations, and adoption of cleaner technologies such as electric tugboats and BC Ferries' hybrid diesel-electric vessels.

For  $SO_2$ , cumulative concentrations during operation are predicted to remain below MV AAQO and CAAQS 2025 across the RAA, except under rare 100<sup>th</sup>-percentile background conditions. Annual averages are expected to remain below regulatory thresholds. While cumulative effects may slightly increase ambient  $SO_2$  along the Fraser River and its northern bank, concentrations are still predicted to remain within applicable limits.

Cumulative increases in CO, PM, and VOCs are not expected to exceed MV AAQO and CAAQS 2025 anywhere within the RAA, with no predicted health impacts.

Overall, Tilbury Phase 2 and other foreseeable developments may contribute additional  $NO_2$  and  $SO_2$  emissions to existing ambient conditions, which could increase exposure to these contaminants, elevating respiratory health risks to some degree. However, ongoing reductions in background COPC levels and FortisBC's proposed emission control technologies are expected to reduce these cumulative increases over time. Because specific control technologies have not yet been finalized, the EAO has a moderate level of confidence in the CEA.

Cumulative effects from inhalation of potential contaminants of concern may occur within the RAA, given high-magnitude effects ( $HQ > 1$ ) at some sensitive receptors throughout the life of Tilbury Phase 2. Tilbury Phase 2's incremental contribution to these cumulative concentrations is expected to be low magnitude, with most of the cumulative conditions attributable to other foreseeable projects and elevated background levels that will continue into the future. Therefore, Tilbury Phase 2 is not expected to cause a significant cumulative impact to human health from increased COPC concentrations.

#### **17.14.8.2 Health Impacts from Shift Work**

FortisBC noted that cumulative health effects from shift work because of Tilbury Phase 2 are likely, especially among vulnerable groups such as women, Indigenous peoples, and those with lower education. Risk depends on prior exposure, schedule patterns, and socio-demographic factors. Many foreseeable projects will also involve shift work. Associated cumulative health impacts include sleep disruption, mood and gastrointestinal issues, mental health challenges, and increased substance use, which can extend beyond workers to affect families.

These effects are considered low in magnitude, moderate risk, and partially reversible. FortisBC expects the greatest impacts during the Construction Phase, when shift work is most frequent. Because many factors influence health impacts from shift work across the population and other projects, there is low confidence in predicting cumulative effects due to shift work.

To mitigate potential for cumulative effects to health and well-being from shift work, FortisBC has committed to implementing shift schedules that take into consideration the health and safety implications of shift work, including providing educational resources to understand the health and safety implications.

Additional measures to reduce impacts on human health and well-being from shift work will be implemented through Condition 16 (First Nation and Local Economic Inclusion and Monitoring Plan). In addition, the Condition 03 (Document Development Condition) would apply to the First Nation and Local Economic Inclusion and Monitoring Plan, which includes evaluation of adaptive management and mitigation effectiveness requirements.

While there may be moderate cumulative effects, due to shift work that are not significant, these are largely the result of existing and future regional activities rather than the incremental contribution of Tilbury Phase 2.

#### 17.14.9 Conclusion

The EAO is satisfied that Tilbury Phase 2 would not cause significant adverse residual or cumulative effects on the Human Health VC. The extent of significance for federal effects to the health, social, and economic conditions of Indigenous peoples is found in [Appendix 15](#) and federal Key Mitigation Measures and Follow-up Programs under the IAA for the health, social, and economic conditions of Indigenous peoples ([Appendix 2](#)). This conclusion considers the information and analysis presented in this section; the views of the TAC including First Nations, as well as the public, non-government organizations, and FortisBC; the proposed Mitigation Measures identified in the provincial Table of Conditions relevant to Human Health and federal Key Mitigation Measures and Follow-up Programs under the IAA for the health, social, and economic conditions of Indigenous peoples ([Appendix 2](#)).

## 18.0 APPENDIX 7 RISKS OF MALFUNCTIONS AND ACCIDENTS

### 18.1 Background

Malfunctions and accidents were assessed due to their importance to First Nations, marine and roadway users, the public, and to meet provincial<sup>77</sup> EA and federal<sup>78</sup> impact assessment requirements. Unplanned events that could arise from malfunctions or accidents associated with Project-related activities may result in effects to environmental, economic, social, cultural, heritage, and health VC, GHG, and Indigenous interests.

According to the EAO's Effects Assessment Policy,<sup>79</sup> a malfunction is considered a failure of a device, piece of equipment, or a system to function as intended and an accident is an unexpected occurrence or unintended action. This section considers potential malfunctions and accidents, identifies the mechanisms that would be implemented during design, construction, and operation to mitigate the impacts of these potential events throughout the life of Tilbury Phase 2, and assesses the potential effects of these events throughout the life of the project.

### 18.2 Assessment Methods

The assessment focused on credible malfunctions and accident scenarios that could occur during the construction and operation of Tilbury Phase 2 that could result in an adverse effect to a VC and Indigenous interests. FortisBC (or the Proponent) identified the scenarios based on similar projects, input from industry experts, and feedback from the TAC and First Nations. FortisBC's assessment is in [Section 9](#) of the Revised Application.

The Proponent assessed the residual effects of malfunctions and accidents on VCs by assigning risk scores using a risk matrix that considers likelihood and consequence outlined in (Table 67).

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<sup>77</sup> Section 25(2)(c) of the Act requires that the risks of malfunctions or accidents be considered in every assessment.

<sup>78</sup> Subparagraph 22(1)(a)(i) of the IAA specifies that the assessment of a designated project must take into account the effects of malfunctions and accidents that may occur in connection to the Project.

[BC Environmental Assessment Office: 2020. Effects Assessment Policy Version 1.0](#)

Table 67: Risk matrix to assess risk of malfunctions and accidents for Tilbury Phase 2

| Consequence Category     |                                                   |                          | Reasonably Foreseeable Consequence or Effect   |                                                            |                                                                   |                                                                            |                                    |
|--------------------------|---------------------------------------------------|--------------------------|------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------|
| People                   |                                                   |                          | Multiple Fatalities                            | Single Fatality, Lost Time Injury, or Permanent Disability | Medical Aid Injury or Serious Health Effect                       | Temporary Health Effect                                                    | No Significant Effect              |
| Environmental/Regulatory |                                                   |                          | Significant, Irreversible Environmental Damage | Environmental Damage with Major Effect                     | Environmental Damage could be Irreversible but Moderate in Nature | Minimal Effect; Compliance with Environmental Regulations still Achievable | No Long-term Effect to Environment |
| Likelihood               |                                                   | Annual Frequency         | Critical                                       | Serious                                                    | Moderate                                                          | Minor                                                                      | Low                                |
| Likely                   | Occurrence greater than one in 10 years           | > 1/10                   | Very High                                      | Very High                                                  | Very High                                                         | High                                                                       | Medium                             |
| Probable                 | Potential to occur in the near future             | > 1/100–<br>≤ 1/10       | Very High                                      | Very High                                                  | High                                                              | Medium                                                                     | Medium                             |
| Possible                 | There is potential to occur                       | > 1/1,000–<br>≤ 1/100    | Very High                                      | High                                                       | Medium                                                            | Medium                                                                     | Low                                |
| Rare                     | Has happened in industry; it could occur          | > 1/10,000–<br>≤ 1/1,000 | High                                           | Medium                                                     | Medium                                                            | Low                                                                        | Low                                |
| Remote                   | Unheard of in the industry; not expected to occur | ≤ 1/100,000              | Medium                                         | Medium                                                     | Low                                                               | Low                                                                        | Low                                |

Note: ≤ = less than or equal to

A preliminary Quantitative Risk Assessment (QRA) was conducted by the Proponent to inform the application; however, it was not included in the Application itself and was not reviewed by environmental participants. QRA aims to identify and evaluate the potential consequences and likelihood of malfunctions and accidents to establish a risk rating and inform effective mitigation strategies. The review of facility siting and layout including results of the QRA is addressed in BCER's permitting process for LNG facilities.

An inventory of materials that could be located on the Project Footprint (e.g. natural gas, solvents, mixed refrigerants, diesel fuel, other chemicals) was included in the Revised Application.

FortisBC manages the security and integrity of its utility assets through multiple layers of protection, aligned with Canadian Standards Association Z246.1-17 (security management for petroleum and natural gas industry systems). This includes, but is not limited to, incorporating physical security elements in design, and monitoring the security environment. FortisBC's preliminary risk assessment, in combination with an assessment of the security environment in the Lower Mainland has assessed the risk of terrorism as negligible. Therefore, as per Section 9.0 of the AIR, accidents and malfunctions from intentional acts of terrorism or force majeure are beyond the scope of the assessment.

## 18.3 Potential Project Effects and Proposed Mitigations

### 18.3.1 Summary of Potential Project Effect

The Proponent assessed the potential effects from malfunctions and accidents on VCs and Indigenous interests in [Section 9](#) of the Revised Application, which is summarized in Table 9.10-1. Malfunctions and accidents that could occur during Construction, Operation, and Decommissioning of Tilbury Phase 2 were considered under the following scenarios:

- **Loss of Containment of LNG without Ignition**

A loss of containment of LNG without ignition can cause extreme cold temperatures. Contact with LNG in this state can potentially result in frostbite to humans in the immediate vicinity of the release. In the unlikely event of an LNG vapour cloud forming and migrating offsite to adjacent riparian areas there may also be impact to wildlife and vegetation.

The rapid vaporization of LNG after release could displace oxygen, posing hypoxia and asphyxiation hazards to individuals and wildlife directly exposed to the displaced oxygen. A release could also lead to temporary restricted access zones affecting land and resource use, Indigenous interests, and local economy by temporarily interrupting agricultural, cultural, recreational, and economic activities near the Project footprint.

It could also alter perception of safety for some individuals, resulting in avoidance of the Project area, impacting their ability to practice their rights, even after the incident has been assessed and addressed.

Due to LNG's physical characteristics such as rapid evaporation and quick dispersion in the environment, no long-term environmental effects are expected from a loss of containment, however the consequence for human health is considered critical due to the potential effects of cold exposure and asphyxiation.

- **Fire or Explosion, including Loss of Containment of LNG with Ignition**

A loss of containment of LNG and other flammable materials could result in a jet fire, vapour cloud flash fire, or vapour cloud explosion.

- For a jet fire, a high-pressure release of flammable liquid or gas that ignites immediately, producing a torch-like flame, the vulnerability zone where second-degree burns could occur to unprotected human skin has been conservatively estimated to extend approximately 150 metres from the puncture site.
- For a vapour cloud flash fire, a sudden ignition of a dispersed hydrocarbon vapour cloud that burns back through the cloud, a large, sustained release could allow a hydrocarbon vapour cloud to migrate offsite. If it encounters an ignition source under the right conditions, the resulting flash fire could reach nearby properties (e.g., Varsteel, Seaspan) and riparian areas north to the Fraser River and south to Tilbury Slough, before atmospheric mixing dilutes the methane below its Lower Explosive Limit.

- The potential downwind extent of a flammable vapor cloud explosion, an ignition of a confined or partially confined vapour cloud that generates a pressure wave, during average weather conditions, is approximately 290 metres with the largest credible release of LNG.

Such events would cause temporary and localized air emissions and noise, potentially burning or damaging vegetation and wildlife habitat at the Project Footprint edges, and lead to temporary restricted access zones for land use and cultural practices lasting days or weeks. Critically, a fire or explosion could potentially injure or cause death to individuals within the Project Footprint, those using adjacent land, and at nearby businesses. Beyond the physical harm, death and temporary access restrictions, this scenario could cause psychological and emotional stress for some Indigenous people, potentially impacting their mental health and leading to long-term effects on Indigenous nations' perception of safety near the Project.

- **Release of hazardous materials**

A release of hazardous materials, such as hydrocarbons or refrigerants, resulting from equipment failure or error could contaminate soil, groundwater, and surface water. This contamination could potentially harm vegetation and wildlife habitat, lead to injury or death of fish and aquatic organisms in affected water bodies like the Fraser River and cause long-term effects on biotic communities and bioaccumulation.

Direct exposure to hazardous materials could affect human health during cleanup and remediation activities through inhalation or dermal contact, though risks from contaminated food or water are considered remote. A release would also likely require a temporary restricted access zone, briefly interrupting local employment, land and resource use, infrastructure, and cultural practices.

The worst-case scenario for a hazardous material release involves approximately 800 tonnes of heat transfer medium, the largest volume of hydrocarbons stored onsite, being released due to equipment failure, operator error, or mishandling. Such an event could lead to contamination of soil, groundwater, and surface water, potentially causing death or long-term effects on fish, aquatic organisms, wildlife, and human health through direct exposure or bioaccumulation. Spills and leaks of hazardous materials, such as diesel, hydraulic fluids, and lubricants, released from construction and operation equipment could cause localized soil contamination with minor impacts on surface water, groundwater, vegetation, wildlife, and fish if the material migrates offsite.

- **Terrestrial Vehicle Collision**

A terrestrial vehicle collision during construction could result in a loss of human life, a fire or explosion, or a hazardous material release. A release of hazardous materials resulting from a project-related vehicle collision could contaminate soil, groundwater, and surface water, potentially harming vegetation, wildlife, and fish in affected areas like the Fraser River or Tilbury Slough. The potential effects also mirror those from a fire or explosion, it could lead to temporary localized air emissions and noise, burning or damaging of vegetation and wildlife habitat at the Project Footprint edges, and potentially injuring or killing wildlife directly exposed. Such an event would likely lead to temporary restricted access zones lasting days or weeks, briefly interrupting local employment, land and resource use, infrastructure, and cultural practices.

For Indigenous interests, effects are linked to impacts on these VCs and human health. For example, a collision, particularly one resulting in a fire or explosion or hazardous material release, could necessitate a temporary restricted access zone, interrupting recreational activities, cultural practices, or economic activities by Indigenous people members using the Project area.

- **Emergency Facility Shutdown**

An Emergency Facility Shutdown (ESD) requires depressurization through flaring, which could result in audible noise and temporary, short-term releases of air contaminants such as carbon monoxide, sulfur dioxide, and nitrogen dioxide. Despite the potential for elevated air emissions to temporarily exceed certain

thresholds, the short duration (hours) and infrequent use of the Totally Enclosed Ground Flare (TEGF) mean flaring is not anticipated to cause a direct risk to human health.

Flaring could potentially lead to bird mortality, particularly during start-up, though population-level effects are not expected as these effects could be reversed in a breeding season. Potential effects on Indigenous interests are linked to impacts on wildlife, air quality, acoustic environment, and human health VCs, however, the short-term nature and low risk to these VCs mean flaring is not anticipated to significantly affect recreation or wildlife resources for Indigenous people.

Table 68: Risk Assessment of potential hazards identified Tilbury Phase 2

| Scenario                                                         | Likelihood                                                                                                                                                                                                                           | Consequence       | Risk = Likelihood x Consequence                                                                                                                                                                                                                         |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Loss of Containment of LNG without Ignition                      | Rare                                                                                                                                                                                                                                 | Minor to Critical | <b>Low</b> for air quality, vegetation, employment and economy, land and resource use, infrastructure and service, culture, Indigenous interests                                                                                                        |
|                                                                  |                                                                                                                                                                                                                                      |                   | <b>Medium</b> for wildlife and wildlife habitat                                                                                                                                                                                                         |
|                                                                  |                                                                                                                                                                                                                                      |                   | <b>High</b> for human health                                                                                                                                                                                                                            |
| Loss of Containment of LNG Resulting in Fire or Explosion        | Rare                                                                                                                                                                                                                                 | Low to Critical   | <b>Low</b> for air quality, acoustic, employment and economy, and infrastructure and services.                                                                                                                                                          |
|                                                                  |                                                                                                                                                                                                                                      |                   | <b>Medium</b> for vegetation, wildlife and wildlife habitat, land and resource use, culture, and Indigenous interests                                                                                                                                   |
|                                                                  |                                                                                                                                                                                                                                      |                   | <b>High</b> for human health                                                                                                                                                                                                                            |
| Release of hazardous materials                                   | Rare – for Air Quality, Surface Water, Groundwater, Soil, Fish and Fish Habitat Acoustic, Vegetation, Wildlife and Wildlife Habita, Employment and Economy, Land and Resource Use, Infrastructure and Services, Indigenous Interests | Low to Minor      | <b>Low</b> for Air Quality, Surface Water, Groundwater, Soil, Vegetation, Wildlife and Wildlife Habitat, Fish and Fish Habitat, Employment and Economy, Land and Resource Use, Infrastructure and Services, Culture, Human Health, Indigenous interests |
|                                                                  | Remote – for Human Health                                                                                                                                                                                                            |                   |                                                                                                                                                                                                                                                         |
| Terrestrial Vehicle Collision                                    | Remote – for Air Quality, Acoustic, Vegetation, Wildlife and Wildlife Habita, Employment and Economy, Land and Resource Use, Infrastructure and Services, Indigenous Interests                                                       | Low to Critical   | <b>Low</b> for Air Quality, Acoustic, Surface Water, Groundwater, Soil, Fish and Fish Habitat, Vegetation, Wildlife and Wildlife Habitat, Employment and Economy, Land and Resource Use, Infrastructure and Services, Indigenous interests              |
|                                                                  | Rare – for Surface Water, Groundwater, Soil, Fish and Fish Habitat, Human Health                                                                                                                                                     |                   | <b>High</b> for Human Health                                                                                                                                                                                                                            |
| Vessel Collision During Construction*                            | N/A                                                                                                                                                                                                                                  | N/A               | N/A                                                                                                                                                                                                                                                     |
| Accident or Malfunction Resulting in Emergency Facility Shutdown | Remote – Acoustic                                                                                                                                                                                                                    | Low               | <b>Low</b> for Air Quality, Acoustic, Wildlife and Wildlife Habitat, Human Health, and Indigenous interests                                                                                                                                             |
|                                                                  | Rare – Air Quality, Wildlife and Wildlife Habitat, Human Health, Indigenous Interests                                                                                                                                                |                   |                                                                                                                                                                                                                                                         |

\*As originally proposed Tilbury Phase 2 would have included waterboard delivery of project components during the Construction Phase. As that delivery method is no longer proposed and will not be used for Tilbury Phase 2 it has not been included in this assessment.



The EAO considers the risk assessment for Tilbury Phase 2 to be conservative because where a range of potential consequences to a VC is predicted, the more conservative consequence is reported for the final risk assessment score. The likelihood of an incident can be influenced by several factors, including how effective the mitigation measures are. The EAO's analysis and conclusions are outlined in Table 69 in [Section 18.5](#) below.

### 18.3.2 Proposed Mitigations Measures

The Revised Application states that Tilbury Phase 2 would include multiple prevention and response measures to meet B.C.'s regulatory requirements for LNG projects. These measures are intended to lower the risk of malfunctions or accidents and help manage or reduce impacts if one were to occur.

Mitigation and monitoring measures proposed by the Proponent that would be implemented to prevent and respond to malfunctions and accidents, required through other permitting and approvals, are described in the [Joint Permitting/Regulatory Coordination Plan](#) for Tilbury Phase 2.

Project design plays a key role in reducing risk and effects of malfunctions and accidents. Tilbury Phase 2 would be designed in accordance with applicable legal requirements, B.C. Building Code, regulatory requirements under the ERAA and its Regulations, oversight by BCER and Technical Safety BC, Canadian Standards Association (CSA) Z276 (LNG — production, storage, and handling) and any other applicable standards outlined in Section 9.1.2 of the Application. Project design will include engineering controls to prevent or contain spills. The design would also include safety shutdown systems that detect fire or gas, secondary containment systems, and emergency shutdown systems.

The Proponent identified the following relevant mitigations to reduce or avoid adverse residual effects listed in Table A-1. Summary of Mitigation Measures of the Revised Application. These include:

- The project will be designed to the Provincial regulations and applicable standards for LNG production, storage, and handling.
- The project site will be designed to promote drainage toward the Delta storm sewer system. Stormwater draining from paved parking areas will be captured and treated in oil-water separators to remove sediments and oil or grease before discharge into the Delta storm sewer.
- Contact water will be collected with the use of containments and impoundments and measured for field parameters before being released to the onsite drainage ditches that flow into the Delta storm sewer.
- The project will be designed with containments that halt potential hazardous material spills from leaving the Project Site.
- The project will have an emergency generator to provide electric supply for critical loads in the event of a site-wide power failure.
- The project will follow comprehensive equipment maintenance schedules consistent with the Provincial regulation for testing the LNG tank and piping. LNG facility operators will be trained in operational procedures and environmental emergency response and compliant with industry standards.
- The project will be designed to meet the applicable seismic design standards in CSA Z276 (LNG — Production, Storage, and Handling).
- The project will be designed and built in compliance with applicable fire prevention codes and standards.
- The project will select appropriately licensed transportation providers in good standing, appropriately maintained equipment, and licensed operators as required.
- Develop emergency response measures to prevent and manage emergencies, including complete onsite fire control and response systems independent of City of Delta Fire and Emergency Services.

- Maintain an Emergency Response Plan with procedures, training and response plans developed alongside the local, fire, police, and medical services and BCER. The ERP will be tested annually, as per the requirements of the BCER. These emergency response measures will be incorporated into the CEMP and OEMP.
- The ERP will include prescribed responses during loss of containment of LNG.
- Coordinate with first responders to verify response plans are effective and ready throughout the life of the project. The project will make the opportunity available for emergency responders to participate in emergency exercises throughout the life of the project.
- The Project Footprint will have onsite emergency fire control and suppression systems independent of the Municipal fire department.
- The project stormwater management system will be connected to the Delta storm water sewer system.
- The Quantitative Risk Assessment for the project will be updated to meet BCER permitting requirements once detailed engineering has been completed.
- Traffic management mitigation measures will be developed and incorporated into the CEMP and OEMP.
- Contractor personnel will comply with road-use and safety requirements outlined in the CEMP and OEMP, applicable Municipal and Provincial traffic regulations, including truck routes and approved access routes.
- A refuelling and spill response plan will be developed and implemented for the Project.
- The mitigation measures described in the CEMP during loss of containment of LNG will be implemented.
- There will be no waterborne deliveries of modular components or construction materials to the project site, and no MOF will be required.
- The Project will be designed in a manner that reduces the potential for a vehicle to collide with key infrastructure.
- Use of TEGF technology to reduce noise and light from flaring.

## 18.4 Key Issues Raised

Based on a review of the Application and with feedback from the TAC, participating Indigenous nations, and the public, the following key issues related to the assessment of the Malfunctions and Accidents were identified.

### 18.4.1 Worst credible accidental release of LNG

Quw'utsun Nation requested specific details regarding the worst credible accidental release of LNG, including the volume, plume size with combustible concentrations, and how far it might travel offsite under average wind conditions.

The Proponent's view is that LNG's physical characteristics, such as rapid evaporation and being lighter than air when gaseous, limit the migration of an uncontrolled release and make interaction with adjacent properties unlikely.

### 18.4.2 Effects of fire fighting on fish habitat

Quw'utsun Nation raised concerns about the lack of identification of potential interaction between a loss of containment resulting in fire and fish and fish habitat. They argue that subsequent reference to mitigation measures to prevent firefighting waste from migrating offsite implies such potential interaction should have been identified.

The Proponent's view is that the implementation of engineering controls can prevent firefighting wastes from migrating offsite, effectively containing environmental effects and avoiding interaction with fish habitat. Engineering

controls such as berms, catch pits and drain shutoffs, for example have proven to be highly effective at containing wastes generated during firefighting and preventing contamination of surface water.

The EAO notes that, if approved, the Project must be constructed and operated consistent with [Fisheries Act](#) and the [Canadian Environmental Protection Act](#), which can require pollution prevention controls and restrict hazardous substance releases into fish and fish habitat.

#### 18.4.3 Engagement on emergency communication protocol

xʷməθkʷəyám and Snuneymuxw First Nation requested information on the engagement plan that outlines specific steps, timeline, process, and methods for ensuring meaningful engagement on the emergency communication protocol, committing to co-developing culturally appropriate communication.

FortisBC has committed to engage and collaborate with xʷməθkʷəyám and Snuneymuxw to develop an emergency communication protocol, should a Certificate be issued.

The BCER provided additional information about the timing and requirements for Emergency Response Plans:

Core Emergency Response Plans outline set processes, policies, procedures and the Incident Command System (ICS), and detail corporate communications and information policies. They are used as an overarching document for all areas of a permit holder's operations. Core plans are essential for the construction of new facilities. FortisBC maintains a current Core ERP. Additionally, a site-specific or supplemental plan must be updated before introducing any process fluids. The current Tilbury ERP could be revised and resubmitted for application to Tilbury Phase 2.

All ERPs must comply with the [Emergency Management Regulation](#) (EMR) and the CSA Z246.2.

[Section 13](#) of the Emergency Management Regulation requires permit holders to engage with parties, including First Nations, to provide and request information prior to submission of the Emergency Response Plan for operations. Section 13 also outlines minimum communication requirements for permit holders, including notifying First Nations under certain circumstances, during emergencies.

A full-scale exercise will be required before Tilbury Phase 2's operations commence should a Certificate and permits be issued. To support this, the Emergency Response Plan must be submitted well in advance, not only to ensure regulatory compliance, but also to guide and inform the design and execution of the exercise.

The EAO has proposed, that if issued the Certificate should include as part of Conditions 12 (CEMP) and 13 (OEMP) requirements to describe how the mitigation measures identified in the Revised Application applicable to Malfunctions and Accidents will be implemented, and require an emergency communication protocol which outlines how the Holder will communicate with First Nations during emergencies.

#### 18.4.4 Effects of shift from MOF on road traffic

xʷməθkʷəyám is concerned that removing the MOF and shifting transport to road introduces new hazards and cumulative effects, particularly from increased traffic and potential hazardous material spills, which they feel are not accounted for. xʷməθkʷəyám requests a cumulative risk evaluation for road transportation risks and collaboration on mitigation measures.

The Proponent states that the assessment considered the shift to road transport and potential effects like terrestrial vehicle collisions, with mitigation measures proposed.

The EAO notes that, as per the AIR, cumulative effects assessments are not required as part of the Malfunctions and Accidents assessment, and that cumulative effects would be assessed in any related VC assessment if residual effects from Tilbury Phase 2 are anticipated.

If a Certificate is issued, the EAO has proposed that a Traffic Management Plan be required for Tilbury Phase 2 as part of Condition 12 (CEMP), to manage effects associated with the transportation of the materials during Construction by identifying preferred transportation routes, that would require consultation with the Ministry of Transportation and Transit, the City of Delta, and First Nations.

#### 18.4.5 Classification of Risks

x̱m̱əθḵw̱əy̱əm disagrees with the risk assessment, noting that the risk assessment downplays the potential consequences of rare but severe accidents, such as LNG containment loss, by categorizing their impact as "low," which they say failed to adequately reflect significant effects on VCs and x̱m̱əθḵw̱əy̱əm rights, and overlooked risk perception. x̱m̱əθḵw̱əy̱əm requests a revision to the risk assessment framework to treat likelihood and consequences as distinct factors, giving greater weight to severe, long-term consequences.

FortisBC's perspective is that the risk classification is appropriate based on expertise, mitigation, and long history of operating LNG facilities at the site, stating their matrix does treat likelihood and consequence distinctly and accounts for severe to low likelihood events.

The EAO understands that FortisBC's assessment follows industry norm and acknowledges that there are different understandings of risk, risk tolerance, and rating systems between FortisBC, the EAO, permitting agencies, and x̱m̱əθḵw̱əy̱əm, particularly regarding the extent of the potential impacts on Indigenous interests.

### 18.5 The EAO's Assessment and Conclusions

The EAO's characterization of the expected risks of Tilbury Phase 2 malfunctions and accidents to the VC assessed is provided below in Table 69, after considering proposed mitigation measures, regulatory requirements, and Certificate conditions. The federal Key Mitigation Measures and Follow-up Programs under the IAA for malfunctions and accidents are found in [Appendix 2](#).

Table 69: Summary of Potential Risks of Malfunctions and Accidents to Valued Components

| VC                   | Risk Rating                                                                                                                                                                               | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Human Health         | High - for Loss of Containment of LNG with or without Ignition, Fire or Explosion, Terrestrial Vehicle Collision<br><br>Low - for Hazardous Material Release, Emergency Facility Shutdown | The likelihood of a loss of containment of LNG without ignition event is assessed as rare because of the Project design measures, training, and emergency planning that will be implemented to mitigate such incidents. However, the overall risk rating for human health is considered high due to the potential critical consequences of such events.<br><br>A fire or explosion, while considered a rare event, could have critical consequences such as injury or death to individuals onsite and at nearby businesses, leading to a high-risk level rating.<br><br>Similarly, the likelihood of a terrestrial vehicle collision is considered rare with critical consequences and therefore a high-risk level because it could lead to fire or explosion and release of hazardous material. The Project will employ appropriate procedures, measures, and safety standards to minimize the potential of Project-related collisions.<br><br>There is a remote likelihood that a release of hazardous materials could also lead to the contamination of drinking water and food. The risk level for such incidents is considered low because the Project Footprint does not have drinking water wells, and food is not harvested from within the Project Footprint and therefore of minor consequence to human health.<br><br>The likelihood of Emergency Facility Shutdown is considered rare with low consequences due to the short duration and infrequent use of flaring, resulting in low-risk rating for human health. |
| Indigenous Interests | Medium - for Fire or Explosion<br><br>Low - for Loss of Containment of LNG                                                                                                                | The likelihood of fire or explosion is considered rare with moderate consequences due to the well-established global approach to designing, maintaining, and safely operating LNG facilities, the Proponent's extensive experience with its existing Tilbury facility, and the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| VC            | Risk Rating                                                                                                                                                                                                | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | without Ignition, Hazardous Material Release, Terrestrial Vehicle Collision, Emergency Facility Shutdown                                                                                                   | <p>extensive regulatory oversight ensuring the highest design and operational standards, resulting in an overall medium risk level rating.</p> <p>A loss of containment of LNG without ignition is a rare event that is not expected to directly affect Indigenous interests as the Project Footprint will be closed to the public. However, this event could potentially result in temporary restricted access to adjacent areas, impacting cultural, recreational, and economic activities and potentially affecting linked VCs such as wildlife, vegetation, culture, land use, and human health. These potential effects are expected to be localized and short-term with normal access restored within hours or days resulting in a minor consequence for Indigenous interests, and an overall low risk level.</p> <p>The potential consequences of terrestrial vehicle collisions are rated moderate with remote likelihood of the event occurring, resulting in a low level of risk assessment. The Project will implement traffic management mitigation measures to reduce the potential for Project-related vehicle collisions.</p> <p>While short-term flaring is not expected to directly affect Indigenous interests, it could indirectly impact them by adversely affecting other VCs such as wildlife and wildlife habitat, air quality, acoustics, and human health, all of which are linked to Indigenous interests. The likelihood of an emergency facility shutdown is considered rare, with low consequence, resulting in a low risk level rating.</p> |
| Air Quality   | Low - across all assessed incident types including Loss of Containment of LNG without Ignition, Hazardous Material Release, Fire or Explosion, Terrestrial Vehicle Collision, Emergency Facility Shutdown. | <p>Loss of LNG containment without ignition would have insignificant air quality effects since natural gas is non-toxic and impacts would be short-term. This event is assessed as low risk because of its rare likelihood and minor consequences.</p> <p>Condensate releases would have minimal air quality effects because most would remain liquid, resulting in minor consequence, and ultimately, low risk level.</p> <p>Rare hazardous spills on land could temporarily affect air quality, but with mitigation and design standards, the impact would be insignificant and minor consequence, resulting in low risk level.</p> <p>In rare fires or explosions, pollutants like particulate matter and carbon monoxide may be released, but air quality is expected to meet B.C. standards and effects would be reversible. Prevention measures reduce the likelihood and consequences of effects and therefore keep the risk level low and insignificant.</p> <p>Transportation incidents could cause short-term, localized air quality effects, especially if a fire occurs. Although vehicle collisions have moderate consequences, their remote likelihood and traffic management reduce the risk to low.</p> <p>Unplanned shutdowns causing flaring may emit pollutants briefly. While emissions could exceed local standards, the short duration and rare occurrence keep air quality risk low.</p>                                                                                                                                                           |
| Acoustic      | Low - for Fire or Explosion, Terrestrial Vehicle Collision, Emergency Facility Shutdown scenarios.                                                                                                         | <p>In the event of a fire or explosion, noise would be audible nearby but brief, lasting seconds. The impact on the acoustic environment is low, and the likelihood of such event is considered rare with an overall low risk.</p> <p>A vehicle collision that could ignite fuel and cause fire or explosion would produce short, audible noise near the accident. The impact on the acoustic environment is low, and the likelihood of such event is considered remote with an overall low risk level.</p> <p>The totally enclosed ground flare (TEGF) during an emergency shutdown would be audible on-site, to nearby projects, and the Fraser River area. B.C. noise regulations don't apply in emergencies. Given the remote, short-term nature of these events, and the low consequence of acoustic impact, the risk is considered low.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Surface Water | Low - for Hazardous Material Release, Terrestrial Vehicle Collision                                                                                                                                        | <p>Containment measures will be in place to prevent hazardous material releases, but if they reach the Fraser River or Tilbury Slough, surface water and sensitive marine areas could be affected. With Project controls, the likelihood of hazardous material release is rare with minor consequences on surface water, resulting in reduced risk level to low.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| VC                            | Risk Rating                                                                                                                                                                     | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               |                                                                                                                                                                                 | A vehicle collision near water or connected storm drains could release hazardous materials, posing a risk to surface water. However, the risk is low with minor consequences and rare likelihood, given the small material volumes and emergency response measures in place.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Groundwater                   | Low - for Hazardous Material Release, Terrestrial Vehicle Collision                                                                                                             | <p>The Project includes controls to prevent the release of hazardous materials and mitigate potential effects, reducing the likelihood of groundwater contamination to rare with minor consequences and overall low risk rating.</p> <p>The likelihood of a terrestrial vehicle collision resulting in groundwater contamination is considered rare with minor consequences and overall low level of risk because of planned preventive and management measures.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Soil                          | Low - for Hazardous Material Release, Terrestrial Vehicle Collision                                                                                                             | <p>A hazardous material release could risk soil quality in the Project area, with potential consequences rated as minor. The likelihood of such event is rare with the risk level reduced to low through Project design and proven operational practices used at the existing Tilbury LNG facility.</p> <p>Vehicle collisions could spill fuel or hazardous materials, potentially harming soil quality. Soil remediation would limit these effects, resulting in minor consequences. With mitigation measures in place, the likelihood of collisions affecting soil quality is low, resulting in an overall low risk.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Vegetation                    | Low - for Fire or Explosion<br>Low - for Loss of Containment of LNG without Ignition, Hazardous Material Release, Terrestrial Vehicle Collision                                 | <p>Fire or explosion at the Project Footprint is expected to have moderate consequences due to limited vegetation on site and the rare likelihood of such event happening. The risk score for this potential interaction is medium.</p> <p>A loss of containment of LNG without ignition is a rare event that could affect the minimal vegetation on the Project Footprint. A migration of an LNG vapour cloud towards the Fraser River or Tilbury Slough, could potentially damage the riparian vegetation due to its freezing temperature. These effects are expected to be localized and short-term (1 to 3 years), resulting in a minor consequence and low overall risk level.</p> <p>A fire or explosion from a vehicle collision could damage vegetation and wildlife habitats near the Fraser River and Tilbury Slough. The extent of damage depends on fire spread and emergency response. Effects are considered low risk, as safety measures will help reduce collision likelihood to remote and the consequence is moderate.</p>                                                                                                                                                                                                                                              |
| Wildlife and Wildlife Habitat | Medium - for Loss of Containment of LNG without Ignition, Fire or Explosion<br>Low - for Hazardous Material Release, Terrestrial Vehicle Collision, Emergency Facility Shutdown | <p>Loss of LNG containment without ignition resulting in an offsite vapour cloud could potentially cause freezing, hypoxia, or asphyxiation, leading to serious harm or death to wildlife. This effect is expected to be limited to the immediate area around the release with a rare likelihood of occurrence and resulting in a low risk.</p> <p>Noise from a fire, explosion, or vehicle collision could disturb wildlife near the Project Footprint. A fire at the site's edge could damage vegetation and harm animals, though it is expected to be quickly extinguished. The risk is considered medium with rare likelihood and moderate potential consequences.</p> <p>Soil or water contamination from hazardous material releases could indirectly affect wildlife and habitats near sensitive areas like the Fraser River and Tilbury Slough. With Project control measures in place, the likelihood of such occurrence is expected to be rare with minor consequences, resulting in a low risk Level.</p> <p>While the consequences of an emergency shutdown are considered minor, birds could be fatally affected if they come into contact with the ground flare. The effects on wildlife and habitat are considered low risk with low consequences and rare likelihood.</p> |

| VC                     | Risk Rating                                                                                                                                            | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fish and Fish Habitat  | Low - for Hazardous Material Release, Terrestrial Vehicle Collision                                                                                    | <p>The implementation of control measures is expected to reduce the potential of hazardous materials reaching fish and fish habitat to a rare likelihood and minor consequence, resulting in an overall low risk level.</p> <p>A terrestrial vehicle collision near a waterbody could lead to leaks and spills that enter fish habitat, potentially harming fish and damaging fish habitat. However, the likelihood of such an event is considered rare with low consequences, resulting in low-risk rating.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Employment and Economy | Low - for Loss of Containment of LNG without Ignition, Hazardous Material Release, Fire or Explosion, Terrestrial Vehicle Collision                    | <p>Loss of LNG containment without ignition could result in establishing a temporary restricted access zone until the source is identified and resolved. This localized and short-term (hours or days) restriction could affect economic activities. The likelihood of such event is considered rare with minor consequence, resulting in a low risk level.</p> <p>Similarly, a temporary restricted access to the Project area due to a release of hazardous material could lead to a short-term impact on employment and the local economy. The likelihood of such event is considered rare with low consequences because normal operations could be restarted within days or weeks after hazardous materials have been contained and cleaned up, resulting in an overall low risk level.</p> <p>A hazardous material release could cause a temporary shutdown and restricted access to the Project area, briefly impacting employment and the local economy. The consequence is low as operations would likely resume within days or weeks after cleanup, and the likelihood is rare, leading to a low level of risk.</p> <p>Due to traffic management and other mitigation measures that will be implemented, the likelihood of a vehicle collision is considered remote with minor potential consequences, resulting in a low-risk rating.</p> |
| Land and Resource Use  | Medium - for Fire or Explosion<br><br>Low - for Loss of Containment of LNG without Ignition, Hazardous Material Release, Terrestrial Vehicle Collision | <p>A fire or explosion at the Project Footprint could lead to temporary restricted access to nearby areas including the Fraser River, potentially impacting recreation, cultural practices, and the perception of safety. This potential risk level is medium due to the consequence being moderate, and proposed project controls reducing its likelihood to rare.</p> <p>A Loss of Containment of LNG without Ignition is a rare event that could lead to a temporary restricted access zone for recreational, cultural practices, and economic activities until the source is identified and addressed. This potential effect is expected to be of minor consequence due to it being localized and short term, resulting in an overall low risk level.</p> <p>A rare hazardous material release could result in temporary restricted access on-site and potentially to areas near the Fraser River. The potential effect of such event is expected to have low consequence with an overall low risk level.</p> <p>The potential effects of terrestrial vehicle collision are considered low risk because the Project's plans for traffic management and emergency response measures will reduce the likelihood of Project-related collision to remote and is considered to be of minor consequence.</p>                                          |



| VC                          | Risk Rating                                                                                                                                             | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Infrastructure and Services | Low - for Loss of Containment of LNG without Ignition, Hazardous Material Release, Fire or Explosion, Terrestrial Vehicle Collision                     | <p>A loss of containment of LNG without ignition is considered a rare event that could cause localized and short-term effects on access for activities, with potential consequences assessed as minor and the overall risk level rated as low.</p> <p>A release of a large amount of hazardous materials could adversely affect the infrastructure on the Project Footprint. The likelihood of such an event is considered rare because of the Proponent's experience and implementation of operational and safety standards, resulting in low consequences and overall low risk rating.</p> <p>Fire or explosion is a rare event that could damage onsite infrastructure. While emergency services may be needed, the Project's independent onsite fire control and suppression systems is expected to manage the incident, resulting in a low consequence on infrastructure and services and an overall low risk level.</p> <p>A collision of vehicle with infrastructure housing flammable material could cause fire or explosion, potentially damaging infrastructure within the Project Footprint. While a worst-case offsite accident might potentially damage public facilities, the Project's traffic management measures are expected to reduce the likelihood of such collisions to remote and minor consequence, resulting in an overall low risk level.</p> |
| Culture                     | Medium - for Fire or Explosion<br><br>Low - for Loss of Containment of LNG without Ignition, Hazardous Material Release, Terrestrial Vehicle Collision) | <p>A rare fire or explosion incident could lead to restricted access and damage to places of cultural significance, impacting cultural activities. The potential effects of fire or explosion is expected to be moderate consequence resulting in a medium risk level with the implementation of emergency response measures.</p> <p>Loss of containment of LNG without Ignition is considered a rare event with minor consequence that could lead to a temporary restricted access zone. This restricted access would have localized and short-term effects, resulting in a low risk rating.</p> <p>A release of hazardous materials is considered a rare event could lead to temporarily restricted access to areas like the Fraser River, impacting cultural practices. Normal access is expected within days or weeks with a low consequence, resulting in an overall low risk level.</p> <p>Similarly, a remote terrestrial vehicle collision event could cause hazardous material release or fire/explosion preventing cultural activities within the Project area, but the potential effect is considered minor consequence, resulting in a low risk level due to small material volumes and emergency response measures.</p>                                                                                                                                    |

The EAO is satisfied that the potential accidents and malfunctions associated with Tilbury Phase 2 have been adequately identified, assessed, and mitigated for this environmental assessment.

## 19.0 APPENDIX 8 HUMAN AND COMMUNITY WELL-BEING

### 19.1 Summary

As required by the Act<sup>80</sup> and the IAA<sup>81</sup> the assessment must consider how different people and communities may experience project effects in different ways. Some individuals or population groups may be more vulnerable to negative impacts, while others may be better positioned to benefit.

To support this, FortisBC used a GBA Plus approach to identify population groups that may be affected differently by the project and to help shape mitigation measures by analyzing how various social identity factors intersect to shape experiences and outcomes, particularly within the context of power dynamics and systemic inequalities. A GBA Plus approach looks at how identity factors – such as gender, age, race, disability, education, ethnicity, economic status, language, religion, sexual orientation, Indigeneity, or where someone lives – can influence how people experience project effects.

FortisBC applied GBA Plus, where disaggregated information was available, across economic, social, cultural, and health topic areas by describing existing conditions and identifying potential effects on diverse population groups, including women, youth, Elders, racialized persons, and First Nation Peoples. Additional analysis was included for VCs, where residual effects may occur. GBA Plus was also applied in sections of the application specific to individual First Nations, including disaggregated information on community health and proposed effects management or enhancement strategies.

Methods included desktop research and analysis of secondary sources, and targeted socio-economic engagement to address information gaps. The assessment was also informed by engagement with First Nations and feedback gathered during four comment periods and virtual and in-person open houses.

After considering KMMs, follow-up programs, potential Certificate conditions, and regulatory requirements, the EAO concludes that significant adverse effects on human and community well-being or distinct populations are unlikely. This conclusion reflects the analysis in this and related sections, and input from the TAC, First Nations, and the Proponent.

### 19.2 Existing Conditions by the Proponent

Situated in Metro Vancouver, the region is characterized by metropolitan areas, industrial and agricultural lands, rural areas, and conservation lands. Since time immemorial, First Nation peoples have inhabited and continue to use and occupy the lands and waters in this region. The area has transformed from being largely resource-based to becoming a densely populated urban centre. The increasing population in the region combined with limited land available for residential use creates pressure to densify existing urban areas. First Nation Peoples are disproportionately affected by competing land uses, particularly in the context of historical and ongoing loss of access to their traditional lands, waters, and resources.

Gender –based violence against First Nation women, girls, and two-spirit, lesbian, gay, bisexual, transgender, queer, questioning, intersex, asexual, and all other sexual orientations and genders (2SLGBTQIA+) people is well-documented in Vancouver's Downtown Eastside and throughout Canada. First Nation women are more likely to experience discrimination than non-First Nation women.

Metro Vancouver ranks as the most expensive region in Canada for maintaining a basic standard of living, with both homeownership and rental costs remaining high. These rising costs disproportionately impact vulnerable

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<sup>80</sup> Section 25(2)(d) of the Act requires that every assessment consider the disproportionate effects on distinct human populations, including populations identified by gender.

<sup>81</sup> Paragraph 22(1)(s) of the IAA specifies that the assessment of a designated project must take into account the interaction of sex and gender with other identify factors.

populations, including low-income individuals, seniors, families with children, women, First Nation Peoples, and newcomers. Even small increases in the cost of basic needs can significantly affect these groups.

In background research conducted by FortisBC, residents also identified several pressing community concerns beyond affordability. These include access to health care, traffic congestion, homelessness, industrial pollution (air and water), and public safety. These issues reflect broader challenges tied to infrastructure and public services, which are central to community well-being.

Population growth and demographic shifts have placed increasing pressure on Metro Vancouver's infrastructure, particularly in housing, transportation, and health care. Unfortunately, public services have not consistently kept pace with this demand. The region is projected to grow by 34.3 percent between 2020 and 2041, which will likely intensify existing strains. Without adequate investment and planning, these pressures may further disadvantage First Nation Peoples, seniors, people with chronic health conditions, low-income families, and diverse population groups who are more vulnerable to gaps in service capacity.

Before European contact, First Nation Peoples in what is now Metro Vancouver lived in deep relationships with the land and waters, guided by principles of respect and reciprocity. The environment provided food, medicine, shelter, and clothing, and in return, communities maintained sustainable practices. Social systems were rooted in extended families, clans, and nations, offering strong social support. Gender roles were clearly defined but flexible, with each person valued for their contributions to community well-being.

Today, First Nation Peoples in the region continue to experience the lasting impacts of colonization. These include the loss of access to traditional lands and resources, forced relocations, and the intergenerational trauma caused by residential schools. Many First Nations communities still face challenges such as overcrowded housing, limited access to clean water, and inadequate sanitation infrastructure. Despite these systemic barriers, First Nation communities continue to demonstrate resilience, cultural continuity, and a strong sense of identity and belonging.

Metro Vancouver is highly diverse, with racialized groups making up 54.5% of the population in 2021—with Chinese (19.6 percent), South Asian (14.2 percent), and Filipino (5.5 percent) populations being the largest. About 2.4 percent identified as First Nation, making it the third-largest urban First Nation population in Canada.

Culture plays a key role in community well-being and cohesion. Delta's identity continues to be shaped by culturally diverse forces, including influences of First Nation nations, early settler-colonizers, and immigrants to the Lower Mainland, which collectively contribute to the region's multiculturalism. Furthermore, Delta's identity, in relation to the Project site, is reflected through a blend of strong cultural diversity, high-socio-economic stability, and a defined geographical character that balances extensive agricultural and conservation of lands with established industrial areas.

Ethnocultural segregation is most visible in low-income areas, within Metro Vancouver, some data pointing to neighbourhoods in Richmond having high proportions of working poor families. These segregated low-income areas are geographically contained within the broader Metro Vancouver region that comprises the Projects study area. Metro Vancouver is where many recent immigrants live, often leading to weaker community ties. In contrast, First Nation communities report strong belonging despite language loss from colonization. Community cohesion and social connectedness are foundational to First Nation culture and community well-being.

### 19.3 Potential Project Effects and Proposed Mitigations by the Proponent

The four primary areas where FortisBC identified potential project effects are the overrepresentation of men in employment opportunities, visual impacts associated with First Nation land and resource use, human health impacts associated with air quality and shift work, and social divisions associated with the project.

These areas are supported by information provided in related Appendices: particularly the [Appendix 6, Section 17.09](#) (Employment and Economy), [Appendix 6, Section 17.10](#) (Land and Resources Use), [Appendix 6, Section 17.13](#) (Culture), and [Appendix 6, Section 17.14](#) (Human Health).

While the project is expected to provide 6,200 jobs over the six-year construction period (peaking at 600 onsite workers during construction), FortisBC does not anticipate residual adverse effects to infrastructure and services or culture VCs as the labour force will largely come from Metro Vancouver.

#### 19.3.1.1 Employment and Economic Opportunities

Employment and economy are directly relevant to community well-being as they relate to the ability of families and individuals to provide for their needs and thrive in their communities. Improved income security allows individuals and families to avoid difficult decisions, such as relocating to find work or more affordable housing, thereby enhancing their quality of life. Increased income from employment can also contribute to increased quality of life for First Nation community members and families, supporting not only economic stability but also cultural revitalization and well-being.

As provided by FortisBC, Tilbury Phase 2 is anticipated to result in increased employment income, skills training, contracting and procurement. Men may be better positioned to benefit from Tilbury Phase 2-related employment opportunities as the majority of people employed in engineering and trades-related occupations are male. To promote equitable distribution of proposed Project benefits, FortisBC has policies on hiring practices and contracting to support underrepresented groups.

Positive residual effects for First Nation workers are anticipated through increased employment, enhanced opportunity, and a potential improvement of social conditions. Employment income, education and skills training, procurement opportunities, and First Nation Government revenue are anticipated as positive effects. First Nation members with a trades certificate and experience in the construction sector would be most likely to benefit from direct employment with Tilbury Phase 2. However, increased participation in the wage economy may reduce participation in traditional non-wage economies. Workers engaged in proposed Project construction might otherwise be engaged in resource harvesting or related economic activities, resulting in lost opportunity.

Overall, FortisBC expects economic opportunities to positively benefit workers and their families by providing improved income security. FortisBC does not anticipate other adverse impacts to the labour market, opportunities for traditional economic activities, business revenues, property values, cost of living, or impacts caused by track traffic. Further information is available in employment and economy VC (Appendix 7.10).

#### 19.3.1.2 Visual impacts associated with First Nation land and resource use

First Nation Peoples may be disproportionately affected by visual changes to the landscape, particularly where these changes occur in areas with ongoing cultural use or deep historical and spiritual significance. The Fraser River is a culturally important area used by many First Nations for fishing, harvesting, and other social and cultural practices. Visual impacts in this area — especially at culturally significant sites — are directly relevant to First Nation well-being.

A historic village site located across the Fraser River from Tilbury Phase 2, known as ʔəqtinas (also referred to as Tl'uqtinus, Tl'ektines, or Tl'eqtines), holds high cultural significance for several Nations, including xʷməθkʷəy̓əm, Quw'utsun Nation, Ts'uubaa-asatx, Tsawwassen First Nation, TWN, Kwantlen First Nation, Semiahmoo First Nation,

and Stó:lō communities.<sup>82</sup> This site may experience noticeable visual effects during both daytime and nighttime viewing conditions due to project lighting and infrastructure. Views from the Fraser River may also be affected, resulting in potential visual impacts for First Nation Peoples whose cultural and spiritual connections to the landscape are deeply tied to its natural features.

These effects are especially concerning given the cumulative context. First Nation Peoples near Tilbury Phase 2, including those on Tilbury Island, have already experienced restricted access to land and water due to urban development and government regulation. Visual impacts from the Project add to these ongoing pressures. Disruptions to important views, cultural sites, and sensory conditions may weaken connections to place, interfere with cultural continuity, and affect community well-being.

Lighting associated with the Project is required for safety and security, as described in [Appendix 6, Section 17.10](#) (Land and Resource Use). Lighting will be designed in line with BCER's Light Control Best Practices Guideline, the International Commission on Illumination's Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations, and the City of Delta's municipal zoning bylaws. Further information on mitigation and effects is available in Section 7.11.

#### **19.3.1.3 Human health impacts associated with air quality and shiftwork**

Human health is closely linked to overall community well-being, as it shapes population health outcomes that are influenced by social determinants such as income, education, housing, and access to services.

Persons with sensitivities to air quality may be disproportionately impacted by the project – particularly on-site workers and businesses that are directly adjacent to the site. The Project will incrementally contribute to nitrogen dioxide (NO<sub>2</sub>) and sulphur dioxide (SO<sub>2</sub>) during operation, which are common air pollutants formed by the burning of fossil fuels. FortisBC anticipates that with mitigation measures, effects will be negligible to low-magnitude compared to existing conditions, with emissions being concentrated near the Tilbury Phase 2 footprint during normal Operation.

Women, First Nation Peoples, and persons with lower education levels may be disproportionately impacted by the effects of shiftwork due to systemic barriers that limit access to stable, flexible, and higher-quality employment opportunities. Identified by FortisBC, shiftwork can cause adverse health impacts associated with sleep, mood, gastrointestinal health, and mental health. This can subsequently lead to increased risk of chronic disease, substance use, motor vehicle accidents, sleep disorders and negative impacts to relationships and within household environments such as domestic violence due to social isolation. FortisBC expects negligible impacts for the overall workforce that may be detectable at low magnitude for some workers. To mitigate the negative effects of shiftwork, FortisBC proposed flexible work schedules that take into consideration these impacts of shift work such as fewer shifts of the same type, forward rotations or self-scheduling, as well as providing information about the health and safety implications of shift work to the workforce. In addition, as described in the revised Application (Human Health VC, Section 7.15), FortisBC has committed to workplace conduct policies, cultural awareness training, reporting and complaint mechanisms, and emergency response planning intended to prevent and mitigate potential risks related to gender-based violence and worker safety throughout the Project lifecycle.

#### **19.3.1.4 Social division associated with the project**

Community and cultural cohesion are the sense of belonging, trust, and cultural and social connectedness people may have to one another. Community cohesion in the area is strong for both First Nation and non-First Nation persons. Changes to culture has the potential to affect the well-being of people and communities in that it influences a sense of community and cultural cohesion.

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See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site

FortisBC recognized that social divisions may be intensified in local communities if there is strong public opposition to the Project, particularly in relation to climate change; whereas others may favour the benefits of the Project. FortisBC will continue to engage the public and other interested parties throughout the remaining phases of the project to seek input, answer questions, and address potential concerns. FortisBC will also work directly with First Nation nations and governments to maintain transparency, ensure compliance, and seek and address feedback.

## 19.4 Key Issues Raised

### 19.4.1.1 Use and enjoyment of surrounding environments including participation in traditional activities

Reviewers and the public raised concerns regarding the Projects' impacts to the surrounding environment and the subsequent impacts to its use and enjoyment. Cheam First Nation noted concerns regarding increased truck traffic, particularly its impacts on neighbouring businesses, and the ability for First Nation persons to continue to participate in traditional economic activities (e.g. fishing) while supporting First Nation employment, training, and contracting opportunities. TWN raised concerns regarding potential residual effects to harvesting and subsistence activities, cultural use areas, and the overall impacts to First Nation health and well-being – which can include mental, socio-cultural, spiritual, and emotional health due to impacts on cultural values.

Public comments on human and community well-being spoke to concerns regarding public health and safety, air quality, and enjoyment of and impacts to local environments. However, the comments received did not speak to disproportionate impacts to different population groups. These comments were responded to as part of the [Tilbury Phase 2 LNG Expansion Project Application Review Public Engagement Report](#), and the topics are considered in their respective VC sections.

FortisBC will be implementing a range of policies and management plans to help mitigate impacts associated with the project, many of which will be developed in collaboration with First Nation nations and other levels of government. Particularly, trucks associated with the project will follow designated routes and mitigation measures to reduce impacts from the project will be incorporated into the CEMP. No residual effects are anticipated for businesses adjacent to the project (also refer to [Appendix 6, Section 17.11](#) (Infrastructure and Services VC), which speaks to transportation).

FortisBC does not anticipate additional impacts from the project on First Nation persons' participation in traditional versus wage economies compared to existing conditions. FortisBC will be requiring detailed First Nation participation plans during contractor bid processes, which are inclusive of economic and workforce opportunities, and will continue to engage directly with First Nation nations on economic opportunities.

Refer to respective sections for further discussion on impacts to the use and enjoyment of surrounding environments for both First Nation and non-First Nation communities. Particularly, see sections specific to each First Nation.

### 19.4.1.2 Social divisions particularly in relation to climate change

xʷməθkʷəyám noted how risk perception contributes to social divisions, and how First Nation communities are more likely to perceive heightened risks. TWN further describes how First Nation peoples are disproportionately impacted by climate change: including reduced access to shorelines, and reduced access to cultural practices and fishing and harvesting opportunities. Disproportionate impacts to First Nation peoples result in greater perceptions of risk for future projects.

Climate impacts were also cited during the public comment periods as a key concern. While the assessment focusses on the impacts of the Project itself, the overarching social narrative regarding climate change and risk tolerance is evident in issues raised; the real and perceived risks associated with climate change introduce a social division between those who support the project and those who do not.

The Project's contribution to GHG emissions were assessed in [Appendix 12](#), of this report.

#### The EAO's Assessment and Conclusions

The following VCs were assessed by the EAO as having potentially disproportionate effects on different populations:

- Infrastructure and services;
- Land and resource use;
- Acoustic;
- Air quality;
- Employment and economy;
- Human health;
- Vegetation;
- Fish and fish habitat;
- Marine use; and
- Wildlife and wildlife habitat.

### 19.5 The EAO's Conclusion

After considering proposed KMMs and follow-up programs, Certificate conditions (which would become legally binding if a Certificate is issued), and federal and provincial regulatory requirements, the EAO concludes that significant adverse effects on overall human and community well-being are unlikely, certain diverse population groups may remain at heightened risk, highlighting the need for ongoing attention to equity, inclusion, and culturally responsive mitigation and monitoring efforts. This conclusion considers the information and analysis presented in this and related sections, as well as the views of the TAC, First Nations, and the Proponent.



## 20.0 APPENDIX 9 SUMMARY OF EFFECTS ON BIOPHYSICAL FACTORS THAT SUPPORT ECOSYSTEM FUNCTION

### 20.1 Background

This section summarizes the potential effects that Tilbury Phase 2 would have on biophysical factors that support ecosystem function.

Ecosystem function relates to the different physical, chemical, and biological components of an ecosystem (for example, vegetation, water, soil, atmosphere, and biota) and how they operate and interact with each other within and across ecosystems. The function of an ecosystem depends upon the long-term integrity of its physical, chemical, and biological elements.

Biophysical factors that support ecosystem function were assessed by FortisBC through the VC framework and then summarized in [Section 12](#) of the Revised Application.

### 20.2 Potential Project Effects and Proposed Mitigations by the Proponent

Tilbury Phase 2 has the potential to affect biophysical factors that support ecosystem function through the following pathways:

#### Habitats Supporting Ecosystem Function

FortisBC expects the collective residual effects on Vegetation and Wildlife and Wildlife Habitat from Tilbury Phase 2 to be negligible, as there would be no measurable effect on habitats supporting ecosystem function on the ecosystem or lower Fraser River scale. Due to the highly developed nature and the existing disturbance levels of the area, FortisBC predicts a low magnitude of residual effects to wildlife habitat for species at risk, but that these effects to habitats supporting ecosystem function would occur in the Tilbury Phase 2 Project area regardless. The cumulative effects of commercial and industrial activities in the lower Fraser River may be amplified by climate change. This amplification could affect habitat suitability and wildlife resiliency to environmental stressors.

#### Habitat Patches

Due to the highly fragmented nature of the Project Footprint and surrounding area, FortisBC does not anticipate any new barriers to species movement or negative effects to migration routes or ecological corridors as a result of Tilbury Phase 2. FortisBC does not anticipate Tilbury Phase 2 causing any new habitat fragmentation, or creating any habitat disturbance along the Fraser River or Tilbury Slough.

#### What are the biophysical factors that support ecosystem function?

Biophysical factors that support ecosystem function can be grouped into the following ten categories:

1. habitats supporting ecosystem function
2. habitat patches
3. natural disturbance regime
4. structural complexity
5. hydrologic or oceanographic patterns
6. nutrient cycling
7. purification services
8. biotic interactions
9. population dynamics
10. genetic diversity.

These biophysical factors can vary in their contribution to ecosystem function and may be affected by potential project impacts at a landscape or watershed level, ecosystem level or ecological community level. Biophysical factors are assessed at the level that coincides with the potential effect.

### Natural Disturbance Regime

FortisBC does not anticipate interaction of flooding, such as fluvial and tsunami flooding, with Tilbury Phase 2 due to its flood construction level, and existing infrastructure including dikes along the Fraser River and a flood gate at Tilbury Slough. The storm sewer that drains the site has been updated to accommodate runoff from the current site and adjacent properties with allowance for increased rainfall. Additionally, FortisBC considered climate change and the associated trends of severe weather events, as well as potential flooding and seismic events into the project design. FortisBC does not expect Tilbury Phase 2 to contribute to the existing natural disturbance regime in the Project area.

### Structural Complexity

Tilbury Phase 2 would be located in a highly industrialized area with limited vegetation and is dominated by nonnative and invasive species. Prior to the Tilbury Phase 2 Construction phase, vegetation will be removed by other construction activities located at the site.

Climate change has the potential to influence structural complexity in the Tilbury Phase 2 area, such as through the suppression of natural vegetation growth and spread of invasive species. FortisBC predicts a low-magnitude of effects on adjacent habitat of species at risk, and due to concerns raised in the Application and Development phase, FortisBC plans to utilize existing areas of disturbance and avoid vegetation clearing and habitat fragmentation in the Tilbury Phase 2 design. Therefore, with the proposed mitigation measures, limited existing structural complexity, and incremental residual effects, FortisBC does not anticipate any effects to structural complexity as a result of Tilbury Phase 2.

### Hydrologic or Oceanographic Patterns

FortisBC predicts negligible effects of Tilbury Phase 2 to surface water and groundwater and no change to hydrologic patterns or flow due to existing drainage ditches and the existing impermeable surface of the Tilbury Phase 2 site along with no expected changes to water discharge volume into the Fraser River or Tilbury Slough.

### Nutrient Cycling

Tilbury Phase 2 would be located in an area of previous and existing industrial land use with little to no topsoil, and therefore the effects on soil quality are anticipated to be negligible. Additionally, no residual effects to surface water discharged into Delta storm sewers is anticipated due to erosion and sediment control measures. Overall, FortisBC does not expect Tilbury Phase 2 to have any changes to nutrient flow in, out, or through the ecosystem.

### Purification Services

FortisBC anticipates interaction between purification services and the [Appendix 6, Section 17.01](#) (Air Quality VC), [Appendix 6, Section 17.03](#) (Surface Water VC), and [Appendix 6, Section 17.06](#) (Vegetation VC). The Tilbury Phase 2 Construction phase will have a low magnitude of contribution to CAC concentrations in the Project Footprint, and the Operation Phase effects will be negligible for NO<sub>2</sub>, and low-magnitude from increased SO<sub>2</sub>. With the proposed mitigation measures, including design measures to reduce GHG emissions, FortisBC expects an overall low magnitude of effect of SO<sub>2</sub> and therefore no anticipated adverse effects to ecosystem function. FortisBC completed an assessment of the Project Operations phase's air emissions and the potential for acidification and eutrophication effects and concluded that aquatic and terrestrial environments are not susceptible for both surface water and soil. With the implementation of mitigation measures, the residual effects of runoff on surface water quality are not expected. Additionally, the Tilbury Phase 2 Construction phase and Operation phase would not interact with wetlands or riparian habitats.

### Biotic Interactions

Tilbury Phase 2 would have negligible to low effects on invasive species, with no significant impact on biodiversity or ecosystem function. Invasive species are already present on the site, and implementing weed and pest management procedures during construction and operation will help control their spread. The project is unlikely to alter predator-prey dynamics due to limited infrastructure for perching sites. The site is within a heavily industrialized area with significant past habitat loss, and climate change is expected to further affect wildlife habitat. However, FortisBC does not anticipate Tilbury Phase 2 to have significant impacts on wildlife movement, as existing barriers already limit ground movement in the area, and mitigation measures will be in place to minimize any effects.

Species within the Tilbury Phase 2 area are expected to be resilient to human disturbances, with some level of habituation to existing urban and industrial impacts. The project is not expected to have residual effects on keystone species that could alter ecosystems. The introduction or spread of invasive plants and the temporary alteration of wildlife habitat for species at risk are considered to have negligible to low impacts. These changes are unlikely to affect predator-prey dynamics, harm wildlife populations, or reduce genetic diversity in vegetation or wildlife.

Tilbury Phase 2 is not expected to interact with the following pathways:

- Population dynamics; and,
- Genetic diversity.

### Cumulative Effects

The residual effects of Tilbury Phase 2 are expected to have cumulative effects on the biophysical factors that support ecosystem function. These cumulative effects are described in detail in the cumulative effects assessment for each biophysical VC that supports ecosystem function as assessed for Tilbury Phase 2 ([Appendix 6, Section 17.01](#) Air Quality VC, [Appendix 6, Section 17.06](#) Vegetation VC, [Appendix 6, Section 17.07](#) Wildlife and Wildlife Habitat VC, [Appendix 6, Section 17.08](#) Fish and Fish Habitat VC, and [Appendix 6, Section 17.03](#) Surface Water VC).

### Mitigation Measures

FortisBC plans to implement mitigation measures, applicable to biophysical valued components described in [Appendix A](#) of the Revised Application.

### Positive Effects and Enhancement Measures

No positive effects or enhancement measures were identified by FortisBC.

## 20.3 Key Issues Raised

Many Nations raised issues regarding biophysical factors that support ecosystem functions, specifically anticipated construction related truck traffic to the Tilbury Phase 2 site and to Tilbury Slough and Fraser River. First Nations emphasized lack of mitigation measures for fish and fish habitat, surface water, and air quality, and that removing waterborne delivery is not a sufficient mitigation measure on its own. FortisBC assessed the potential effects of alternative construction delivery scenarios and found that truck delivery would result in only a negligible increase over existing non-project truck traffic during construction.

## 20.4 The EAO's Assessment and Conclusions

This section presents the EAO's conclusions on the potential positive and negative effects from Tilbury Phase 2 on biophysical factors that support ecosystem function.

## Proposed Provincial Conditions and Federal Key Mitigation Measures

[Appendix 2](#) of this Assessment Report outlines the identified KMMs under the IAA related to the [Appendix 6, Section 17.01](#) (Air Quality VC), as it relates to the health, social, and economic conditions of Indigenous Peoples, and the [Appendix 6, Section 17.07](#) (Wildlife and Wildlife Habitat VC) as it may pertain to migratory birds, species at risk, and Indigenous use of traditional lands and resources under the IAA.

The following provincial conditions and that address effects to biophysical factors that support ecosystem function:

- Condition 10 (Community Feedback Process) creates a process to address issues raised by First Nations and their members or citizens, and the Public during Construction and Operation.
- Condition 11 (Greenhouse Gas Emissions and Net-Zero Plan) requires the development, implementation, and periodic update of a plan to achieve net-zero GHG emissions by 2050, including interim milestones and annual offsetting of residual emissions starting in 2030.
- Condition 12 (CEMP) requiring the development and implementation a plan to manage the effects of Tilbury Phase 2 during Construction and Decommissioning, including requirements to surface water quality management plans for both Construction, and Decommissioning phases.
- Condition 13 (OEMP) requiring the development and implementation a plan to manage the effects of Tilbury Phase 2 during Operations, including a surface water management plan for Operation Phase.
- Condition 14 (Air Quality Management Plan) requiring the development and implementation of a plan to manage the effects of Tilbury Phase 2 on air quality.
- Condition 17 (Dry Street Sweeping Report) requiring FortisBC to submit a Report on the effectiveness Dry Street Sweeping to mitigate the effects of 6-PPDQ on fish within eighteen months of a Certificate being issued.

## Residual Effects

After considering the proposed provincial conditions and federal KMMs, the EAO characterizes the following effects on ecosystem function from Tilbury Phase 2, as shown in Table 70.

Table 70: Effects on Ecosystem Functions

| Ecosystem Function                     | Assessment Rating                           | Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Habitats Supporting Ecosystem Function | Negligible to low, localized and reversible | Due to existing development and disturbance in the Project Area, residual effects to habitats supporting ecosystem function such as vegetation and wildlife, are predicted to be negligible to low in magnitude. Climate change may amplify cumulative effects which could affect habitat suitability and wildlife resilience, thereby decreasing support for ecosystem function, however, the exact nature of that amplification is difficult to predict. |
| Habitat Patches                        | Low magnitude, local and reversible         | Impacts to habitat patches would be low magnitude and localized due to the existing conditions of the Project Footprint and surrounding area.                                                                                                                                                                                                                                                                                                              |
| Natural Disturbance Regime             | No effects                                  | Tilbury Phase 2 is not expected to alter the natural disturbance regime.                                                                                                                                                                                                                                                                                                                                                                                   |

| Ecosystem Function                   | Assessment Rating                                  | Rationale                                                                                                                                                                                                                                                                                               |
|--------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Structural Complexity                | Low magnitude, localized and permanent             | Habitat loss, including clearing during construction, may have an effect on structural complexity, but this is predicted to be localized, and low magnitude due to the existing conditions in the project area. Additionally, climate change may have an effect on structural complexity in the future. |
| Hydrologic or Oceanographic Patterns | Negligible, localized and short term               | Effects to surface water and groundwater and predicted to be negligible. Effects from project activities to water flow, hydrologic patterns, and water discharge volume are not expected.                                                                                                               |
| Nutrient Cycling                     | No effects                                         | Due to existing conditions in the project area and the predicted effects of the Project, no residual effects to nutrient cycling are expected.                                                                                                                                                          |
| Purification Services                | Low magnitude, localized and partially reversible. | The Construction and Operations phases will have a low magnitude effect on air quality within the project footprint, with negligible to low contribution to CAC concentrations and increase SO <sub>2</sub> .                                                                                           |
| Biotic Interactions                  | Negligible, localized and short term               | The heavily industrialized nature of the Project area has significant past habitat loss, and it is not anticipated that Tilbury Phase 2 will measurably impact the existing conditions or alter biotic interactions.                                                                                    |

### Conclusion

After considering the information provided by FortisBC in the Revised Application, the views of the TAC, First Nations, and the public, the proposed provincial conditions and federal Key Mitigation Measures, the EAO concludes that there would be a low magnitude of effects on biophysical factors that support ecosystem function. The EAO is satisfied that effects on these factors would be appropriately mitigated and minimized to the extent possible for the Project.

## 21.0 APPENDIX 10 EFFECTS ON CURRENT AND FUTURE GENERATIONS

### 21.1 Background

Both provincial and federal legislation require that assessments consider how projects affect current and future generations.

Under the Act, this means looking at positive and negative project effects on current and future generations on environmental, economic, social, cultural, and health values, as well as Indigenous interests that may interact with the project.

Subparagraph 22(1)(a)(iii) of the IAA specifies that the assessment of a designated project must take into account the result of any interaction between changes to the environment or to health, social or economic conditions. The extent to which Tilbury Phase 2 LNG contributes to sustainability, defined as “the ability to protect the environment, contribute to the social and economic well-being of the people of Canada and preserve their health in a manner that benefits present and future generations,” is a federal requirement as per paragraph 22(1)(h) of the IAA and is discussed in more detail in [Appendix 15](#).

This appendix provides information to help decision-makers, First Nations and the public understand whether the environment, people, and communities would be better or worse off as a result of Tilbury Phase 2. The analysis synthesizes all components of the effects assessment to offer insight into Tilbury Phase 2’s overall sustainability—specifically, how it may protect the environment, support a strong economy, and promote the well-being of British Columbians and their communities.

### 21.2 Potential Project Effects to Current and Future Generations

This section provides an overview of the EAO’s assessment of potential project effects to current and future generations. It is informed by [Section 14](#) of the Revised Application and the EAO’s assessment of VCs in [Appendix 6](#) of the EAO’s Report. This assessment focuses only on residual effects, those persisting after mitigation, that matter for current and future generations.

#### 21.2.1 Positive Effects

Tilbury Phase 2 is expected to deliver benefits for both current and future generations. The proponent stated that Tilbury Phase 2 is expected to produce LNG with one of the lowest carbon intensities in the world, primarily using hydroelectric power; however, this outcome depends on external factors beyond the proponent’s control.

Tilbury Phase 2 aligns with B.C.’s climate objectives, including the CleanBC strategy and the provincial energy action framework, by committing to net-zero carbon emissions by 2030 and supporting carbon neutrality by 2050. Design measures also

#### What is considered a current and future generation?

25 years is generally considered representative of a single generation however the Act does not assign a specific numerical value to the term. Generally, effects on current generations would be felt within the next 25 years, while effects on future generations would be felt 25 years and beyond.

FortisBC stated that the project would help displace higher-carbon fuels such as coal and diesel, reducing greenhouse gas (GHG) emissions and air pollutants. However, the EAO determined these claims are too uncertain due to factors beyond the project’s control, such as global market conditions and user behavior. As a result, displacement benefits have not been included as a benefit for current or future generations.

incorporate resilience against extreme weather, flooding, and seismic events, ensuring long-term sustainability.

From an energy perspective, Tilbury Phase 2 will strengthen the resilience of the Lower Mainland's energy system. The addition of an LNG storage tank will provide an emergency backup supply for customers, reducing the risk of widespread outages and ensuring continuity during supply disruptions. Expanded liquefaction capacity will meet growing demand for cleaner energy, supporting both local and global energy transition to lower carbon energy.

Economically, Tilbury Phase 2 will generate the following benefits:

- Tilbury Phase 2 could create more than 6,200 full-time equivalent (FTE) person-years of employment during construction and more than 100 FTE jobs during operation.
- Once operational, the facility will support approximately 600 FTE jobs and contribute nearly 500 million dollars annually to the provincial Gross Domestic Product (GDP) and almost 600 million dollars to Canada's GDP.
- Training programs and apprenticeships will prepare youth and underrepresented groups for future employment opportunities, while inclusive hiring policies have the potential to result in equitable access for Indigenous peoples and other communities.

### 21.2.2 Residual Adverse Effects

The EAO reviewed potential adverse effects of Tilbury Phase 2 on both current and future generations. These effects were assessed across key valued components (VCs), considering their duration, magnitude, and reversibility. Current generation impacts are generally short-term and occur during construction, while future generation impacts are associated with long-term operational activities and cumulative effects. A full assessment of each VC is in [Appendix 6](#), of the EAO's Assessment Report. Table 71 below summarizes these potential residual adverse effects by category and generational scope.

Table 71: Residual effects to current (construction) future generations (operation and decommissioning phase unless noted)

| VC           | Potential Residual Effect                                                                                                                                                                                                                                            | Duration                                               | Magnitude         | Reversibility        |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------|----------------------|
| Air Quality  | Increase in ambient Criteria air contaminant (CAC) concentration during site preparation and project construction and increase in ambient Nitrous Oxide (NO <sub>2</sub> ) Sulphur Dioxide (SO <sub>2</sub> ), and other CAC concentrations during Project operation | Medium-term (construction to decommissioning phase)    | Negligible to low | Reversible           |
| Human Health | Health impacts from Inhalation of Contaminants of Potential Concern (COPCs) and shiftwork impacts                                                                                                                                                                    | Long-term (construction to past decommissioning phase) | Negligible to low | Partially Reversible |
| Acoustic     | Increase in noise and vibration levels during construction and increase in noise levels during operation.                                                                                                                                                            | Medium-term (construction to decommissioning phase)    | Negligible to low | Fully Reversible     |



| VC                            | Potential Residual Effect                                                                                                                                                      | Duration                                            | Magnitude         | Reversibility        |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------|----------------------|
| Wildlife and Wildlife Habitat | Loss or alteration of habitat and increased wildlife health and mortality risk                                                                                                 | Medium-term (construction to decommissioning phase) | Negligible to low | Reversible           |
| Land and Resource Use         | Change to visual quality of the landscape and changes to use of tenures and licensed resource uses                                                                             | Medium-term (construction to decommissioning phase) | Low               | Reversible           |
| Vegetation                    | Introduction or spread of invasive plant species                                                                                                                               | Medium-term (construction to decommissioning phase) | Negligible to low | Reversible           |
| Infrastructure and Services   | Effects to domestic water supply, landfill and recycling facilities and transportation infrastructure and safety                                                               | Medium-term (construction to decommissioning phase) | Negligible        | Fully Reversible     |
| Culture                       | Change to land and water based cultural practices inter-generational knowledge transfer, diversity, use of indigenous languages and cultural cohesion and community continuity | Medium-term (construction to decommissioning phase) | Negligible        | Partially Reversible |
| Fish and Fish Habitat         | Reduced fish habitat quality increased risk to fish health injury and mortality and changes in fish distribution                                                               | Medium-Term (construction to decommissioning phase) | Negligible        | Fully Reversible     |
| Surface Water                 | Change in water quality and quantity in Tilbury Slough                                                                                                                         | Medium-Term (construction to decommissioning phase) | Negligible        | Partially Reversible |

### 21.3 Potential Project Effects to Indigenous Current and Future Generations

The existing Tilbury LNG facility is private property, largely composed of gravel and paved areas, infrastructure, and equipment laydown areas, with minimal vegetation and little to no wildlife habitat value; vegetation is mostly confined to ditch lines and spoil piles and is dominated by non-native and invasive species. Public access to Tilbury Phase 2 is limited, though the Fraser River dike to the north is used by the public. In the broader Project area, past and present environmental degradation, industrial development, and land-use changes have impacted the traditional harvesting practices and access to and use of cultural sites by the Indigenous Nations assessed.

FortisBC assessed the effects of Tilbury Phase 2 on First Nations in [Section 11](#) of its Revised Application, and the EAO and First Nations conducted their assessments in [Appendix 5](#) of the Assessment Report. The summary below outlines potential effects on First Nations for both current and future generations

Broadly speaking Tilbury Phase 2 could have potential effects on Indigenous interests, including harvesting and subsistence activities, cultural use sites and areas, social and economic conditions, and Indigenous health and well-being.

The EAO recognizes that these interests are interconnected and may overlap, and this is reflected in the individual Nation sections of the Assessment Report where more detailed analysis is provided (see [Appendix 5.01](#) to [Appendix 5.21](#)). Impacts can vary among Indigenous communities, some may experience greater magnitude effects, others minimal or none.

The following summary outlines the anticipated effects to current and future generations in each of the four core Indigenous interest areas based on available information and engagement with Indigenous Nations.

- **Harvesting and Subsistence Activities**

Tilbury Phase 2 is not expected to significantly affect harvesting or subsistence activities. The footprint contains little to no vegetation or wildlife habitat, and fishing access to the Fraser River will remain unchanged. Minor visual or other sensory (noise, psychological) changes may occur, but these are anticipated to either have negligible (not measurable) to low magnitude effect on harvesting experiences, see First Nation sections in [Appendix 5](#).

- **Cultural Use Sites and Areas**

Potential effects on cultural sites are predicted to be non-existent to negligible. The project footprint is on private industrial land and is not known to be used for ceremonies or cultural practices. Archaeological assessments found no heritage resources within the footprint, and mitigation measures will prevent disturbance to nearby sites. Minor visual changes may occur, but these are expected to either have no or negligible (not measurable) effect on cultural experiences.

- **Social and Economic Conditions**

Tilbury Phase 2 could generate positive outcomes by creating employment and contracting opportunities for Indigenous Nations, which may benefit both their current and future well-being. FortisBC has committed to fair and accessible hiring practices and training programs. Agreements with some participating Indigenous Nations include benefit-sharing arrangements, which could support long-term economic development.

- **Indigenous Health and Well-being**

As noted in the Human Health section, and individual First Nation sections in Appendix 6 Tilbury Phase 2 may have implications for the well-being of current and future generations of Indigenous peoples through its interaction with existing health vulnerabilities, mental health pressures, and factors that affect cultural practices and the intergenerational transfer of knowledge. The Human Health Risk Assessment, [Appendix J](#) of the Revised Application, concluded that contamination of country foods is highly unlikely. Noise is predicted to remain within regulatory limits, except for areas close to the fence line of the Tilbury Phase 2 site and mitigation measures will address potential concerns. Under worst case conditions, Project emissions could cause air concentrations within 50 metres of the Project Footprint to exceed regulatory thresholds. Shiftwork-related health impacts may occur for workers but are considered negligible to low magnitude.

## 21.4 Proposed Mitigation Measures, Federal Key Mitigation Measures, Provincial Conditions and Permitting

This section provides an overview of measures designed to avoid, reduce, or manage potential adverse effects on current and future generations, as well as Indigenous interests. These measures are drawn from multiple sources and reflect commitments at the regional, federal, provincial, and project levels:

### 21.4.1 Proponent Mitigation

[Appendix A](#) of the Revised Application includes a comprehensive list of mitigation measures that FortisBC will be required to implement should a Certificate be issued. The following summarizes key mitigations addressing issues of concern for present and future generations:

- **Air Quality**  
Tilbury Phase 2 will electrify refrigeration and feed gas compression processes to reduce CAC and GHG emissions. Emission reduction and control technologies will be incorporated into the design to meet regulatory requirements. Dust-control measures will be implemented during construction, and a vehicle idle reduction policy will help limit emissions. Regular inspection and maintenance programs will ensure equipment operates efficiently, and odour complaints will be tracked and addressed.
- **Fish and Fish Habitat**  
Mitigation focuses on preventing contamination and sedimentation. Measures include collecting and testing water that comes into contact with processing equipment before discharge, implementing erosion and sediment control plans in consultation with First Nations and QPs, and designing drainage systems with oil-water separators. Hydrostatic water used to test the LNG storage tank will be treated before release, and there will be no waterborne deliveries to avoid disturbance in aquatic habitats.
- **Climate Change and GHG Emissions**  
Tilbury Phase 2 will electrify major processes to reduce emissions and implement fugitive emissions management through design and operational controls. A Net-Zero Plan will guide compliance with government policies, and carbon offsets will be pursued when feasible. Additional strategies include exploring renewable fuels, waste heat recovery, and carbon removal.
- **Human Health**  
Mitigation measures address air quality, noise, odor, and safety. Waste management plans will minimize environmental and health risks, and emergency response plans will include fire control systems and annual testing. Noise mitigation will be engineered into equipment design, and dust-control measures will reduce particulate exposure. Health and safety programs will cover shift work impacts, substance use support, and fit-for-duty policies. Onsite emergency health services will meet or exceed WorkSafeBC standards.
- **Indigenous Interests**  
Engagement is integrated throughout mitigation planning. First Nations will be consulted on air quality management, erosion and sediment control, wildlife timing windows, and contingency measures for wildlife interactions. Indigenous employment and contracting opportunities will be promoted, with cultural awareness programs and fair hiring practices aligned with FortisBC's Indigenous Principles. Communication plans will ensure timely updates on project activities, safety measures, and emergency response.

### 21.4.2 Provincial Conditions

If issued, the Certificate will establish binding conditions that strengthen and expand upon the proponent's commitments. The complete set of conditions is provided in the Certificate Table of Conditions. Key conditions include:

- **Air Quality**

The Holder must develop and implement an Air Quality Management Plan under the direction of a QP. This plan must detail mitigation measures (including electrification and emissions control technologies), including a report that details the air mitigation technology selection process, and provide updated air quality modeling. Tilbury Phase 2 will be subject to enforceable emission limits, stack testing, and monitoring under Metro Vancouver's Air Quality Management Bylaw, with results assessed against provincial and federal standards and reported to Metro Vancouver and provincial datasets.

- **Fish and Fish Habitat**

A Dry Street Sweeping Report must be prepared to evaluate its effectiveness in mitigating 6PPD-Quinone (6-PPDQ) impacts on fish and fish habitat. If effective, this measure must be incorporated into the CEMP. The CEMP must also address erosion and sediment control, spill prevention, and water quality management, including hydrostatic testing protocols aligned with B.C. Water Quality Guidelines.

- **GHG Emissions and Climate Change**

The Holder must implement the Net Zero Plan included within the Revised Application throughout Construction, Operation, and Decommissioning, updating it every five years in consultation with the Ministry of Energy and Climate Solutions, Environment Climate Change Canada (ECCC), Metro Vancouver, and First Nations. Starting in 2030, residual emissions must be offset through the retirement of B.C. Offset Units in the B.C. Carbon Registry. Annual reporting to the EAO and the Ministry of Energy and Climate Solutions is required to demonstrate compliance.

- **Human Health**

Human health considerations are embedded in multiple plans, including the CEMP and Operational Environmental Management Plan (OEMP). These plans must address dust management, noise control, waste management, and spill prevention. Emergency response measures and onsite health services are required to meet or exceed WorkSafeBC standards. Air quality monitoring under the Air Quality Management Plan also supports health protection by ensuring compliance with ambient air quality standards.

- **Indigenous Interests**

Conditions require engagement and inclusion measures. The Holder must consult First Nations during the development of all major plans (CEMP, OEMP, Air Quality Management Plan, Chance Find Protocol, and Net-Zero Plan). A First Nation and Local Economic Inclusion and Monitoring Plan must be implemented to prioritize Indigenous hiring, training, and procurement opportunities, with bi-annual reporting during construction and annual reporting during early operations. Cultural awareness programs and consultation records must be maintained and shared with the EAO.

### 21.4.3 Certified Project Description

The Certified Project Description defines the physical and operational scope of Tilbury Phase 2 and incorporates design elements that serve as inherent mitigations. These features are intended to minimize environmental and community impacts through engineering controls and best practices. A full description of these components can be found in Schedule A of the Certificate, should one be issued. Key design-based mitigations include:

- **Totally Enclosed Ground Flare**

The Certified Project Description specifies the use of a totally enclosed ground flare system for vapour management. This design reduces light and noise emissions compared to conventional elevated flares, minimizing visual and acoustic disturbance to nearby communities and wildlife. It also improves combustion efficiency, reducing criteria for air contaminants and odour impacts.

- **Electric-Drive Refrigerant Compressors**  
Liquefaction trains will utilize electric-drive refrigerant compressors rather than gas-fired units. This design choice aligns with mitigation commitments to reduce GHG emissions and improve air quality by eliminating combustion-related pollutants such as NO<sub>2</sub>, SO<sub>2</sub>, and particulate matter.
- **Air Cooling Systems**  
The inclusion of air-cooling systems, rather than water-intensive cooling towers, reduces water consumption and removes thermal discharge risks to aquatic environments, supporting mitigation for fish and fish habitat.
- **Safety and Emergency Systems**  
Integrated fire detection and suppression systems, along with emergency backup generators, are designed to prevent and manage accidental releases or malfunctions. These systems reduce risks to human health and safety and limit potential environmental contamination.

#### 21.4.4 Permitting Processes

If a Certificate is issued, subsequent permits and authorizations will establish detailed technical requirements that complement and enforce mitigation measures identified in the EA process. These permits are administered under provincial, federal, and municipal legislation and are designed to prevent or minimize adverse effects on air quality, fish and fish habitat, GHG emissions, human health, and Indigenous interests. A full list of applicable permits and regulatory processes is outlined in the [Joint Permitting/Regulatory Coordination Plan](#). Key permitting mechanisms include:

- **Air Quality**  
An EMA permit, administered by Metro Vancouver, will authorize and set conditions on air emissions sources. This process requires updated emissions modeling, justification of equipment selection, and consideration of BAT policies. Conditions will include monitoring and reporting requirements aligned with CAAQS and Metro Vancouver objectives, ensuring compliance and minimizing cumulative air quality impacts.
- **Greenhouse Gas Emissions**  
While no permit is required, reporting obligations under the GIRCA will apply if emissions exceed regulatory thresholds. These requirements enforce transparency and support provincial climate targets, complementing the Net Zero Plan commitments under the Certificate.
- **Human Health and Community Well-being**  
Noise and vibration controls may be addressed through LNG Facility Permit conditions under the ERAA and municipal bylaws. Emergency preparedness requirements under BCER's [Emergency Management Regulation](#) and federal [Environmental Emergency Regulations](#) will mandate contingency planning, exercises, and communication protocols to protect workers, nearby communities, and Indigenous nations.
- **Indigenous Interests and Cultural Resources**  
Site alteration permits under the [Heritage Conservation Act](#) may be required if archaeological resources are encountered. These processes include consultation with First Nations and adherence to cultural heritage protection standards. Additional engagement obligations are embedded in emergency planning and LNG facility permitting for Tilbury Phase 2.

#### 21.4.5 Federal Recommended Measures

See [Appendix 2](#)

## 21.5 Key Issues Raised

### 21.5.1 Climate change

During the public comment period, the EAO heard many concerns about climate change and intergenerational equity. Many participants argued that expanding LNG infrastructure would lock in substantial GHG emissions for decades, primarily methane, a gas far more potent than carbon dioxide, contradicting B.C.'s climate targets and Canada's commitments, and delaying the transition to renewable energy.

As outlined in the [Appendix 12](#) Greenhouse Gas Emissions of this report, key issues included whether the characterization of LNG as "lower-carbon," and the credibility of the proponent's Net-Zero Plan. The proponent stated that upstream emissions were assessed using federal guidance and that LNG meets provincial intensity benchmarks. They also stated that Tilbury Phase 2 is designed to achieve an emissions intensity of about 0.016 metric tonne(s) of carbon dioxide equivalent (tCO<sub>2</sub>e) per tonne of LNG, well below the provincial benchmark of 0.16, and among the lowest globally. The proponent has committed to being net-zero for GHG emissions upon commercial operation by 2030 in accordance with Provincial legislation.

The EAO notes that downstream emissions, those from end-use combustion, are largely outside the scope of the EA. Though the EAO did not rely on FortisBC's global emissions analysis when determining project benefits, the EAO recognizes that emissions could contribute positively or negatively to global GHG levels and climate change depending on how and where the LNG is ultimately used.

The EAO proposes a certificate condition requiring a credible Net-Zero Plan with five-year updates and consultation with First Nations, Metro Vancouver, and other government agencies. With these conditions and regulatory requirements, the EAO concluded Tilbury Phase 2 would not cause significant adverse effects on GHG emissions, though residual effects remain due to the cumulative nature of climate change.

### 21.5.2 Impacts to First Nation rights

Some First Nations raised concerns that the assessment does not adequately address long-term and cumulative impacts on their rights, culture, and aspirations for future generations.

Tsawwassen First Nation (Tsawwassen) identifies cumulative effects as a key issue, noting that longstanding and ongoing pressures in the lower Fraser River diminish opportunities to exercise Treaty rights and cultural practices, with implications for both present and future generations.

TWN emphasized that the methodology overlooks cumulative effects and perpetuates degraded conditions, increases impacts of climate change, negatively impacts cultural continuity, and knowledge transfer. TWN disagrees with the EAO's policy that cumulative effects are only assessed where residual effects (after mitigation measure have been applied) are predicted, arguing this approach ignores the full impact on the exercise of their rights. TWN requested a comprehensive cumulative effects assessment (CEA) using a pre-contact baseline to avoid "shifting baseline syndrome." They stated that even small residual effects may infringe on their ability to restore their way of life in industrialized areas and act as barriers to future aspirations.

Ts'uubaa-asatx notes that the Revised Application frequently uses terms such as "potential negative effects" and references to contributions to "existing and ongoing cumulative effects." While common in regulatory language, this phrasing can unintentionally minimize the real and ongoing impacts Ts'uubaa-asatx experiences today. These effects are not merely potential, they stem from the lasting legacy of colonization, dispossession, and displacement from their traditional lands and territories. Ts'uubaa-asatx emphasizes that any assessment of project impacts must clearly recognize this context and avoid language that obscures the lived realities of cumulative impacts on their Rights, culture, and way of life.



Quw'utsun Nation disagreed with the temporal scope of the assessment, noting that impacts should be considered across seven generations, not a single generation (~25 years). Quw'utsun Nation asserted that Tilbury Phase 2 perpetuates colonial exclusion from their territory and undermines plans to re-establish residential use at Tl'uqtinus, the Historic Indigenous Village Site<sup>83</sup>. Industrial development next to land intended for cultural and residential revitalization creates barriers, such as noise, pollution concerns, and safety risks, that conflict with these plans and prevent the Nation from restoring community presence, reinforcing patterns of exclusion.

Quw'utsun Nation also highlighted disproportionate climate change impacts on Indigenous communities and challenged conclusions regarding health and well-being, stating that any negative effect hampers their ability to achieve the highest attainable standard of health and access to country foods.

x<sup>w</sup>məθk<sup>w</sup>əyám raised concerns about the sensitivity of their rights in an already industrialized area and the inadequacy of mitigation for sensory disturbances. x<sup>w</sup>məθk<sup>w</sup>əyám stressed that impacts should be assessed from a pre-colonization baseline, not the current degraded state. They disagreed with conclusions that noise and light effects would be negligible and requested co-development of mitigation measures to address sensory impacts, which they view as directly linked to cultural values and rights.

Kwantlen First Nation disagreed with the proponent's conclusion of no residual effects and raised concerns about further cultural disenfranchisement in areas of importance, including Tilbury Island.

The STSA maintained that FortisBC's characterization of residual effects differs substantially from their own assessment using the Stó:lō Cultural Model. While FortisBC agreed to include both perspectives, the STSA noted that reconciliation of these differing views remains unresolved.

### 21.5.3 Air Quality

TAC members, including Tsawwassen, Quw'utsun Nation, x<sup>w</sup>məθk<sup>w</sup>əyám, TWN, Metro Vancouver, Vancouver Coastal Health, Fraser Valley Health, and the Richmond, raised concerns about potential exceedances of NO<sub>2</sub> standards, the age of background monitoring data, and whether flaring during commissioning/start-up was fully assessed. Several noted that exceedances of NO<sub>2</sub> objectives could occur for a meaningful portion of the year, including near a Richmond retirement residence.

FortisBC's initial modelling used a conservative no-mitigation scenario but with the commitment to incorporate emissions control technology and meet air quality regulatory requirements and included flaring across Construction, Operation and Decommissioning. In response to comments, FortisBC completed additional modelling using a conceptual mitigated design and provided information on expected performance of proposed emissions controls. The updated results show that Tilbury Phase 2's incremental contribution is small in the context of regional concentration, and predicted concentrations under the mitigated scenario remain below CAAQS 2025 and Metro Vancouver Ambient Air Quality Objective (AAQOs) 2025 at all sensitive receptors.

Cumulative effects and uncertainty in the accuracy of the air quality characterization of effects were also central concerns. First Nations and Metro Vancouver emphasized that existing industrial and transportation sources already influence air quality and community health along the Fraser River, and some questioned the treatment of culturally important areas and decommissioning in the CEA. The EAO recognizes these perspectives and notes that Metro Vancouver's air permitting process, along with Conditions 14 (Air Quality Management Plan) and 18 (Regional Cumulative Effects Initiatives), will require detailed design, monitoring and performance testing to confirm mitigation and support broader airshed management.

<sup>83</sup> See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site



#### 21.5.4 Project benefits

While the majority of publicly received comments expressed concerns about climate change and intergenerational impacts, a small number of participants provided supportive feedback. These submissions noted that LNG could serve as a cleaner alternative to coal and oil, contribute to energy security, and create jobs and skills development opportunities. Some also highlighted potential economic benefits and the importance of expanding energy projects to reduce reliance on U.S. imports and tariffs.

x̣ṃəθḳẉəỵəm acknowledged that Tilbury Phase 2 could create positive economic opportunities for their members, particularly through employment, procurement, and training commitments set out in the Tilbury Projects Master Agreement. They also recognized that the Agreement provides a framework for shared benefits, skills development, and long-term economic participation, which they view as meaningful if opportunities are accessible and aligned with community needs.

### 21.6 The EAO's Analysis and Conclusions

This section presents the EAO's conclusions on the potential positive and negative effects from Tilbury Phase 2 on current and future generations.

Tilbury Phase 2 is expected to provide economic benefits for current and future generations through job creation, training opportunities. It will also provide increased resilience of the Lower Mainland's energy system. Construction will generate thousands of direct and indirect jobs, while Operation will support long-term employment and contribute positively to provincial and national GDP. Commitments to inclusive hiring and benefit-sharing agreements with Indigenous nations may enhance social and economic well-being for some communities.

Environmentally, Tilbury Phase 2 is designed to operate with one of the lowest carbon intensities globally, (approximately 0.016 tCO<sub>2</sub>e per tonne of LNG under the net-zero policy), supported by electrification. These measures align with provincial climate objectives and the Net-Zero New Industry Policy. However, the EAO notes that downstream emissions, those from end-use combustion—are outside the scope of this assessment but could contribute positively or negatively to global GHG levels depending on market conditions. Residual effects from incremental air emissions, noise, and habitat alteration during Operation are predicted to be low to negligible with mitigation.

The EAO acknowledges concerns raised by First nations regarding cumulative effects, shifting baselines, and intergenerational impacts on rights, culture, and aspirations. First Nations emphasized that even small residual effects compound existing degradation and colonial harms, limiting restoration goals and cultural continuity. While Tilbury Phase 2 footprint is on an industrial site with limited direct interaction with harvesting or cultural use areas, sensory disturbances and cumulative effects remain key issues. Conditions requiring engagement, co-development of mitigation measures, and implementation of a Net-Zero Plan with five-year updates are intended to address these concerns.

After considering proposed mitigation measures, permitting requirements, provincial conditions, and key federal mitigation measures, the EAO concludes that Tilbury Phase 2 would generally have positive effects on employment, training, and economic opportunities for current and future generations. Residual adverse effects on air quality, acoustic environment, and human health are predicted to be negligible to low and reversible after the decommissioning of Tilbury Phase 2. Tilbury Phase 2 design and regulatory conditions, including electrification and a credible Net-Zero Plan, will minimize GHG emissions, though cumulative climate change effects remain a global concern.

With respect to Indigenous interests, the EAO recognizes that some nations view any additional impact as significant due to cultural and historical context. While the EAO considers any residual effects on rights and cultural practices to be not significant, provincial conditions requiring engagement, benefit-sharing, and cultural awareness programs aim to reduce these impacts. Overall, the EAO concludes that, with implementation of mitigation measures and certificate conditions, Tilbury Phase 2 is unlikely to result in significant adverse effects on current and future generations, including both First Nations and non-First Nations communities.

## 22.0 APPENDIX 11 CONSISTENCY WITH LAND USE PLANS

### 22.1 Consistency with Land Use Plans

As part of the assessment the consistency of Tilbury Phase 2 LNG Expansion Project (Tilbury Phase 2 or Project) with Land Use Plans must be considered.<sup>84</sup> Land use planning sets the strategic direction for sustainable resource stewardship and management of lands and waters that meets economic, environmental, social, and cultural objectives. Land use planning sets high-level direction and helps define 'what' can occur 'where' on the land base.

### 22.2 Land Use Plans

Consistency with the land use plans was assessed in [Table 7.11-3](#) of the Revised Application. A total of 31 land use plans were reviewed as part of the analysis. The Revised Application indicated that Tilbury Phase 2 is located within, or may interact with 16 of these land use plans including:

#### 22.2.1 Provincial Government Land Use Plans

The *Lower Fraser Sustainable Resource Management Plan*<sup>85</sup> (2013) includes six Land Units in the Lower Fraser, including the Fraser Valley South Landscape Unit, which the Project is subjected to. 96.7 percent of the Fraser Valley South Landscape Unit is excluded from the planning area reflecting that the plan is intended to be applicable to only Crown Land, though some Crown tenures exist within and near the LAA. The Project Footprint and most of the Land and Resource Use LAA lie on private land on Tilbury Island, with minimal overlap with Provincial Crown Lands. With mitigation measures in place and no in-water activities required, the Project is consistent with the Plan.

#### 22.2.2 Local Government and Port Authority Land Use Plans

Metro Vancouver's *Regional Growth Strategy*<sup>86</sup> (RGS: 2025) outlines land use policies to support infrastructure such as water, waste, transportation, housing, and air quality. It also aims to protect conservation and recreation areas, encourage sustainable development, safeguard agricultural viability, and preserve the industrial land supply. As Tilbury Phase 2 is in a regionally designated industrial area, it is consistent with Metro Vancouver's RGS.

Delta's OCP<sup>87</sup> (Bylaw No. 8400: 2024), outlines long-term policies and land use designations that guide decisions on housing, development, services, and infrastructure. Industrial lands, located at River Road East, Tilbury Industrial Park, Annacis Island, and Roberts Bank, are key to local employment. Delta prioritizes supporting existing industries, encouraging redevelopment, and promoting environmental sustainability. The Project is consistent with the OCP.

Richmond's *Official Community Plan*<sup>88</sup> (Bylaw No. 9000: 2012), outlines policies for sustainable land use, mobility, infrastructure, and ecological networks. The Project is outside of Richmond's OCP and is consistent with the use of the nearest designated areas (industrial and agriculture).

<sup>84</sup> Section 25(2)(g) of the Act requires the consistency with any land-use plan of the government or an Indigenous nation if the plan is relevant to the assessment be considered.

<sup>85</sup> Government of British Columbia (B.C.). 2013. Lower Fraser Sustainable Resource Management Plan. Accessed June 17, 2025. [https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/southcoast-region/chilliwack-lu/chilliwack\\_lu\\_lowerfraser\\_plan\\_jan2013.pdf](https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/southcoast-region/chilliwack-lu/chilliwack_lu_lowerfraser_plan_jan2013.pdf)

<sup>86</sup> Metro Vancouver. 2025. About Metro 2050: Regional Growth Strategy. Accessed June 17, 2025. <https://metrovancouver.org/services/regional-planning/metro-2050-the-regional-growth-strategy>

<sup>87</sup> City of Delta. 2025 Official Community Plan. Accessed June 17, 2025. <https://delta.civicweb.net/filepro/documents/230675/?preview=230456>

<sup>88</sup> City of Richmond. 2012. *Official Community Plan (OCP) Schedule 1 of Bylaw 9000 2041 OCP—Moving Towards Sustainability*. Published 2012. Accessed June 17, 2022. [https://www.richmond.ca/sites/default/files/assets/OCP\\_9000\\_consolidation34181.pdf](https://www.richmond.ca/sites/default/files/assets/OCP_9000_consolidation34181.pdf)

Vancouver Fraser Port Authority's (VFPA) *Land Use Plan*<sup>89</sup> (2020) outlines long-term policies guiding development of lands and waters under its jurisdiction, including the south arm of the Fraser River. VFPA industrial and terminal lands lie directly across from the Project Footprint. Based on the current design, the Project is consistent with the Land Use Plan.

### 22.2.3 First Nations Land Use Plans

Tilbury Phase 2 is located within traditional territories of First Nations. Many of the First Nations whose interests may be affected by Tilbury Phase 2 have developed environmental objectives, plans and targets to help support their governance and stewardship, have implemented land use plans or land codes for reserve or treaty lands, and/or are signatories to land and resource management related agreements (including treaties).

#### xʷməθkʷəyám

The Revised Application considered three land use plans by xʷməθkʷəyám. Of the three plans, two apply to xʷməθkʷəyám reserve and private lands, and do not interact with Project. The third is xʷməθkʷəyám's *Comprehensive Sustainable Community Development Plan*<sup>90</sup> (2018), which is a holistic framework aligning various community goals. The Revised Application indicates that the Project would be consistent with supporting social and economic development. However, it also acknowledges that xʷməθkʷəyám may identify potential adverse impacts related to fishing, employment, community health, and cultural practices.

#### Qu'wutsun Nation, Hul'qumi'num Treaty Group, and their Members

Four Land Use Plans were identified as applicable that are associated with Qu'wutsun Nation, Hul'qumi'num Treaty Group, and member communities of Qu'wutsun Nation or Hul'qumi'num Treaty Group:

- Qu'wutsun Nation's (Cowichan Tribes, Lyackson First Nation, Stz'uminus First Nation, Penelakut Tribe and Halalt First Nation)<sup>91</sup> *Declaration for Reconciliation*, which declares that reconciliation shall be consistent with the following land and resource use objectives: the recovery and restoration of the village and lands at Tl'uqtnus, reestablishing of cultural practices (e.g. harvest fishing), and economic and employment opportunities.
- Hul'qumi'num Treaty Group (whose membership at the time of publication was Cowichan Tribes, Stz'uminus First Nation, Penelakut Tribe, Lyackson First Nation, Halalt First Nation, and Ts'uubaa-asatx) issued *Shxunutun's Tu Suleluxwts: In the footsteps of our Ancestors*, which includes resource management goals and objectives, connections to Tl'uqtnus, and strategies to achieve the resource management objective.
- Ts'uubaa-asatx issued *Lake Cowichan First Nation Policy: South Arm of the Fraser River and Approaches* (2018), which is Ts'uubaa-asatx's consultation process related to the south arm of the Fraser River; and,
- Ts'uubaa-asatx issued *Lake Cowichan First Nation Vision, Goals and Objectives for the South Arm of the Fraser River and Approaches* (2018), which is Ts'uubaa-asatx's vision for clean air, water and land, promoting healthy fish and wildlife populations which will help with re-establishing traditional use and occupancy of the lower mainland.

The Revised Application considered the interaction of the Project with the *Declaration for Reconciliation and Shxunutun's Tu Suleluxwts: In the footsteps of our Ancestors*. FortisBC (the Proponent) states in the Revised Application that it acknowledges that Qu'wutsun Nation's stated goal is to reestablish a permanent residence on Tl'uqtnus lands; however, from FortisBC's perspective, Tilbury Phase 2 is not anticipated to interact with the

<sup>89</sup> Vancouver Fraser Port Authority (VFPA). 2020. *Land Use Plan*. Accessed May 29, 2023. [https://www.portvancouver.com/sites/default/files/2024-08/500\\_POV-Land-Use-Plan\\_FINAL-2.pdf](https://www.portvancouver.com/sites/default/files/2024-08/500_POV-Land-Use-Plan_FINAL-2.pdf)

<sup>90</sup> Musqueam Indian Band. 2018. *Musqueam First Nation Comprehensive Sustainable Community Development Plan*. Accessed June 17, 2025. [https://www.musqueam.bc.ca/wp-content/uploads/2018/10/Musqueam-CCP-Update\\_FINAL\\_Oct2018\\_lowres.pdf](https://www.musqueam.bc.ca/wp-content/uploads/2018/10/Musqueam-CCP-Update_FINAL_Oct2018_lowres.pdf)

Qu'wutsun Nation. 2019. *Roberts Bank Terminal 2 Panel Submission*. Accessed June 18, 2025. <https://iaac-aec.gc.ca/050/documents/p80054/130341E.pdf>

objectives of the *Declaration for Reconciliation*. Table 7.11-3 of the Revised Application explains how changes in noise levels and to the visual landscape as a result of Tilbury Phase 2 are anticipated to be negligible compared to existing conditions and not change the experience of Quw'utsun Nation community members using cultural sites, including Tl'uqtinus. Similarly, air quality effects will be localized to the immediate vicinity of Tilbury Phase 2 Footprint and are not expected to materially affect Quw'utsun Nation's intended use of Tl'uqtinus lands. Given that FortisBC has no intention to utilize Tl'uqtinus lands for the life of Tilbury Phase 2, and there will be no changes to land or water-based access or the physical environment on Tl'uqtinus lands as a result of Tilbury Phase 2, Tilbury Phase 2 is not anticipated to interact with the objectives of the *Declaration for Reconciliation*.

The Revised Application also notes that for *Lake Cowichan First Nation Policy: South Arm of the Fraser River and Approaches (2018)* and *Lake Cowichan First Nation Vision, Goals and Objectives for the South Arm of the Fraser River and Approaches (2018)*, the Project is not anticipated to interact negatively with the policy from FortisBC's perspective. From Ts'uubaa-asatx's perspective, the Project could result in increased use around the Project area, which could in turn contribute to the Lower Mainland becoming increasingly out of reach for Ts'uubaa-asatx members to live and work in the area, thereby negatively interacting with Ts'uuba-asatx's policy. The EAO notes that the effects of the project on the policies are likely consistent with the current conditions – and that from Ts'uuba-asatx's perspective this would continue challenges ongoing challenges accessing land along the Fraser River to exercised Section 35 rights.

### S'ólh Téméxw Stewardship Alliance

The STSA's *S'ólh Téméxw Use Plan and Policy*<sup>92</sup> (2018) guides economic development while minimizing risks to culturally significant areas, including seven heritage zones. The Fraser River is designated a Sensitive Waterway under the plan. The Revised Application indicated that with proposed mitigation Tilbury Phase 2 is not anticipated to interact with the Fraser River as no-water work or water-based activities are proposed as part of the Project. The EAO recognizes that water from the Project site will indirectly enter the Fraser River and has considered effects to Fish and Fish Habitat in Section 7.9 and Surface Water in Section 7.4 of the Assessment Report.

### Tsawwassen First Nation

The Revised Application considered the interaction of Tilbury Phase 2 with five Tsawwassen First Nations' Land Use Plans.

According to the Revised Application, the Project is not anticipated to interact with the Tsawwassen First Nation Land Use Plan (2009) or *Neighbourhood Plan*<sup>93</sup> (2011) as the plans apply to Treaty Lands, which will not be directly impacted by the Project. The Revised Application notes there may be indirect benefits to economic development objectives for Treaty Lands because of the Project.

*Tsawwassen First Nation Strategic Plan 2018-2023*<sup>94</sup> (2018) includes goals for stewardship of lands, water, and resources, including preservation and ensuring the current and future generations to enjoy the benefits of Treaty rights. The Revised Application states that from FortisBC's perspective the project is consistent with Tsawwassen's goals in the strategic plan including capacity funding with opportunities for stewardship studies, cost of energy for Tsawwassen First Nation customers, and economic development and training opportunities. The Revised Application also states that from Tsawwassen's perspective there may be negative interactions with the "The Nation's identity,

<sup>92</sup> S'ólh Téméxw Stewardship Alliance. 2018. *S'ólh Téméxw Use Plan and Policy*. Accessed June 17, 2025. <https://thetsa.ca/wp-content/uploads/2020/01/Solh-Temexw-Use-Plan-Policy.pdf>

<sup>93</sup> Tsawwassen First Nation. 2011. *Neighbourhood Plan*. Published 2011. Accessed June 17, 2025. [https://epe.lac-bac.gc.ca/100/200/301/inac-ainc/tsawwassen\\_first\\_nation-e/R3-129-1-2010-eng.pdf?nodisclaimer=1](https://epe.lac-bac.gc.ca/100/200/301/inac-ainc/tsawwassen_first_nation-e/R3-129-1-2010-eng.pdf?nodisclaimer=1)

<sup>94</sup> Tsawwassen First Nation. 2018. *Tsawwassen First Nation Strategic Plan 2018-2023*. Accessed June 17, 2025. [https://tsawwassenfirstnation.com/pdfs/TFN-About/Information-Centre/Strategic-Planning/Strategic\\_Plan\\_2018-2023.pdf](https://tsawwassenfirstnation.com/pdfs/TFN-About/Information-Centre/Strategic-Planning/Strategic_Plan_2018-2023.pdf).

including the cultural, spiritual, psychological, emotional and social connection in and around Tilbury Island as a result of Tilbury Phase 2 “

Tilbury Phase 2 interacts with the Tsawwassen First Nation *Final Agreement*<sup>95</sup> (2010), which is the first urban treaty in B.C. The Treaty recognized Tsawwassen jurisdiction over Tsawwassen Lands, defined fisheries allocation areas, hunting rights, and first right of refusal over an additional 278 hectare of lands at Brunswick Point. The Revised Application stated that from FortisBC’s perspective, Tilbury Phase 2 is consistent with the following Tsawwassen Treaty Objectives:

- Healthy Rights – Healthy River,
- Healthy Culture;
- Healthy Relationships, and
- Healthy Future for Future Generations.

The Revised Application stated that from Tsawwassen First Nation’s perspective there may be negative interactions with their Treaty objectives, which include:

1. The continued ability for community members to practice their Rights to harvest fish in the lower Fraser River within Tsawwassen Territory.
2. Impacts to the Nation’s identity, including the cultural, spiritual, psychological, emotional and social connection in and around Tilbury Island because of Tilbury Phase 2.
3. Tsawwassen businesses with similar workforce requirements to Tilbury Phase 2 could experience direct adverse effects by Tilbury Phase 2’s demand for a large construction workforce.

In accordance with Tsawwassen First Nation *Harvest Agreement*<sup>96</sup> (2010), Tsawwassen operates their own fisheries for commercial purposes in approved areas of the river and has guaranteed annual commercial allocation of Fraser River salmon. No changes to commercial fisheries are expected because of Tilbury Phase 2.

### Tsleil-Waututh Nation

The Revised Application considered three land use plans by TWN. Of the three plans, two apply to Burrard Inlet and Indian River Watershed, and do not interact with the Project. The TWN *Land Use Plan*<sup>97</sup> (2018) outlines goals for community and economic development, aiming to create opportunities for economic growth, public spaces, and affordable housing to support future generations. While the Project is not located on TWN reserve or private lands the Project may indirectly support TWN’s economic development goals.

## 22.2.4 Other Land Use Plans

The Fraser River Estuary Management Program’s *A Living, Working River: the Estuary Management plan for the Fraser River*<sup>98</sup> (FREMP 2003) was a long-term, intergovernmental program to coordinate planning, protection, and development in the Fraser River estuary that was discontinued in 2013. The plan for the Fraser River Estuary

<sup>95</sup> Tsawwassen First Nation. 2010a. *Tsawwassen First Nation Final Agreement*. Ottawa: Indian and Northern Affairs Canada. Accessed June 17, 2025. [http://epe.lac-bac.gc.ca/100/200/301/inac-ainc/tsawwassen\\_first\\_nation-e/R3-129-1-2010-eng.pdf](http://epe.lac-bac.gc.ca/100/200/301/inac-ainc/tsawwassen_first_nation-e/R3-129-1-2010-eng.pdf).

<sup>96</sup> Tsawwassen First Nation. 2010b. *Tsawwassen First Nation Harvest Agreement*. Published 2010. Accessed June 17, 2025. [https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/consulting-with-first-nations/agreements/harvest\\_agreement.pdf](https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/consulting-with-first-nations/agreements/harvest_agreement.pdf).

<sup>97</sup> Tsleil-Waututh Nation. 2018. *Tsleil-Waututh Nation Land Use Plan*. Accessed June 17, 2025. <https://twnation.ca/wp-content/uploads/2019/07/TWN-Land-Use-Plan-Booklet-Educational.pdf>.

<sup>98</sup> Fraser River Estuary Management Program (FREMP). 2003. *The Estuary Management Plan for the Fraser River: A Living Working River*. Accessed June 17, 2025. <https://www2.gov.gc.ca/library-bibliotheque/281396.pdf>.

provides a framework for integrating the management of human and natural activities in the estuary. The Project is consistent with the objectives of the plan.

### 22.3 Key Issues Raised

Qu'wutsun Nation stated that the Cowichan Nation Alliance *Declaration for Reconciliation* and the *HTG Land Use Plan* were not properly contextualized. Reviewers also provided comments related to land use planning that are addressed in other sections of this Assessment Report, including [Appendix 6, Section 17.10](#) (Land and Resource Use), [Appendix 6, Section 17.11](#) (Infrastructure and Services), and [Appendix 6, Section 17.14](#) (Human Health) VCs.

### 22.4 The EAO's Assessment and Conclusions

The EAO has considered the consistency of Tilbury Phase 2 with the Land Use Plans identified above and listed in [Table 7.11-1](#) of the Revised Application. The EAO has also considered the potential of Tilbury Phase 2 to affect the objectives of the land use plans, strategies and management programs of Metro Vancouver, Delta, Richmond, VFPA, First Nation Land Use Plans, and the Fraser River Estuary Management Program. The EAO has concluded that Tilbury Phase 2 is not expected to have an adverse effect on the overall objectives of these plans.



## 23.0 APPENDIX 12 GREENHOUSE GAS EMISSIONS

### 23.1 Background

This section provides information and an analysis of the direct effects of the GHG emissions from Tilbury Phase 2 as estimated in the Revised Application and the ability for the Governments of Canada and B.C. to meet their legislated emission reduction targets.

Conclusions on how Tilbury Phase 2 affects Canada's ability to meet its environmental obligations and climate change commitments are provided in [Appendix 15: Requirements of the Impact Assessment Act](#). As required under the IAA, the Proponent's Revised Application includes information consistent with ECCC's Strategic Assessment of Climate Change (SACC), including a credible net-zero emissions plan outlining how the Project would achieve net-zero by 2050.

Further, Section 25 of the Act states that every assessment must consider GHG emissions, including the potential effects on the province being able to meet its targets under the [Climate Change Accountability Act](#). The Proponent must also provide a credible plan for Tilbury Phase 2 to achieve net-zero GHG emissions by 2030, as per the [Minister's letter regarding GHG standards](#) and the introduction of the [Net-Zero New Industry Policy](#). In addition to provincial and federal requirements, GHG emissions were identified as a topic to be assessed for Tilbury Phase 2 due to interest from First Nations, the public, and stakeholders.

#### 23.1.1 Regulatory Context

GHG emissions are subject to provincial and federal requirements and guidelines.

The provincial requirements include:

- *Greenhouse Gas Industrial Reporting and Control Act* (GGIRCA) (establishes GHG emission reporting requirements);
- *Climate Change Accountability Act* (previously titled the *Greenhouse Gas Reduction Targets Act*) requires the province to reduce GHG emissions 40 percent below 2007 by 2030, 60 percent by 2040, and 80 percent by 2050. The Minister sets sector targets under the *Climate Change Accountability Act* and has set an oil and gas sector target required to reduce GHG emissions 33 percent to 38 percent below 2007 levels by 2030);
- CleanBC Roadmap to 2030 (comprehensive plan for B.C. to achieve its climate targets and transition to a clean economy);
- New Energy Action Framework builds on the actions outlined in the CleanBC Roadmap for 2030 requires all proposed LNG facilities in or entering the environmental assessment (EA) process to pass an emissions test and develop a credible plan to be net zero by 2030;
- The [Minister's letter to the EAO's Chief Executive Assessment Officer](#), sets out the Province's approach to delivering the CleanBC Roadmap to 2030 commitment and the New Energy Action Framework commitments for all new, large industrial facilities with estimated annual emissions greater than 10,000 tonnes carbon dioxide equivalent to develop a credible plan to achieve net-zero emissions by 2050 (2030 for LNG) and demonstrate alignment with world-leading emission intensity performance; and
- Flaring and Venting Reduction Guideline (BCER regulatory requirements and guidance for flaring, incinerating, and venting at natural gas well sites, facilities and pipelines).

The federal GHG emission requirements applicable to Tilbury Phase 2 include:

- Government of Canada's 2030 Emissions Reduction Plan; and

- *Canadian Net Zero Emissions Accountability Act* (requires national five-year emissions targets to reach net-zero by 2050);
- Greenhouse Gas Reporting Program (facilities that emit more than 10 kilotonnes (kt) CO<sub>2</sub>e annually must report their emissions to ECCC); and
- Strategic Assessment of Climate Change (outlines the GHG emissions and climate change information requirements that proponents must provide).

### 23.1.2 Assessment Boundaries Context

GHG emissions spatial boundaries are not defined because GHGs and climate change are, by nature, both regional and global.

The temporal boundaries of the assessment are the period over which the GHG emissions of Tilbury Phase 2 LNG were estimated and include the Construction, Operation, and Decommissioning Phases of the Project.

## 23.2 Potential Project Effects and Proposed Mitigations

### 23.2.1 Existing Conditions

The table below summarizes the total GHG emissions in 2022<sup>99</sup> for Canada and B.C., along with the emissions specifically from the oil and gas sector. It highlights the sector's contribution to overall provincial and national emissions.

Table 72 Total Greenhouse Gas Emissions by Jurisdiction Compared to Oil and Gas Sector Contributions

| Jurisdiction | Total GHG Emissions                   | Oil & Gas Sector Emissions     | Oil & Gas Share of Total |
|--------------|---------------------------------------|--------------------------------|--------------------------|
| Canada       | 708,000,000 tCO <sub>2</sub> e        | 217,000,000 tCO <sub>2</sub> e | ~30%                     |
| B.C.         | 64,300,000 million tCO <sub>2</sub> e | 15,200,000 tCO <sub>2</sub> e  | ~23.6%                   |

### 23.2.2 Potential Project Effects

The Revised Application considered the activities that would generate direct and indirect emissions during the Construction, Operation, and Decommissioning phases, as well as upstream GHG emissions. Emissions estimates were provided using the methodology outlined in [Section 8](#) of the Application Information Requirements as per SACC requirements and GGIRCA standards. Where the calculations differ, the results using both methodologies are shown.

#### 23.2.2.1 Construction Phase

The Proponent expects direct emissions during the Construction phase to occur from the delivery of materials to the project site, the operation of construction equipment,<sup>100</sup> and commissioning of the flare and vent (Table 73). The annual GHG emissions from these construction activities are 97,979 – 99,385 t CO<sub>2</sub>e

<sup>99</sup> The [National Inventory Report](#) for 2023 was released in April 2025; however, it was not used in the Application. The National Inventory Report indicates that in 2023 Canada's total GHG emissions were 694,000,000 tCO<sub>2</sub>e and Oil & Gas Sector Emissions were 190,000,000 tCO<sub>2</sub>e which represents approximately 27.4 percent of national emissions. The National Inventory Report also provided provincial numbers; however, it is not prepared using GGIRCA methodology.

for the preparation of the site, and assembly of liquefaction module(s) and the above ground tank

Table 73 Emission sources during Construction

| Source                   | CO <sub>2</sub> e (tonnes/year) |
|--------------------------|---------------------------------|
| Onsite Equipment         | 15,666                          |
| Road Delivery and Idling | 1,234                           |
| Commissioning - Flare    | 79,929                          |
| Commissioning - Venting  | 2,550                           |
| <b>Total</b>             | <b>99,379</b>                   |

### 23.2.2.2 Operation Phase

During the Operation phase, pre-mitigation direct emissions include emissions from thermal oxidizers, heat medium-fired heaters, flaring, and fugitive emissions. Indirect emissions will result from the electricity used during the Operation phase, which will be acquired from the electrical grid. The Proponent estimated that direct and indirect emissions will be between 178,095–181,953 tCO<sub>2</sub>e per year using SACC methodology and 192,943 tCO<sub>2</sub>e per year under GGIRCA methodology (Table 74).

Table 74 Total Direct and Indirect GHG Emissions from Tilbury Phase 2 during Operation phase per year

| Source                                       | Annual CO <sub>2</sub> e (tonnes/year) <sup>101</sup><br>SACC Calculation | Annual CO <sub>2</sub> e (tonnes/year)<br>GGIRCA Calculation |
|----------------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------|
| Hot Oil Heater                               | 126,209                                                                   | 126,357                                                      |
| Thermal Oxidizer                             | 39,439                                                                    | 39,477                                                       |
| Flare                                        | 11,274                                                                    | 12,434                                                       |
| Fugitive Emissions                           | 1,035                                                                     | 1,035                                                        |
| Acquired Energy (Electricity) <sup>102</sup> | 138–3,996 <sup>103</sup>                                                  | 13,640                                                       |
| <b>Total direct and indirect emissions</b>   | <b>178,095–181,953</b>                                                    | <b>192,943</b>                                               |

### 23.2.2.3 Decommissioning Phase

The Proponent estimates that direct GHG emissions from decommissioning will be 2,841 tCO<sub>2</sub>e. This was based on the construction emissions and ratio of expected decommissioning to construction costs. There is some uncertainty in the estimate as equipment and transportation emissions due to the potential for lower emissions from equipment and vehicles during decommissioning due to technological change (e.g. increased use of zero emission vehicles). Emissions during Decommissioning by source are outlined in Table (75).

<sup>101</sup> Totals may not add up due to rounding.

<sup>102</sup> When electricity from the BC Hydro electrical grid is used, annual average GHG emissions from acquired energy use ranges from 962–2377 tCO<sub>2</sub>e per year from the period of 2027 to 2050. Commissioning emissions are not included in the annual average.

<sup>103</sup> As noted in Table 49: Electricity Intensity Factors and Acquired GHG Emissions from Electricity in Appendix N of the Revised Application emissions are estimated to be 3,996 tCO<sub>2</sub>e in 2028 and decrease to 138 tCO<sub>2</sub>e in the 2042–2068 time frame.

Table 75 GHG Emissions from Tilbury Phase 2 during Decommissioning

| Source                              | CO <sub>2</sub> e <sup>104</sup> |
|-------------------------------------|----------------------------------|
| Onsite Equipment and Transportation | 1,014                            |
| Decommissioning - Flare             | 1,827                            |
| <b>Total</b>                        | <b>2,841</b>                     |

### 23.2.3 Impacts of Tilbury Phase 2 on provincial and federal emission reduction efforts

The Proponent expects that Tilbury Phase 2 would have one of the lowest GHG emissions intensity of any LNG facility in the world during the Operation Phase. The Proponent estimated the project is anticipated to have a pre-mitigation emission intensity of 0.072 tCO<sub>2</sub>e/tLNG under the SACC methodology and 0.077 tCO<sub>2</sub>e/tLNG under the GGIRCA methodology; and a post mitigation emissions intensity of 0.011 tCO<sub>2</sub>e/tLNG under SACC methodology and 0.016 tCO<sub>2</sub>e/tLNG under GGIRCA methodology.

The estimated direct and indirect GHG emissions from Tilbury Phase 2 during Operation compared to provincial and federal oil and gas sector and total emissions using SAAC methodology are provided in Table 76<sup>105</sup>.

Table 76 Comparison of GHG Emissions from Tilbury Phase 2 during Operation to 2022 Provincial and Federal Emissions

| Inventory <sup>1</sup>                                                                                              | Annual GHG Emissions from inventory (t CO <sub>2</sub> e/yr) | Project total annual emissions as a Relative Percentage |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------|
| <b>Comparison of Total Provincial and Federal Emissions from the Oil and Gas Sectors in 2022 to Tilbury Phase 2</b> |                                                              |                                                         |
| B.C. (2022)                                                                                                         | 15,200,000                                                   | 1.269%                                                  |
| Canada (2022)                                                                                                       | 217,000,000                                                  | 0.083%                                                  |
| <b>Comparison of Total Provincial and Federal Emissions from all Sectors in 2022 to Tilbury Phase 2</b>             |                                                              |                                                         |
| B.C. (2022)                                                                                                         | 64,300,000                                                   | 0.28%                                                   |
| Canada (2022)                                                                                                       | 708,000,000                                                  | 0.025%                                                  |

<sup>1</sup>Data sources from [National Inventory Report 1990–2022: Greenhouse Gas Sources and Sinks in Canada Part 3](#).

Under the *Climate Change Accountability Act*, B.C. has set targets to cut GHG emissions by 40 percent below 2007 levels by 2030, 60 percent by 2040, and 80 percent by 2050.

The *Provincial Inventory of Greenhouse Gas Emissions* is published every year and shows province-wide emissions and removals. This inventory is used as the baseline to estimate how much the Tilbury Phase 2 project will add to B.C.'s overall emissions.

Because the inventory is updated annually with new data, the baseline for calculating the project's share of emissions in 2030, 2040, and 2050 will change over time. The inventory includes all emissions covered by B.C.'s legislated economy-wide and sector-specific reduction targets.

<sup>104</sup> Totals may not add up due to rounding.

Provincial numbers are calculated in accordance with GGIRCA methodology and federal numbers in accordance with SACC methodology.

The Proponent estimates that operations emissions with mitigation from the Project represent 0.11 percent, 0.16 percent, and 0.32 percent of B.C.'s 2030, 2040, and 2050 targets, and 2.2–2.4 percent of the 2030 BC sectoral target emissions for the oil and gas sector.

At a policy level, the facility will achieve net-zero emissions on an annual basis over its operating life. However, due to current international GHG accounting and reporting guidelines, emissions reductions from the use of Renewable Natural Gas (RNG) or offsets are not reflected in the Provincial Inventory. As a result, Provincial Inventory emissions may increase due to the Project.

At the federal level, Canada's 2030 Emission Reduction Plan requires a 40-45 percent cut from 2005 levels by 2030, with a target of 443 million tonnes CO<sub>2</sub>e. By 2030, the project is expected to align with Canada's commitments in respect of climate change with the implementation of measures outlined in the Proponent's Net-zero Plan.

Further details on how Tilbury Phase 2 contributes to Canada's ability to meet climate change commitments are in [Appendix 15](#).

### 23.2.4 Strategic Assessment of Climate Change

The Proponent included information in the Revised Application to meet the requirements of the Strategic Assessment of Climate Change (SACC), as outlined in Table 8.3-1. Concordance of Requirements in the Strategic Assessment of Climate Change, which aligns SACC requirements with the application guidelines and technical reports.

This information covered:

- Carbon sinks
- Upstream GHG emissions
- Best available technology and environmental practices
- A credible net-zero emissions plan
- A climate resilience assessment
- An assessment of uncertainty for both quantitative and qualitative data.

The Project will not cause measurable changes to carbon sinks from land use changes. Tilbury Phase 2 will not clear vegetation or wetlands that store carbon, so there will be no loss of carbon storage capacity. This conclusion was based on a review of current site conditions and expected changes, noting that the land will remain industrial with minimal vegetation.

Upstream GHG emissions are emissions from producing, processing, and transmitting natural gas before it reaches the Project. These emissions are outside the Project's scope but were assessed using the methodology in the Strategic Assessment of Climate Change and the Draft Technical Guide (ECCC 2021).

The Proponent estimated upstream emissions at 818,000 tCO<sub>2</sub>e in the first year of operation (2028), decreasing to 792,000 tCO<sub>2</sub>e by 2030 and remaining at that level for the Project's lifetime. The Proponent concluded these emissions may add to Canada's natural gas-related emissions but are not considered incremental at the North American or global export scale. Additional details from ECCC are provided in [Appendix 15](#).

### 23.2.5 Proposed Mitigation Measures by the Proponent

The Proponent proposed the following mitigation measures related to Greenhouse Gas Emissions:

- Electrify the project refrigeration and feed gas processes to reduce project Criteria Air Contaminants (CAC) and Greenhouse Gas emissions.

- Carbon emission offsets through technological or market acquired offsets once regulatory and technical clarity are achieved.
- Implement fugitive emissions management through design and engineering control considerations and effective operational controls.
- FortisBC will develop and implement a Net Zero Plan that will utilize inputs like the Best Available Technology (BAT) and Best Environmental Practices (BEP) to ensure the project's direct operational GHG emissions follow government policies and regulations upon commencement of operation. Commits to using 100% renewable, lower carbon "drop-in" fuels for all combustion needs from the start of commercial operations.
- Explore the use of other technology solutions may include waste heat recovery, carbon removal and utilization, developing technologies, and other offset measures.

### 23.3 Key Issues Raised

Based on a review of the Application and with feedback from the TAC, participating Indigenous nations, and the public, the following key issues related to the assessment of the GHG emissions for Tilbury Phase 2 were identified.

#### 23.3.1 Upstream and Downstream Emissions

Members of the TAC, First Nations, and the public requested consideration of upstream and downstream emissions, including upstream fugitive emissions.

FortisBC stated that upstream GHG emissions were assessed in line with the Strategic Assessment of Climate Change and the Draft Technical Guide, using prescribed methods and data from the Government of Canada and ECCC. Details are provided in [Appendix M](#) of the Revised Application.

The EAO notes that downstream emissions (i.e., those from end-use combustion) are not required within the scope of the assessment under the Act or the IAA. This approach is also consistent with most carbon accounting for industrial facilities. The AIR required the Proponent to describe how the Project could contribute to global emission reductions, and FortisBC provided this analysis. However, due to uncertainty inherent in global emissions modeling, the EAO did not rely on FortisBC's global emissions analysis in its assessment. Instead, the EAO focused on project-level emissions, which can be assessed more accurately and fall within the scope of the environmental assessment. To ensure accountability, the Province requires LNG facilities to report their GHG emissions under the *Greenhouse Gas Industrial Reporting and Control Act* and its regulations, including third-party verification of those reports.

#### 23.3.2 Natural Gas as a Lower Carbon Fuel

Members of the TAC, First Nations, and the public expressed views on FortisBC's characterization of natural gas and the potential benefits of LNG. This includes concerns expressed by the First Nations and the public regarding the FortisBC's characterization of natural gas as a lower carbon fuel, given the GHG emissions, particularly methane, associated with its extraction, processing, and use.

FortisBC states that LNG is a lower-carbon fuel compared to diesel that can be used for trucks, trains and ships, or it can be converted back into natural gas for residential and commercial use.

FortisBC also notes that the baseline emissions intensity of LNG that would be produced at Tilbury Phase 2 would be 0.077 tonnes of CO<sub>2</sub>e per tonne of LNG produced under the GGIRCA methodology, which is relatively low compared to other LNG facilities.

The EAO, after consultation with the Ministry of Energy and Climate Solutions, notes that there is currently no consensus on whether natural gas should be considered a low-carbon or lower-carbon fuel. A conclusion on whether LNG exports lead to global net GHG reductions is uncertain and highly dependent on many variables, such as market conditions, displacement assumptions, and lifecycle emissions. However, the Project's proposed post-mitigation emissions intensity of 0.016 tonnes of CO<sub>2</sub>e per tonne of LNG produced is among the lowest intensities in the world.

### 23.3.3 Ability to Meet Net-Zero Plan Requirements

The EAO received comments from reviewers regarding the ability of Tilbury Phase 2 to operate as a net-zero LNG facility and implement a credible Net-Zero Plan for the construction and operation of the facility. These included questions relating to availability of electricity, technical feasibility of mitigation measures, use of Best Available Technologies (BAT) and Best Environmental Practices (BEP), use of blended natural gas, and availability of RNG and BC Offset Units. Responses to themed comments are outlined in Table 77.

Table 77: Responses to themed comments on the ability of Tilbury Phase 2 to operate as a net zero facility

| Category                                                                                                                     | Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Will there be sufficient grid electricity for the Project?                                                                   | FortisBC initiated requests with BC Hydro to upgrade its existing connection to serve the Tilbury LNG Phase 1B expansion. The 230 kV power line would also enable BC Hydro to supply enough electricity to meet the additional capacity needed for Tilbury Phase 2. Additional upgrades to the transmission system are not anticipated.                                                                                                                                                       |
| Will FortisBC acquire RNG for the Project, and if so, how?                                                                   | FortisBC expects to acquire sufficient RNG to be used during Operation from commercially available sources in Canada and the United States. FortisBC currently has 20 supply agreements, with eight additional agreements expected to be delivering RNG by 2030. Additional information is included in <a href="#">Appendix O of the Revised Application</a> .                                                                                                                                |
| Will FortisBC be able to acquire a sufficient quantity of BC Offset Units (BCOU) for the Project?                            | FortisBC expects to purchase up to 39,529 tCO <sub>2</sub> e BC Offset Units on a commercial basis every year during Operation to meet BC Net Zero requirements. FortisBC will present a high-level offset procurement strategy in an updated net zero plan before the start of Project construction.                                                                                                                                                                                         |
| Has FortisBC demonstrated that BATs and BEPs will be implemented as part of the Project to reduce emissions?                 | FortisBC completed a BAT and BEP analysis which forms <a href="#">Appendix P</a> of the Revised Application. Comments about specific technologies and practices were responded to during the Application Review phase of the EA as documented in the Issues Tracking Table and Public Engagement Report.<br><br>Where a BAT that could further reduce emissions is not selected, a rationale for not selecting that technology was discussed.                                                 |
| With technology expected to change throughout the Project's expected operational life how will the Net-Zero Plan be updated? | The Net-Zero Plan will be updated at least every five years during Construction and Operations. The five-year update requirement includes considering current BATs and BEPs.<br><br>As per Section 5.5 of Appendix O of the Revised Application the first update to the Net Zero Plan is expected to be submitted once the detailed engineering design is finalized.                                                                                                                          |
| Will the natural gas blend change over time, for example to contain green hydrogen?                                          | FortisBC is actively exploring the potential of hydrogen as its commitment to a lower-carbon future. The blending of hydrogen into natural gas is currently being studied by Enbridge and the Ministry of Energy and Climate Solutions. While the hydrogen market is still developing, FortisBC cannot commit to one type of hydrogen at this time. FortisBC is required to operate the Project as a net-zero facility and will consider green hydrogen as it becomes commercially available. |



The EAO received advice from the Ministry of Energy and Climate Solutions that the Net-Zero Plan, as outlined in the Revised Application, is a credible plan that meets the requirements of the Net-Zero New Industrial Policy. ECS advised that the Project's projected operational emissions intensity with use of mitigation measures is in line with world-leading LNG facilities. The EAO has proposed that if a Certificate is issued that the implementation of the Net-Zero Plan, including a five-year update cycle and consultation requirements for updates, be required as Condition 11 (Greenhouse Gas Emissions and Net-Zero Plan).

## 23.4 The EAO's Assessment and Conclusions

### 23.4.1 Residual Effects

After considering all relevant proposed mitigation measures, the Revised Application, issues raised during the Application Review, the EAO's effects assessment and the information contained in the [Joint Permitting / Regulatory Coordination Plan](#), the EAO concludes that Tilbury Phase 2 would have residual adverse effects due to the Project's GHG emissions.

The Proponent provided its net-zero plan as part of the Revised Application which was reviewed by the TAC and members of the public during the Application Review phase. The EAO proposes Certificate Condition 12 (Greenhouse Gas Emissions Net-Zero Plan) that would require the Proponent's implementation of an approved plan, along with providing updates to the plan every five years, in consultation with additional parties, including First Nations and ECS.

This plan includes an estimation of GHG emissions, consideration of provincial emission reduction targets and schedules, analysis of BATs/BEPs, and an analysis to minimize GHG emissions and an explanation for technologies and measures to be and not to be implemented. This plan would work in tandem with policies and legislation regarding GHGs, including:

- The GGIRCA, which establishes a comprehensive framework for regulating industrial GHGs including emission reporting, offsets, tracking, and compliance;
- The *Climate Change Accountability Act*, which sets GHG emission reduction requirements for the oil and gas sector and the CleanBC Roadmap to 2030; and
- The additional relevant provincial and federal regulatory requirements referenced in Section 23.1.1 (Regulatory Context).

### 23.4.2 Cumulative Effects Assessment

GHG emissions are of concern at any magnitude because of their long-term accumulation in the atmosphere and global extent. The Intergovernmental Panel on Climate Change (IPCC) has produced several scenarios projecting potential global GHG emissions trajectories and the potential effects associated with these emissions levels. As GHGs are inherently cumulative, the EAO did not require the Revised Application for Tilbury Phase 2 to include a cumulative effects assessment for GHG emissions and the EAO did not conduct a cumulative effects assessment for the same reasons. Further, IAAC considers GHG emissions to be inherently cumulative in the context of their potential effects related to global climate change. Consequently, cumulative effects are considered within the analysis of climate change impacts and therefore a separate cumulative effects assessment is not described here.

### 23.4.3 Conclusions

Recognizing the requirements for the Proponent to adhere to the Net-Zero New Industry Policy, the implementation of a net-zero plan, and the assumption that BC Hydro would be able to provide sufficient power to the Project, the EAO is satisfied that Tilbury Phase 2 would not have significant adverse effects on GHG emissions. This conclusion considers the information and analysis presented in this section; the views of the TAC (including the information provided in ECCC's GHG Analysis in [Appendix 15](#)), First Nations, and the Proponent; as well as the proposed conditions identified in the provincial Table of Conditions including Condition 11 (Greenhouse Gas Emission and Net-Zero Plan).

## 24.0 APPENDIX 13 ALTERNATIVE MEANS OF CARRYING OUT TILBURY PHASE 2

### 24.1 Overview of Alternative Means

The assessment of technical and economic alternative means is a required component of every environmental assessment. This includes an evaluation of the best available technologies, potential effects, risks, and uncertainties associated with each alternative. [Section 1.7.5](#) of the Revised Application summarizes the alternatives and options considered by FortisBC (the Proponent).

The Proponent identified and assessed technically and economically feasible alternatives for the Tilbury Phase 2 LNG Expansion Project (Tilbury Phase 2 or Project). Alternatives were initially screened based on expected capital cost, then evaluated using the following criteria:

- Technical feasibility,
- Construction and operation cost,
- Safety,
- Footprint,
- Green House Gas (GHG) emissions,
- Environmental risk,
- Changes to health, social, or economic conditions,
- Gender-Based Analysis Plus (GBA Plus); and,
- Effects to Indigenous interests.

The alternative means of undertaking Tilbury Phase 2 for primary project components and activities, as evaluated by the Proponent, are described in Table 78.

Table 78: Summary of FortisBC's Alternative Means of Undertaking Tilbury Phase 2 LNG Expansion

| Project Components and Activities | Alternatives Evaluated                                                                                          | Selected Alternative and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Liquefaction Driver Technology    | <ul style="list-style-type: none"> <li>• Gas-fired compression</li> <li>• Electric-drive compression</li> </ul> | <p>The Proponent identified electric-drive compression to be their preferred liquefaction driver technology option because of the following:</p> <ul style="list-style-type: none"> <li>• Experience operating electric-drive compression at the current and other LNG facilities;</li> <li>• Smaller onsite physical footprint.</li> <li>• 250,000 tonnes of direct CO<sub>2</sub> emissions annually less than a gas-fired compression, potentially avoiding 10 to 15 million tonnes of CO<sub>2</sub> emissions over the 40-year expected Operation phase;</li> <li>• Compression does not produce direct air emissions, therefore would result in lower NO<sub>x</sub> and SO<sub>x</sub> emissions from the Project than gas-fired compression; and,</li> <li>• Electric-drive compression does not have direct air emissions and therefore has a lower impact on Indigenous and marginalized populations.</li> </ul> |
| Cooling Technology                | <ul style="list-style-type: none"> <li>• Air Cooling</li> <li>• Water Cooling</li> </ul>                        | <p>The Proponent identified air cooling as their preferred cooling technology option for the liquefaction process based on the following:</p> <ul style="list-style-type: none"> <li>• Lower construction and operations costs;</li> <li>• No need for an offsite footprint for any system components; and,</li> <li>• No interactions with the Fraser River, no disruptions to Fish and Fish Habitat, and no interactions with riparian areas.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Project Components and Activities           | Alternatives Evaluated                                                                                                                                | Selected Alternative and Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flare Technology                            | <ul style="list-style-type: none"> <li>• Multipoint Ground Flare</li> <li>• Totally Enclosed Ground Flare (TEGF)</li> <li>• Elevated Flare</li> </ul> | <p>The Proponent identified Totally Enclosed Ground Flare (TEGF) as their preferred flare technology based on the following:</p> <ul style="list-style-type: none"> <li>• Limited thermal radiation restrictions required;</li> <li>• Although TEGFs can have a larger footprint than other flare types, no or a limited thermal setback is required due to the enclosure;</li> <li>• TEGFs limit the opportunities for flare to interact with wildlife, and have the lowest noise, flame and light related effects compared to other flare types; and,</li> <li>• Least disruption to local residents, property owners, Indigenous peoples, and members of the public.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Material Transportation During Construction | <ul style="list-style-type: none"> <li>• Road Transport</li> <li>• Barge Transport</li> <li>• Combined Road and Barge Hybrid</li> </ul>               | <p>The Proponent identified three means of delivering construction materials, project components, and equipment to the Project Footprint during Construction.</p> <p>Originally, the Proponent proposed the “Combined Road and Barge Hybrid” approach in the DPD which would have resulted in the construction of a material offloading facility and use of barges and trucks to delivery project components and materials to the Project Footprint.</p> <p>After the issuance of the Process Order, the Proponent requested to increase the proposed number of barge movements during construction. Based on feedback on that proposal, the Proponent identified Road Transport as the preferred option for material transportation to be considered as part of the Revised Application based on the following considerations:</p> <ul style="list-style-type: none"> <li>• Lowest capital cost and reduced number of project components as the material offloading facility would not be needed; and,</li> <li>• Least interaction with the Fraser River which is used by First Nations for harvesting, cultural, and economic activities and is home to many species of importance such as salmon.</li> </ul> |

## 24.2 Key Issues Raised

No outstanding Key Issues remain with the submission of the Revised Application.

The EAO acknowledges the extensive discussions that have occurred between First Nations, technical advisors, IAAC, the EAO, and FortisBC about Material Transportation During Construction. These discussions arose as a result of FortisBC’s proposal to increase in the use of barge transportation to deliver materials to the Project Footprint after the end of the Process Planning phase of the EA as an alternative to truck transportation. These discussions contributed to FortisBC’s decision not to construct the MOF and not to barge materials to the Project Footprint. The EAO acknowledges that there was not unanimous agreement between First Nations, technical advisors, IAAC, the EAO, and FortisBC about this approach.

These discussions are noted in [Section 1.5.5.1](#) of the Revised Application.

## 24.3 The EAO’s Assessment and Conclusions

The EAO concludes that FortisBC has adequately assessed alternative means for the Tilbury Phase 2 LNG Expansion Project and components of Tilbury Phase 2’s design.

## 25.0 APPENDIX 14 POTENTIAL CHANGES TO THE PROJECT CAUSED BY THE ENVIRONMENT

### 25.1 Background

Section 25(2)(j) of the Act and paragraph 22(1)(j) of the IAA specify that the assessment must take into account any change to the project that may be caused by the environment. The Revised Application assessed the likelihood of the potential changes to Tilbury Phase 2 that may be caused by the environment based on current and potential future conditions, and their consequences on relevant VCs.

The following environmental effects and processes that have the potential to affect Tilbury Phase 2 and result in changes or effects to the valued components assessed in the Revised Application:

- Climate Change;
- Extreme weather;
- Fluvial, tsunami, and compounded flooding; and,
- Seismic events.

The EAO notes that while the Revised Application assesses the effects of climate change and extreme weather in separate sections, they are combined in this report as they are expected to produce similar effects. How effects to the Project may change as a result of climate change are described by the Proponent in [Section 8 \(Climate Change and Greenhouse Gas Emissions\)](#) and [Appendix G \(Climate Change Resilience Assessment\)](#) of the Revised Application.

### 25.2 Potential Effects and Proposed Mitigations

The potential changes to Tilbury Phase 2 caused by the environment are described in [Section 10](#) of the Revised Application and are summarized here. For each environmental effect, the Proponent reviewed the existing conditions and assessed the potential effects for the life of the project until Tilbury Phase 2 is decommissioned. The Proponent used a risk assessment matrix to determine the degree to which an environmental factor would impact VCs by plotting the intersection of the likelihood of the event against the severity of the event's consequences. For the environmental effects and processes noted above, including how the effects and process may change due to climate change, the Proponent assessed the following:

#### 25.2.1 Climate Change and Project Design

##### 25.2.1.1 Potential Project Effect

The Revised Application considers how climate change may influence environmental conditions and potential effects on the Project.

Changes to four temperature effects or processes are expected to occur:

- The frequency of heat waves and extreme heat are expected to increase,
- Changes in season temperatures the number of Cooling degree days (CDDs) exceeding 200 is expected to increase; and,
- The frequency of extreme cold minimum daily temperatures are expected to decrease.

One change to precipitation effects or processes is expected to occur, specifically the frequency of Short-duration, high-intensity rainfall (events causing local flooding) that results in greater than or equal to 100 mm of rainfall in 12 hours is expected to increase.

Changes to two additional meteorological factors were considered climate change and wind speed. Wind speeds are expected to increase by two to three km/hr. The change in wind speed is not expected to affect the risk assessment

for Tilbury Phase 2. Potential impacts of climate change on Fraser River flooding remain uncertain due to the complexity of influencing variables and limited local data. As a result, fluvial flooding was assessed qualitatively.

### 25.2.1.2 Proposed Mitigations

The Climate Change Resilience Assessment was conducted to identify the potential environmental risks to the Project as a result of climate change, as well as to provide climate data for the proposed Project Area. Tilbury Phase 2, if constructed, must be designed so that its operations would not be significantly impacted due to potential effects of climate change.

The mitigation measures are intended to decrease the likelihood and consequence of the negative effects of the environment on the proposed Project. Design mitigation measures that can be implemented to achieve this goal include hard measures, such as control systems, or soft measures, such as risk assessment frameworks, strategies, and management plans.

The Proponent identified the following criteria and mitigation measures to be incorporated in the design of Tilbury Phase 2 to mitigate the effects of climate change to the project:

- The proposed Project would be equipped with an automated safety system to facilitate safe shutdown and isolation of hydrocarbon-containing equipment during extreme adverse conditions.
- Ditches or culverts will be sized for the peak flow of a one in 25-year return period storm event.
- Design weather conditions (e.g. wind and precipitation) for onshore structures that consider a 1-in-50-year return period in accordance with the B.C. Building Code.
- All critical infrastructure will be located above the 1:200-year flood level, including allowances for sea level rise and freeboard, consistent with Delta's Flood Construction Level bylaw, to avoid flooding.

The Proponent also identified the following Project Design Measures (standards, codes, or regulatory requirements) that would limit the potential effects of the environment on Project infrastructure:

- CSA Z276 (LNG - Production, storage, and handling);
- CSA Z246.2 (Emergency preparedness and response for petroleum and natural gas industry systems);
- CSA Z276 will inform the structural design of LNG components to withstand flood-related forces (e.g., hydrostatic uplift and buoyancy under extreme conditions);
- National Building Code of Canada;
- Liquefied Natural Gas Facility Regulation;
- B.C. Building Code (as applicable);
- Delta bylaws (as applicable); and,
- FortisBC specifications.

### 25.2.2 Extreme Weather Events

#### 25.2.2.1 Extreme Temperature Events

Extreme temperature events have the potential to interact with workers and project equipment or component. The frequency of heat events where the maximum daily temperature is 32°C (Degrees Celsius) or higher is likely to increase to twice a year in the 2050s; while the frequency of extreme cold events where the minimum daily temperature is below -10°C is expected to decrease. Currently the site has operated without any effect on operations with recorded temperatures of 32.8°C in June 2021.

Extreme temperatures can impact human health causing injury or death with heatstroke or frostbite being examples of potential related conditions. They can also result in damage to the Project infrastructure or processes leading to potential structural or equipment failure that can subsequently pose a risk to human and environmental values.

#### **25.2.2.2 Extreme Precipitation Events**

The Revised Application considered extreme precipitation (rain) events that would result in 100 mm or more of rain in a 12-hour period.<sup>106</sup> The frequency of extreme rain events is expected to increase, shifting from about once every 100 years under current conditions to about once every 25 years under future conditions.

Extreme rain and the resulting flooding or pooling of water have the potential to cause a stoppage of outdoor activities, cause damage to project infrastructure in low-lying areas, and overwhelm the onsite stormwater management system which may cause flooding on the project site.

Extreme rain events were identified to have an interaction with the human health valued component, which would occur when personnel are working at height. The risks to human health of workers are expected to change from minor under current climate conditions to high in future climate conditions.

#### **25.2.2.3 Extreme wind event**

The Revised Application considered the effects of potential extreme wind events (e.g. gusts greater than 90 km/hr) on the project. The highest recorded gust near Tilbury Island between 1985 and 2015 was 64 km/hr. Extreme wind events were assessed to be of minor risk to Tilbury Phase under current and future climate conditions.

Extreme wind events can cause trees, shrubs, and loose material (e.g. gravel, other non-attached natural material) to collide with the Project's infrastructure or be deposited within the Project Site. This can cause damage to the external façade of equipment, while airborne materials may also pose a risk to human health. Working at heights becomes increasingly unsafe during extreme wind events, as there is the possibility for serious injury or death to occur.

#### **25.2.2.4 Proposed Mitigations**

The Proponent identified the following measures to mitigate the potential effects of extreme weather events:

- Implement the existing FortisBC work safety policy which will be modified or updated to account for the anticipated increase in frequency of extreme weather events as a result of climate change.
- Utilize programmable logic controllers with an appropriate design standard to withstand higher temperatures (that is, up to 70°C).
- Develop health and safety measures at the project site (for example, halting work at heights during extreme wind events).

### **25.2.3 Flooding Events**

#### **25.2.3.1 Potential Project Effect**

The Revised Application considered the potential effects of fluvial flooding,<sup>107</sup> tsunami related flooding, and compound flood events (combined fluvial and coastal flooding). Qualitative analysis was used in the Revised Application for the assessment of flooding events.

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<sup>106</sup> The 100mm threshold for the assessment is a higher threshold than recent extreme weather events such as the 2021 atmospheric river event which reported up to 66.2mm of rain over 12 hours; and 99.99 over 24 hours at the Delta Burns Bog Station, and had less rainfall than rainfall than the October 2003 rainstorm event which reported 195.2 mm in 24 hours reported for North Delta, B.C.. These three events did not result in flooding at the current Tilbury LNG facility.

Fluvial flooding is defined as flooding that occurs when water breaches a river's banks.



### Fluvial flooding

A fluvial flooding event due to dike failure or overtopping of the dike could damage infrastructure, halt operation activities, and overwhelm the existing onsite and proposed stormwater management system, causing flooding on the Project Site and posing a risk to workers, rather than the wider community. Severe events may result in a facility shutdown; effects associated with a shutdown procedures are considered as part of Malfunctions and Accidents ([Appendix 7](#)).

Fluvial flood events were considered that correspond to 1:100, 1:200, and 1:500-year floods (i.e., 1 percent, 0.5 percent, and 0.2 percent annual probability events). The scenarios considered the Fraser River peak freshet flow occurring at high tide under current and future sea-level conditions. Future conditions considered sea-level rise at +0.5 metres by 2050 and +1.0 metres by 2100. The Revised Application indicated under present and 2050 scenarios that the Project site would likely not be inundated. In the 2100 scenario with a 1.00 metre of sea-level rise the Project site may be inundated with flood depths up to approximately one metre. The Revised Application states that there are plans to raise the River Road Dike to 5.5 metres above sea level which could mitigate effects to the Project in the 2100 scenario; however, the timing of a dike upgrade is uncertain.

### Tsunami Flooding

Tsunami flooding is flooding that results from a wave of water generated by an earthquake, landslide, or volcanic eruption, or disturbance in the ocean that causes the displacement of large amounts of water.

The Revised Application considered tsunamis associated with the Cascadia Subduction Zone. This included tsunami events occurring off the west coast of Vancouver Island, plate boundary events near Richmond, and large subaqueous block slides on the western fore slope of the Fraser River delta.

If a major tsunami event were to occur off the west coast of Vancouver Island the effects are unlikely to affect the Project. The Metro Vancouver coastline generally, would be sheltered by Vancouver Island with wave height anticipated to have dissipated to between 0.5 metres and one metre along the coast – by the time waves reach the Project site they would likely be at or below this level. A plate boundary event near Richmond could generate a wave with a height approximately 0.5 metres, which would be unlikely to affect the Project. Large subaqueous block slides on the western fore-slope of the Fraser delta could create waves approximately two metres high that would strike the adjacent shoreline shortly after the landslide. No potential effects on the Project were predicted at this wave height.

The Revised Application also considered tsunami flooding cause by a submarine landslide in the Fraser River delta generating a wave of up to two metres. This type of event is not anticipated to affect the Project.

### Compounded Flooding

Compounded flooding occurs when multiple events or scenarios occur at the same time. A convergence of factors could result in a more severe flood event than any single factor scenario (e.g. simultaneous occurrences of high tide, freshet, and extreme precipitation). The Revised Application stated that the likelihood of compounded flooding was low, although cause challenges based on current infrastructure conditions.

#### 25.2.3.2 Proposed Mitigations

To prevent catastrophic failure or LNG release from the liquefaction trains during a flood event, the system would be fully deactivated before floodwater ingress. In such an emergency, combustible material (LNG) within the liquefaction trains would be routed to a totally enclosed ground flare for safe disposal.

The LNG storage tank, which is not pressurized, is designed to remain stable for an extended period even in the unlikely scenario of a catastrophic flood causing both primary and backup power failure. Its large thermal mass and the LNG it contains slow any immediate changes.

If power to the boil-off gas compressors is lost, the LNG surface will gradually begin to evaporate, forming natural gas. As pressure builds, it would be safely vented through pressure relief valves until power is restored.

The Proponent identified the following measures to mitigate the potential effects of Flooding:

- Engineering controls will be put in place to maintain operation of the emergency generator during extreme weather events;
- All critical infrastructure will be located above the 1:200-year flood level, including allowances for sea level rise and freeboard, consistent with Delta's Flood Construction Level bylaw, to avoid flooding;
- CSA Z276 (LNG - Production, storage, and handling);
- FortisBC will apply CSA Z246.2 (Emergency preparedness and response for petroleum and natural gas industry systems) to guide the development of flood-specific emergency preparedness measures;
- Ditches or culverts will be sized for the peak flow of a one in 25-year return period storm event;
- All critical infrastructure will be located above the 1:200-year flood level, including allowances for sea level rise and freeboard, consistent with the City of Delta's Flood Construction Level bylaw, to avoid flooding.; and
- Engineering controls will be put in place to maintain operation of the emergency generator during extreme weather events.
- Two other measures that could mitigate the effects of flooding on the Project were noted in the Revised Application:
- A Section 219 Covenant under the *Land Title* Act in place for the Project Site that sets a minimum industrial building elevation of 2.74 metres above sea level; and,
- Plans, with uncertain timing, to raise the River Road Dike to 5.5m meters above sea level.

#### 25.2.4 Seismic Events

##### 25.2.4.1 Potential Project Effect

The Proponent assessed the risk of seismic events on Tilbury Phase 2 in the Revised Application and reported that there is a moderate risk classification for the effects of seismic. The south coast of B.C., including Tilbury Island, includes active faults and tectonic plate movement and interactions, including the Cascadia subduction zone off Vancouver Island.

The Proponent identified that an earthquake event has the potential to affect the Project's infrastructure through soil liquefaction (liquefaction occurs where water-saturated sands and silts are subjected to a loss in their shear strength), shaking, and vibration. Potential adverse effects of seismic events can include a fire or explosion; hazardous material spill; unplanned facility shutdown, including emergency flaring; process upset; or power outage. These effects are assessed in Malfunctions and Accidents ([Appendix 7](#)).

##### 25.2.4.2 Proposed Mitigations

The Proponent identified the following mitigations measures applicable to seismic events:

- The proposed Project would be equipped with an automated safety system to facilitate safe shutdown and isolation of hydrocarbon-containing equipment during extreme adverse conditions.
- Ditches or culverts will be sized for the peak flow of a one in 25-year return period storm event.
- Design weather conditions (for example, wind and precipitation) for onshore structures that consider a 1-in-50-year return period in accordance with the B.C. Building Code.

- The control room operator will utilize BC's Earthquake Early Warning network alerts, along with on-site seismic instrumentation, to initiate an emergency shutdown if necessary.

The Proponent identified that in addition to seismic design that would comply with provincial and federal codes, standards, and regulations such as the LNG Facility Regulation, National Building Code of Canada 2020 and the 2024 BC Building Code, the following measures mitigate the potential effects of Seismic Events:

- The project will be designed to meet the applicable seismic design standards in CSA Z276.
- Design the Project to meet CSA Z276; the standard outlines the following design levels:
  - Operating Basis Earthquake (OBE)<sup>108</sup> with a mean return interval of 475 years
  - Safe Shutdown Earthquake<sup>109</sup> with a mean return interval of 2,475 years

## 25.3 Key Issues Raised

Based on a review of the Application and with feedback from the TAC, participating Indigenous nations, and the public, the following key issues related to the assessment of the potential changes to the Project caused by the environment for Tilbury Phase 2 were identified.

### 25.3.1 Flooding and the River Road Dike

Reviewers including BCER, xʷməθkʷəy̓əm, and Quw'utsun Nation noted there is a degree of uncertainty in the analysis for flooding event and the condition of the River Road Delta Dike (ID number 45), which includes the area between the Project site and the Fraser River. This included concerns on if the dike could withstand compounded flooding events under current and future climate conditions, as well as the condition of the dike. Concerns about the condition of the River Road Dike include its condition, height, and risks in the event of future breachers.

Delta's River Road Dike is expected to provide partial protection to the project site in event of flooding events. Assessments and reports prepared as part of the Lower Mainland Flood Management Strategy,<sup>110</sup> as well as the Lower Mainland Dike Assessment Final Report,<sup>111</sup> indicate there is a risk that existing infrastructure may not meet current standards or perform as expected under extreme flooding conditions. FortisBC provided additional information as part of the Revised Application, including adding a compounded flooding scenario and additional information and mitigations to address risks associated with flooding.

The Revised Application indicates that critical infrastructure is planned to be elevated to 3.5 metres (current dike crest level with freeboard) as an initial design Flood Construction Level, which is consistent with existing guidelines. This elevation is sufficient under current and mid-century (2050) sea level conditions to prevent inundation at up to 1:500-year flood events. FortisBC is also committed to adaptive flood management. As sea levels rise toward 2100, the proponent will collaborate with local authorities on dike upgrades and site improvements. This staged approach balances near-term feasibility with long-term resiliency. Should the facility operate past 2050, additional flood

<sup>108</sup> An Operating Basis Earthquake (OBE) is a seismic event that a facility is designed to withstand without significant damage, allowing it to continue operation. It represents an earthquake that could reasonably be expected to occur during the facility's operating life, based on regional and site-specific geology. If an OBE is exceeded, the plant is required to shut down for inspection.

<sup>109</sup> A Safe Shutdown Earthquake is the maximum earthquake potential for which certain structures, systems, and components, important to safety, are designed to sustain and remain functional.

<sup>110</sup> Fraser Basin Council. 2023. Lower Mainland Flood Management Strategy. <https://floodwise.ca/flood-strategy/>

<sup>111</sup> Ministry of Forests, Land and Natural Resource Operations. 2015. Lower Mainland Dike Assessment Final Report. [https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/integrated-flood-hazard-mgmt/nhc\\_final\\_lower\\_mainland\\_dike\\_assessment.pdf](https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/integrated-flood-hazard-mgmt/nhc_final_lower_mainland_dike_assessment.pdf)

mitigation (e.g. incremental site fill or berms) may be implemented to maintain protection. This ensures that even with 2100 sea-level rise projections, the site's flood risk remains within acceptable levels.

FortisBC identified that there is a Section 219 Covenant under the *Land Title* Act in place for the Project Site that sets a minimum industrial building elevation of 2.74 metres above sea level, which it has committed to exceed for critical infrastructure. They also identified the following design mitigation standard; CSA Z246.2 (Emergency preparedness and response for petroleum and natural gas industry systems) to guide the development of flood-specific emergency preparedness measures.

FortisBC identified that there are plans to raise River Road Dike adjacent to the Project to 5.5 metres above sea level although a timeline has not yet been set to do that. In the absence of a clear timeline there is uncertainty with this is a mitigation, and as the River Road Dike is owned by Delta and can not be upgrade by FortisBC without approval from Delta.

The EAO has proposed Condition 12 (CEMP) and Condition 13 (OEMP) which would require implementation of Fortis proposed mitigation measures. The EAO also proposed a condition requiring that critical infrastructure be constructed to a minimum elevation of 3.5 metres geodetic (Geodetic Survey of Canada datum). Condition 3 (Document Development) would require an implementation schedule and a requirement for including how the effectiveness of mitigation measures will be evaluated – for these mitigation measures that could include a staged approach, for example developing a Trigger Response Plan (TRP) based on changes in river or precipitation levels, to review and enhance flood mitigations at the site based on changes to environmental conditions and / or entering into negotiations with Delta to enhance River Road Dike adjacent to the Project Site. The EAO's Assessment and Conclusions

To address key issues related to the effects of the environment, the EAO has proposed the following conditions related to effects of the environment on Tilbury Phase 2 to the Ministers if a Certificate is issued:

- Condition 12 (CEMP); and,
- Condition 13 (OEMP).

These conditions would require the implementation of the mitigation measures identified in the Revised Application. Both plans would be subject to Condition 3 (Document Development) which includes requirements for ensuring that mechanisms for evaluating the effectiveness of mitigations will in place.

After considering the proposed mitigation measures, Certificate conditions proposed (which would become legally binding in the event that a Certificate is issued), Joint Regulatory / Permitting Coordination Plan, and [Regulatory Coordination Issues Tracking Table](#) the EAO concludes the effects of the environment would not cause a significant adverse effects on Tilbury Phase 2 during Construction and Operation due to the engineering design requirements for Tilbury Phase 2 to withstand the types of extreme weather, flooding, and seismic events occurring nearby during the life of the project under current and future climate conditions.

## 26.0 APPENDIX 15 REQUIREMENTS OF THE *IMPACT ASSESSMENT ACT*

### 26.1 Overview

This section describes how the legislative requirements of the IAA for a substituted process were considered and met by the B.C. Environmental Assessment Office (EAO) for the Tilbury Phase 2 LNG Expansion Project (Tilbury Phase 2; the Project).

#### 26.1.1 The Substituted Assessment Process and Cooperation with British Columbia

On January 20, 2022, the provincial environmental assessment process was substituted for the federal impact assessment process. Under substitution, the provincial assessment process is used to meet the requirements for an environmental assessment under the provincial *Environmental Assessment Act* (2018) and an impact assessment under the federal IAA. This Assessment Report (the Report) is the result of that single substituted assessment process. In addition to informing decision-making under the Act, it will be submitted to the federal Minister of the Environment, Climate Change and Nature to inform federal decision-making, fulfilling the requirements of the IAA, and the conditions for substitution outlined in the [Notice of Substitution Approval under the IAA](#).

When provincial and federal assessments are both required, the [Impact Assessment Cooperation Agreement between Canada and British Columbia](#) (the Cooperation Agreement) provides a framework that facilitates the principle of “one project, one assessment”, and describes the way IAAC and the EAO work together to ensure one efficient and effective assessment process, including for substituted assessments.<sup>112</sup>

#### 26.1.2 Requirements of the *Impact Assessment Act*

An impact assessment under the IAA must:

- consider adverse effects within federal jurisdiction and direct or incidental adverse effects (referred together as “adverse federal effects”) as defined in Section 2 of the IAA (Table 79);
- consider the factors set out under Subsection 22(1) of the IAA (Table 80); and
- determine whether adverse effects within federal jurisdiction are likely to be to some extent significant, and if so, to what extent (Table A).

The requirements of the *Notice of Substitution Approval under the IAA*, which contains additional conditions for the substituted assessment, are listed in Table 81.

#### 26.1.3 Assessing Effects Within Federal Jurisdiction

To meet the requirements of the IAA, the Report must provide a rationale and conclusions regarding adverse federal effects, and specify whether the effects, including cumulative effects, are likely to be to some extent significant, and if so, to what extent.

The EAO carried out the assessment of adverse federal effects in accordance with its Effects Assessment Policy (the Policy).<sup>113</sup> The assessment described in this Appendix includes characterization of residual adverse federal effects which consider the application of federal Key Mitigation Measures, which are those that are important for addressing potentially significant adverse federal effects. The substituted assessment process for Tilbury Phase 2 also relied on provincial mechanisms, such as conditions, permits, and authorizations, to the extent possible, to address certain federal effects. The intent of this is to reduce or avoid duplicative conditions and streamline regulatory requirements. See [Appendix 2](#) for the complete list of Key Mitigation Measures and additional context about the

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<sup>112</sup> Section 7 of the Cooperation Agreement describes specific provisions for substituted assessments.

See Report [Appendix 3](#) for additional detail about the EAO’s effects assessment methodology.

reliance on provincial mechanisms. The characterization of significance applies only to non-negligible residual adverse federal effects and is completed using similar factors and criteria used elsewhere in the Report for each effect being assessed (e.g., magnitude, geographical extent, timing, frequency, duration, reversibility, uncertainty, and social and ecological contexts) <sup>114</sup>, and standards, guidelines, descriptors or objectives, where they exist.

While the frameworks and language used to describe “significance” are different between the federal and provincial assessment approaches, the conclusions are informed by a common body of scientific information and consideration of Indigenous Knowledge. Where effects to a valued component are negligible, an extent of significance determination is not required because they are no longer captured in the definition of effects in federal jurisdiction.

The criteria for characterizing extent of significance for residual (i.e. following the application of mitigation measures) non-negligible adverse federal effects are listed below:

- **Not Significant:** Effects are sufficiently small that they do not individually or cumulatively have a significant effect on a valued component and generate no or few impacts in social or ecological contexts.
- **Low:** Effects are significant but are low in magnitude, of short duration, infrequent, small in spatial extent, reversible or readily avoided, and to generate few or minor impacts in social or ecological contexts. Mitigation measures will allow baseline conditions to remain largely unchanged.
- **Moderate:** Effects are significant and are moderate in magnitude, of moderate duration, occasionally frequent, possibly/partially reversible, and generate a moderate level of impacts in social or ecological contexts. Mitigation measures may not fully eliminate, reduce, control or offset effects but should enable affected communities to maintain economic and social well-being, and should prevent the diminishment or loss of key components of the environment and its ecological functioning.
- **High:** Effects are significant and are high in magnitude, permanent/long term, frequent, irreversible, and over a large spatial extent or within an area of exclusive/preferred Indigenous use or of ecological/environmental sensitivity. High levels of impacts in social or ecological contexts are expected. There is a high degree of uncertainty in the effectiveness of mitigation measures, or mitigation measures are unable to fully address effects such that valued components are diminished or lost.

Extent of significance determinations for non-negligible adverse federal effects are summarized in Table 79. They are based on the EAO’s assessment of residual effects presented in [Appendix 6](#) and the additional analysis specific to adverse federal effects conducted in this Appendix. The factors outlined in Subsection 22(1) of the IAA (Table 80) do not require a characterization of extent of significance.

#### 26.1.4 Malfunctions and Accidents

The proponent was required to provide an assessment of malfunctions and accidents that could impact valued components and Indigenous interests. The EAO’s assessment of malfunctions and accidents, and their potential effects on areas of federal jurisdiction, is provided in the [Appendix 7](#). None of the identified scenarios were considered likely to occur (i.e., less frequent than once every 10 years); therefore, their predicted effects are not included in the conclusions regarding likely adverse federal effects of the project. However, the potential adverse effects within federal jurisdiction from these unlikely malfunctions and accidents are discussed in the sections below, along with key mitigation measures to reduce their risk and consequences.

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Criteria and assessment ratings are defined in Appendix 3 - Residual Effects Characterization Definitions.

### 26.1.5 Assessment of Adverse Effects within Federal Jurisdiction

Tables 83 and 84 points to locations in this Report where information about adverse effects within federal jurisdiction under Section 2 of the IAA and the factors set out under Subsection 22(1) of the IAA were assessed by the EAO.

For some adverse effects within federal jurisdiction and Section 22 IAA factors, it was necessary for the EAO to include additional assessment in this Appendix beyond that conducted elsewhere in the Report to adequately assess effects and consider factors.

The following adverse effects within federal jurisdiction were subject to additional assessment in this Appendix:

- [Section 26.2](#) — Fish and Fish Habitat
- [Section 26.3](#) — Migratory Birds
- [Section 26.4](#) — Federal Lands
- [Section 26.5](#) — Assessment of 2(e) and (f) Effects with Respect to Indigenous Peoples of Canada

This Appendix does not assess all adverse effects within federal jurisdiction as some were deemed unlikely and not relevant to the assessment<sup>115</sup>.

The following Section 22 IAA factors were subject to additional consideration in this Appendix:

- [Section 26.7](#) — Considering Environmental Obligations and Commitments in Respect of Climate Change
- [Section 26.8](#) — Considering the Extent to Which the Project's Likely Effects Contribute to Sustainability

Additionally, this Appendix contains an assessment of the Indigenous Knowledge Provided with Respect to the Designated Project ([Section 26.6](#)) and Federal Crown's Duty to Consult and treaty obligations under the *Tsawwassen First Nation Final Agreement* ([Section 26.9](#)).

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<sup>115</sup> The scope of the assessment did not include effects to the marine environment or international waters because the removal by the proponent of plans for a materials offloading facility (MOF) and barge delivery made such effects unlikely. Specifically the following types of adverse effects within federal jurisdiction were not included: (a)(ii) aquatic species, as defined in subsection 2(1) of the *Species at Risk Act*; (c) a non-negligible adverse change to the marine environment that is caused by pollution and that would occur outside Canada; and (d) a non-negligible adverse change – that is caused by pollution – to boundary waters or international waters, as those terms are defined in subsection 2(1) of the IAA.

The definition of adverse effects within federal jurisdiction under the IAA also includes non-negligible adverse effects of a federal work or undertaking as defined in subsection 3(1) of the *Canadian Environmental Protection Act, 1999*. The project does not include federal works or undertakings and thus no related adverse effects.

The definition of adverse effects within federal jurisdiction under the IAA also includes a non-negligible adverse change to a health, social or economic matter that is within the legislative authority of Parliament that is set out in Schedule 3. There are no other health, social, or economic matters set out in Schedule 3.



Table 79: Location in the Report of the Assessment of Adverse Effects within Federal Jurisdiction, as defined in Section 2 of the IAA and Extent of Significance Characterization

| Federal Requirement                                                                                                                                            | Report Location                                                                                                                                                                                                                                                                       | Extent of Significance for Residual Effects under the IAA | Extent of Significance for Cumulative Effects under the IAA |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------|
| <b>Adverse effects within federal jurisdiction (as defined in Section 2 of the IAA)</b>                                                                        |                                                                                                                                                                                                                                                                                       |                                                           |                                                             |
| (a) a non-negligible adverse change to the following components of the environment that are within the legislative authority of Parliament:                    |                                                                                                                                                                                                                                                                                       |                                                           |                                                             |
| (a)(i) fish and fish habitat, as defined in subsection 2(1) of the <i>Fisheries Act</i>                                                                        | <ul style="list-style-type: none"> <li><a href="#">Section 17.8</a> : Fish and Fish Habitat</li> <li><a href="#">Section 17.3</a>: Surface Water</li> <li>This Section 2 factor was further assessed in Section 26.2 — Fish and Fish Habitat</li> </ul>                               | Not significant                                           | Not significant                                             |
| (a) (iii) migratory birds, as defined in subsection 2(1) of the <i>Migratory Birds Convention Act, 1994</i>                                                    | <ul style="list-style-type: none"> <li><a href="#">Section 17.7</a>: Wildlife and Wildlife Habitat</li> <li>This Section 2 factor was further assessed in Section 26.3 — Migratory Birds</li> </ul>                                                                                   | Not significant                                           | Not significant                                             |
| (b) a non-negligible adverse change to the environment that would occur on federal lands                                                                       | This Section 2 factor was further assessed in Section 26.4 — Federal Lands                                                                                                                                                                                                            | Not significant                                           | Not significant                                             |
| (e) with respect to the Indigenous peoples of Canada, a non-negligible adverse impact—occurring in Canada and resulting from any change to the environment—on: |                                                                                                                                                                                                                                                                                       |                                                           |                                                             |
| (e)(i) physical and cultural heritage                                                                                                                          | <ul style="list-style-type: none"> <li><a href="#">Section 5.0</a>: Indigenous Nation Engagement and Summary Effects</li> <li>This Section 2 factor was further assessed in Section 26.5 — Assessment of 2(e) and (f) Factors with Respect to Indigenous Peoples of Canada</li> </ul> | Not Significant                                           | Significant to a low extent                                 |
| (e)(ii) the current use of lands and resources for traditional purposes                                                                                        | <ul style="list-style-type: none"> <li><a href="#">Section 5.0</a>: Indigenous Nation Engagement and Summary Effects</li> <li>This Section 2 factor was further assessed in Section 26.5 — Assessment of 2(e) and (f) Factors with Respect to Indigenous Peoples of Canada</li> </ul> | Significant to a low extent                               | Significant to a low extent                                 |
| (e)(iii) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance                                     | <ul style="list-style-type: none"> <li><a href="#">Section 5.0</a>: Indigenous Nation Engagement and Summary Effects</li> <li>This Section 2 factor was further assessed in Section 26.5 — Assessment of 2(e) and (f) Factors with Respect to Indigenous Peoples of Canada</li> </ul> | Not Significant                                           | Not Significant                                             |
| (f) a non-negligible adverse change occurring in Canada to the health, social or economic conditions of the Indigenous peoples of Canada                       | <ul style="list-style-type: none"> <li><a href="#">Section 5.0</a>: Indigenous Nation Engagement and Summary Effects</li> <li>This Section 2 factor was further assessed in Section 26.5 — Assessment of 2(e) and (f) Factors with Respect to Indigenous Peoples of Canada</li> </ul> | Significant to a low extent                               | Significant to a low extent                                 |

Table 80: Location in the Report of the Consideration of Factors Required under the IAA [Subsection 22(1)]

| Federal Requirement                                                                                                                                                                                                                                                    | Report Location                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Factors to be Considered (as defined in Section 22 of the IAA)</b>                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| (a) the changes to the environment or to health, social or economic conditions and the positive and negative consequences of these changes that are likely to be caused by the carrying out of the designated project, including                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| (a)(i) the effects of malfunctions or accidents that may occur in connection with the designated project                                                                                                                                                               | <a href="#">Appendix 7</a> : Risks of Malfunctions and Accidents                                                                                                                                                                                                                                                                                                                                                                                                                   |
| (a)(ii) any cumulative effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out                                                                                               | Within each Valued Component Section: <a href="#">Appendix 6</a>                                                                                                                                                                                                                                                                                                                                                                                                                   |
| (a)(iii) the result of any interaction between those effects                                                                                                                                                                                                           | Within each Valued Component Section: <a href="#">Appendix 6</a>                                                                                                                                                                                                                                                                                                                                                                                                                   |
| (b) Mitigation measures that are technically and economically feasible and that would mitigate any adverse effects of the designated project                                                                                                                           | Within each Valued Component Section: <a href="#">Appendix 6</a><br><a href="#">Appendix 2</a> : Federal Key Mitigation Measures and Follow Up Program Under the IAA                                                                                                                                                                                                                                                                                                               |
| (c) the impact that the designated project may have on any Indigenous nation and any adverse impact that the designated project may have on the rights of the Indigenous peoples of Canada recognized and affirmed by Section 35 of the <i>Constitution Act</i> , 1982 | <a href="#">Appendix 5</a> : Detailed Indigenous Nation Assessments                                                                                                                                                                                                                                                                                                                                                                                                                |
| (d) the purpose of and need for the designated project                                                                                                                                                                                                                 | <a href="#">Section 1.3</a> : Purpose and Need for the Designated Project                                                                                                                                                                                                                                                                                                                                                                                                          |
| (e) alternative means of carrying out the designated project that are technically and economically feasible, including through the use of best available technologies, and the effects of those means                                                                  | <a href="#">Appendix 13</a> : Alternative Means of Carrying Out Tilbury Phase 2                                                                                                                                                                                                                                                                                                                                                                                                    |
| (f) any alternatives to the designated project that are technically and economically feasible and are directly related to the designated project                                                                                                                       | <a href="#">Section 1.4</a> : Alternatives to the Project                                                                                                                                                                                                                                                                                                                                                                                                                          |
| (g) Indigenous Knowledge provided with respect to the designated project                                                                                                                                                                                               | <a href="#">Appendix 5</a> : Detailed Indigenous Nation Assessments<br>Within each Valued Component Section                                                                                                                                                                                                                                                                                                                                                                        |
| (h) the extent to which the designated project contributes to sustainability                                                                                                                                                                                           | <a href="#">Appendix 5</a> : Detailed Indigenous Nation Assessments<br><a href="#">Appendix 6</a> : Valued Component Assessments<br><a href="#">Appendix 9</a> : Summary of Effects on Biophysical Factors that Support Ecosystem Function<br><a href="#">Appendix 10</a> : Effects on Current and Future Generations<br>This Section 22 factor was further considered in Section 26.8 — Considering the Extent to which the Project's Likely Effects Contribute to Sustainability |
| (i) the extent to which the effects of the designated project hinder or contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change                                                        | <a href="#">Appendix 12</a> : Greenhouse Gas Emissions<br>This Section 22 factor was further considered in Section 26.7 — Considering Environmental Obligations and Commitments in Respect of Climate Change                                                                                                                                                                                                                                                                       |
| (j) any change to the designated project that may be caused by the environment                                                                                                                                                                                         | <a href="#">Appendix 14</a> : Potential Changes to the Project caused by the Environment                                                                                                                                                                                                                                                                                                                                                                                           |
| (k) the requirements of the Follow-up Program in respect of the designated project                                                                                                                                                                                     | Within each Valued Component Section<br><a href="#">Appendix 2</a> : EAO's Key Mitigation Measures and Follow Up Programs under the IAA                                                                                                                                                                                                                                                                                                                                            |
| (l) considerations related to Indigenous cultures raised with respect to the designated project                                                                                                                                                                        | <a href="#">Appendix 5</a> : Detailed Indigenous Nation Assessments                                                                                                                                                                                                                                                                                                                                                                                                                |

| Federal Requirement                                                                                                                                                                                                                                                                                               | Report Location                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (m) community knowledge provided with respect to the designated project                                                                                                                                                                                                                                           | <a href="#">Section 4</a> : Engagement<br>Within each Valued Component Section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| (n) comments received from the public                                                                                                                                                                                                                                                                             | <a href="#">Section 4</a> : Engagement<br>Within each Valued Component Section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| (o) comments from a jurisdiction that are received in the course of consultations conducted under section 21 of the IAA                                                                                                                                                                                           | <a href="#">Appendix 5</a> : Detailed Indigenous Nation Assessments<br><a href="#">Appendix 7</a> : Risks of Malfunctions and Accidents<br><a href="#">Appendix 9</a> : Summary of Effects on Biophysical Factors that Support Ecosystem Function<br><a href="#">Appendix 10</a> : Effects on Current and Future Generations<br><a href="#">Appendix 11</a> : Consistency with Land Use Plans<br><a href="#">Appendix 12</a> : Greenhouse Gas Emissions<br><a href="#">Appendix 13</a> : Alternative Means of Carrying out the Project<br><a href="#">Appendix 14</a> : Potential Changes to the Project caused by the Environment<br>Within each Valued Component Section in <a href="#">Appendix 6</a> |
| (p) any relevant assessment referred to in section 92, 93 or 95 of the IAA                                                                                                                                                                                                                                        | This Section 22 factor was subject to additional consideration in <a href="#">Section 26.7</a> — Considering Environmental Obligations and Commitments in Respect of Climate Change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| (q) any assessment of the effects of the designated project that is conducted by or on behalf of an Indigenous governing body and that is provided with respect to the designated project                                                                                                                         | <a href="#">Appendix 5</a> : Detailed Indigenous Nation Assessments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| (r) any study or plan that is conducted or prepared by a jurisdiction—or an Indigenous governing body not referred to in paragraph (f) or (g) of the definition jurisdiction in Section 2—that is in respect of a region related to the designated project and that has been provided with respect to the project | The EAO did not identify any requirements applicable to Section 22(r) of the IAA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| (s) the intersection of sex and gender with other identity factors                                                                                                                                                                                                                                                | <a href="#">Appendix 6 Section 17.11</a> : Infrastructure and Services<br><a href="#">Appendix 6 Section 17.9</a> : Employment and Economy<br><a href="#">Appendix 6 Section 17.14</a> : Human Health<br><a href="#">Appendix 8</a> : Summary of Human and Community Well-being                                                                                                                                                                                                                                                                                                                                                                                                                          |
| (t) any other matter relevant to the impact assessment that IAAC requires to be taken into account                                                                                                                                                                                                                | The EAO did not identify any requirements applicable to Section 22(t) of the IAA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

Table 81: Location in the Report of Additional Requirements Outlined in the Minister's Notice of Substitution Approval under the IAA

| Condition of Substitution <sup>116</sup>                                                                                                                                                                                                                                                                                                                                              | Report Location                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| The designated project to be assessed is the construction, operation, and decommissioning of the liquefaction capacity and LNG storage tank and any incidental physical activities.                                                                                                                                                                                                   | <a href="#">Section 1</a> : Project Overview                                 |
| As required under the IAA, B.C. will include the requirements of the Strategic Assessment of Climate Change, prepared by Environment and Climate Change Canada (ECCC), in the impact assessment, including information on the Project's greenhouse gas emissions, mitigation measures and requirements of any follow-up program that may be warranted, and climate change resilience. | <a href="#">Appendix 12: Greenhouse Gases &amp; Greenhouse Gas Emissions</a> |

| Condition of Substitution <sup>116</sup>                                                                                                                                                                                                                                 | Report Location                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Consideration of federal policy measures and commitments outlined in the Federal Government's Strengthened Climate Plan.                                                                                                                                                 | <a href="#">Appendix 15 Section 26.7</a> — Considering Environmental Obligations and Commitments in Respect of Climate Change |
| Consideration of commitments to be outlined in Canada's 2030 Emissions Reduction Plan as required under the <i>Canadian Net-Zero Emissions Accountability Act</i> , including consideration of a cap on emissions from the oil and gas sector, in the impact assessment. |                                                                                                                               |

### 26.1.6 Direct or Incidental Adverse Effects

Under the IAA, the assessment must include a characterization of the extent of significance, if any, for non-negligible direct or incidental adverse effects that are directly linked or necessarily incidental to a federal authority's exercise of power or performance of a duty or function that would permit the carrying out of the Project (defined as "direct or incidental adverse effects" in Section 2 of the IAA). There are no direct or incidental adverse effects anticipated from any of the identified authorization(s) that have not already been considered in this assessment. As such, the EAO has not provided a characterization of significance for any direct or incidental adverse effects from Tilbury Phase 2.

In addition to the assessment approvals, Tilbury Phase 2 would need one federal permit (compliance-based notification under the *Aeronautics Act*), identified in the [Joint Permitting / Regulatory Coordination Plan](#).

## 26.2 Fish and Fish Habitat

### 26.2.1 Overview

The IAA requires an assessment of non-negligible adverse changes to fish and fish habitat.<sup>117</sup> The EAO has assessed effects to fish and fish habitat, which takes into account the proponent's assessment and key issues raised, in [Appendix 6: Fish and Fish Habitat](#). The EAO determined the residual effects from the Project on Fish and Fish Habitat are negligible in magnitude using the EAO's effects characterization definitions (Appendix 3). Below, the residual and cumulative adverse federal effects were assessed based on the EAO's assessment. The effects to fish and fish habitat within federal jurisdiction were determined to be not significant.

#### Residual Effects

Following the application of the Key Mitigation Measures and provincial mechanisms including conditions, the residual effects to fish and fish habitat stem from reduced fish habitat quality, increased risk to fish health, injury and mortality, and changes to fish distribution and abundance. These residual effects are limited to stormwater quality interactions in Tilbury Slough, localized artificial lighting along the shoreline, minimal air-deposition pathways, and upland construction noise. The residual effects were characterized by the EAO as negligible magnitude, highly localized, and fully reversible.

#### Cumulative Effects

The potential for cumulative effects considered residual effects caused by Tilbury LNG Phase 2 in combination with the potential effects of other past, present, and reasonably foreseeable future projects, as described in [Appendix 6: Fish and Fish Habitat](#). The cumulative effects to fish and fish habitat are considered medium to high in magnitude but localized and reversible. As the Project's contribution of negligible magnitude and reversible residual effects is not predicted to materially change the condition of fish habitat or alter the potential recovery of the Tilbury Slough, the cumulative state of aquatic conditions in the RAA would not be altered.

<sup>116</sup> See s.2(a)(i) of the *Impact Assessment Act*.

### 26.2.2 Malfunctions and Accidents

The EAO assessed the effects of potential malfunctions and accidents on fish and fish habitat in Appendix 7: Risks of Malfunction and Accidents. Potential malfunctions and accidents that could result in effects to fish and fish habitat include spills or accidental releases of hazardous materials to the Fraser River or Tilbury Slough from equipment failure, error, or project-related vehicle collision. See [Appendix 7: Risks of Malfunctions and Accidents](#) for further detail on the accidents and malfunctions, their potential effects, and risk ratings. The EAO's identified, and where appropriate recommended, Federal Key Mitigation Measures for malfunctions and accidents are described in [Appendix 2](#).

### 26.2.3 Key Mitigation Measures for Fish and Fish Habitat

The EAO identified federal Key Mitigation Measures to reduce potential effects to fish and fish habitat. These key mitigation measures are described in full in [Appendix 2](#). In summary, Key Mitigation Measures were identified to control erosion, sedimentation and runoff in the Designated Project area during all phases of the Designated Project; and treat any hydrostatic testing waters, storm water and water discharges from sediment basins.

### 26.2.4 EAO Analysis and Conclusion

Based on the predicted residual effects to fish and fish habitat, which include consideration of the proposed federal Key Mitigation Measures, the EAO concludes that residual and cumulative adverse federal effects to fish and fish habitat are not significant.

## 26.3 Migratory Birds

### 26.3.1 Overview

The IAA requires an assessment of effects to migratory birds to determine if there are non-negligible adverse federal effects. <sup>118,119</sup> The EAO has assessed effects to wildlife, including migratory and non-migratory birds, in [Appendix 6](#), Section 17.7: Wildlife and Wildlife Habitat. This section draws from that assessment to assess effects to migratory birds protected under the *Migratory Birds Convention Act (1994)*.

The assessment considered resident and migratory birds in four categories: forest birds, waterbirds, wading birds and shorebirds, and bird species adapted to human infrastructure. Forest birds largely include passerines and raptors; waterbirds include waterfowl and seabirds; bird species adapted to human infrastructure include those that commonly utilize anthropogenic structures for roosting and nesting. Not all birds within these categories are defined under the *Migratory Birds Convention Act*. A total of 34 bird species were observed during field surveys, of which 24 are protected under the *Migratory Birds Convention Act* as listed below. An asterisk indicates if the bird is also protected under the *Species at Risk Act*.

**Forest birds:** American goldfinch, American robin, Black-capped chickadee, Common yellowthroat, House finch, Marsh wren, Northern flicker, Rufous hummingbird, Savannah sparrow, Song sparrow, Spotted towhee, Tree swallow, Violet-green swallow, White-crowned sparrow, Yellow warbler.

**Waterbirds:** Blue-winged teal, Canada goose, Gadwall, Green-winged teal, Gulls (unspecified), Lesser scaup, Mallard.

**Wading birds and Shorebirds:** Spotted sandpiper, Great blue heron (*fannini* subspecies) \*.

**Bird species adapted to human infrastructure:** None

Migratory birds of provincial or federal conservation concern that were not identified during surveys but have the potential to occur in the Regional Assessment Area, include: American bittern, Band-tailed pigeon\*, Bank swallow\*,

<sup>118</sup> Migratory birds are listed in the Schedule to the [Migratory Birds Convention Act, 1994](#).

See subsection 2(a)(iii) of the *Impact Assessment Act*.

Barn swallow\*, Black swift\*, Brant, Californian gull, Caspian tern, Common nighthawk\*, Green heron, Horned grebe\*, Olive-sided flycatcher\*, Purple martin, Red knot (*rufa* and *islandica* subspecies, *roselaari* type)\*, Red-necked phalarope\*, Yellow rail\*, and Western grebe\*. Of these species, 12 have potential to interact with the Project and were included in the EA (that is, they have low, moderate, or high potential to occur, or confirmed presence within the LAA).

#### Residual Effects

Three potential effects to wildlife, including migratory birds, were identified: loss or alteration of habitat, change in movement (corridors), and change in health and mortality risk. Change in movement was considered to be negligible and therefore not carried forward to the residual effects assessment. See [Section 7.08](#): Wildlife and Wildlife Habitat of the Revised Application for more detail about FortisBC's assessment.

The EAO anticipates that construction will cause indirect habitat loss and changes within the LAA, which is an industrialized zone with limited suitable land for migratory birds. Species in this area are adapted to ongoing human disturbances, but construction may temporarily displace birds during key times such as migration and nesting, reducing habitat effectiveness. The residual effects are expected to be negligible in magnitude for most migratory bird species, with a low rating applied to migratory birds that are also species at risk due to their lower resilience. The residual effects would be localized, medium-term, and reversible.

Direct and indirect residual effects to migratory bird health and mortality could result from wildlife interactions such as vehicle strikes, sensory disturbances, contact with the heat from flaring, and wildlife collisions with Project infrastructure. Altered air, surface water, and soil quality, which could overlap with sensitive timing periods (e.g. migration) for migratory birds, could increase health risk. Given the Project's scope and planned mitigation, the residual effects are expected to be negligible in magnitude for most migratory bird species, with a low rating applied to migratory birds that are also species at risk due to their lower resilience. The residual effects would be localized, medium-term, and reversible.

#### Cumulative Effects

The potential for cumulative effects considered residual effects caused by Tilbury LNG Phase 2 in combination with the potential effects of other past, present, and reasonably foreseeable future projects, as described in Appendix 6: Wildlife and Wildlife Habitat.

The cumulative effects for loss or alteration of wildlife habitat, with respect to migratory birds, were predicted to be high in magnitude, based on the extent of past and existing project activities in a highly industrialised landscape. Habitat disturbance within the region is likely to be exacerbated by climate change and is predicted to persist in perpetuity due to continuous industrial activities in the region and overlap with reasonably foreseeable projects.

Cumulative effects to changes in health and mortality risk to wildlife, with respect to migratory birds, were predicted to be high in magnitude, based on the extent of past and existing project activities in a highly industrialised landscape. Increased health and mortality risk are likely to be exacerbated by climate change and would persist, despite rare to infrequent occurrences, with or without the project due to the continuous and long-term persistence of industrial activities in the broader region and overlap with reasonably foreseeable projects.

The Project's contribution of residual effects to migratory birds and their habitat for both loss or alteration of habitat and change in health and mortality risk are predicted as negligible to low in magnitude, localized, and reversible. The Project's contributions to the cumulative effects are not predicted to materially change the condition of migratory bird habitat or constrain the potential recovery of the RAA.

### 26.3.2 Malfunctions and Accidents

The EAO assessed the effects of potential malfunctions and accidents on migratory birds in [Appendix 7: Risks of Malfunction and Accidents](#). Potential malfunctions and accidents that could result in effects to migratory birds include emergency facility shutdown and depressurization through flaring, leakage or spill during transportation, motor vehicle or trucking accident, or accidental release of contaminants to surface water runoff into the Tilbury Slough. See Appendix 7: Risks of Malfunction and Accidents for further detail on the characterization of risk and potential effects. Federal Key Mitigation Measures for malfunctions and accidents are described in [Appendix 2](#).

### 26.3.3 Key Mitigation Measures for Migratory Birds

The EAO has identified federal Key Mitigation Measures to IAAC to reduce potential effects to migratory birds. These Key Mitigation Measures, including any recommendations from the EAO, are described in full in Appendix 2: Key Mitigation Measures and Follow-Up Programs under the IAA. In summary, Key Mitigation Measures were identified to avoid harming migratory birds or their nests or residences, identify the presence of migratory bird nests, delineate setback distances around nests and residences, and control lighting to mitigate attraction and disorientation.

### 26.3.4 EAO Analysis and Conclusion

Based on the predicted effects to migratory birds, which include consideration of the proposed Key Mitigation Measures, the EAO concludes that residual and cumulative adverse federal effects to migratory birds are not significant.

## 26.4 Federal Lands

### 26.4.1 Overview

The IAA requires an assessment of non-negligible adverse changes to the environment that would occur on federal lands. Examples of federal lands include Indigenous reserves or national parks.<sup>120</sup> The results of the EAO's effects assessments for valued components with the potential to affect federal lands (e.g. air quality, acoustic) have been used to assess effects to federal lands.

#### Residual Effects

No federal lands would be used to carry out Tilbury Phase 2 and the project is not located near First Nation land as defined in Section 2(1) of the *First Nation Land Management Act*. The nearest Indigenous reserve lands are identified in the proponent's Revised Application. The proponent noted that the largest RAA (Metro Vancouver) encompasses 1,892 federal parcels and the closest parcel is 150 metres to the southwest. Directly across the Fraser River from the proposed Project Footprint (approximately 900 metres north) is a complex of federally owned industrial parcels on Lulu Island. The British Columbia Supreme Court, in *Cowichan Tribes v. Canada (Attorney General)*, 2025 BCSC, declared that Quw'ustun Nation holds Aboriginal title to an area which includes this complex of federally owned industrial parcels, managed by the Vancouver Fraser Port Authority. The Court also declared that Canada's fee simple titles to these parcels are invalid. The declaration of invalidity regarding Canada's fee simple lands is suspended for 18 months from the date of the trial decision, August 7, 2025.<sup>121</sup>

There are no direct physical impacts such as vegetation clearing, grading, and other physical activities that would occur on federal lands. The valued components with geographic extents within the RAA that overlap with federal lands and with potential residual effects are air quality and acoustics. See [Appendix 6](#) - Section 17.1 and Air Quality and Section 17.2: Acoustics, for further detail on the characterization of potential effects.

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<sup>120</sup> See s.2(b) of the *Impact Assessment Act* for more detail on Federal Lands.

The court decision is currently under appeal, including by the provincial and federal governments, the City of Richmond, and First Nations.



### Air Quality

During construction, potential increases in criteria air contaminants (CACs) would be negligible to low in magnitude and localized to the Project Footprint. Effects during construction may extend to the LAA near local truck routes due to increased truck traffic. During operation, incremental contributions to negative air quality from the project would be negligible to low and may extend to the LAA.

After consideration of mitigation measures, emissions of sulphur dioxide, nitrogen dioxide, and other CACs are projected to remain low at the Project Footprint, though aggregate concentrations could increase due to existing ambient conditions and other present and future projects.

### Acoustics

The project's anticipated noise and vibration impacts are minimal, with effects limited to the LAA and considered negligible on federal lands. Overall, these impacts are expected to be minor and reversible, predicted with moderate to high confidence.

### Cumulative Effects

The potential for cumulative effects considered residual effects caused by Tilbury LNG Phase 2 in combination with the potential effects of other past, present, and reasonably foreseeable future projects, as described in [Appendix 6: Air Quality and Acoustics](#).

Cumulative effects from other physical activities and present and foreseeable projects are anticipated to overlap with federal lands within the RAA where the airshed has low resilience to increases in nitrogen dioxide, as well as a moderate to high resilience to increases in other criteria air contaminants. The cumulative effects to air quality from nitrogen dioxide are predicted as high in magnitude, and low to moderate for other criteria air contaminants. These characterizations vary depending on the modelling scenarios. The residual effects from the Project are predicted to be negligible to low in magnitude. The airshed may be able to absorb the small contributions from the Project to the cumulative concentrations, while noting the uncertainty in the cumulative air-quality results and differing modelled scenarios.

There is potential for cumulative effects of a low to moderate magnitude on the acoustic environment for adjacent federal lands given existing and foreseeable projects and moderate resilience to increases under ambient conditions. The Project's contribution to the acoustic cumulative effects on federal lands are predicted to be negligible to low in magnitude, reversible, and short term for construction and potentially long term for operations. The acoustic environment is not predicted to alter based on these negligible to low residual effects of the projects.

Given the negligible to low contribution of Tilbury Phase 2 to these conditions for both acoustics and air quality, the EAO concluded that it is not likely to result in significant adverse cumulative effects.

## 26.4.2 Malfunctions and Accidents

The EAO assessed the effects of potential malfunctions and accidents in Appendix 7: Risks of Malfunction and Accidents. Potential malfunctions and accidents that could result in effects to federal lands through air quality and acoustics include loss of containment of LNG without ignition and an emergency facility shutdown. Federal Key Mitigation Measures for malfunctions and accidents are described in Appendix 7.

### 26.4.3 Key Mitigation Measures for Federal Lands

The EAO has identified federal Key Mitigation Measures to IAAC to reduce potential effects to federal lands. These Key Mitigation Measures, and any recommendations from the EAO, are described in full in Appendix 2: Federal Key Mitigation Measures and Follow-up Programs Under the IAA. In summary, Key Mitigation Measures were identified through provincial and municipal mechanisms to reduce fugitive particulate and dust emissions, and other contaminants of potential concern including nitrogen dioxide, sulphur dioxide, and volatile organic compounds from construction and operation, including the use of Totally Enclosed Ground Flare technology to reduce air quality impacts and noise emissions. FortisBC also committed to implement contingency measures if ambient air quality monitoring for contaminants of potential concern attributable to the project exceed thresholds of the Canadian Council of ministers of the Environment's Canadian Ambient Air Quality Standards or Metro Vancouver's Ambient Air Quality Objectives, whichever is more protective of human health.

### 26.4.4 EAO Analysis and Conclusion

Given the negligible to low magnitude of anticipated effects to air quality and the minimal acoustic effects on federal lands, residual adverse effects on federal lands are not anticipated. The EAO concludes that residual and cumulative adverse federal effects on air quality and acoustic resources that would occur on federal lands are not significant.

## 26.5 Assessment of 2(e) and (f) Factors with Respect to the Indigenous Peoples of Canada

Sections 2(e) and (f) of the IAA require, with respect to the Indigenous peoples of Canada, an assessment of:

- non-negligible adverse impacts — occurring in Canada and resulting from any change to the environment — on the current use of lands and resources for traditional purposes and physical and cultural heritage (current use; CULRTP); and structures, sites or things of historical, archaeological, paleontological, or architectural significance (2(e)), and
- non-negligible adverse changes occurring in Canada on health, social or economic conditions (2(f)).

The EAO's assessment in this section draws on information provided in various sections of FortisBC's Revised Application, and from information provided by Indigenous Nations and the public. Due to the holistic nature of Indigenous culture, current use, and health and socioeconomic conditions, numerous connections are drawn between the two assessment factors. These connections are described in Section 26.5.2: Indigenous Peoples' Current Use of Lands and Resources for Traditional Purposes and Cultural Heritage, and Section 26.5.3: Health, Social, and Economic Conditions of Indigenous Peoples.

### 26.5.1 Assessment Methodology

Potential non-negligible adverse effects to Indigenous peoples were assessed for each individual Indigenous nation in [Appendix 5](#): Detailed Indigenous Nation Assessments. Information in this section builds upon the analysis conducted in Appendix 5 and [Appendix 6](#): Valued Component Assessments of this Report.

The following methodology was used to assess potential non-negligible adverse effects:

- 1) Context about the assessment factor is presented, to further describe the interconnected nature of Indigenous values and draw connections to other VC sections.
- 2) Subcomponents of the assessment factor are identified:
  - a) Potential effects and effect pathways on the subcomponent are identified.
  - b) The potential effects on the subcomponent are characterized.
- 3) Potential effects of malfunctions and accidents on the assessment factor are identified.
- 4) GBA Plus considerations for the assessment factor are outlined.

- 5) Potential cumulative effects on the assessment factor are identified.
- 6) Federal Key Mitigation Measures and Follow-Up Programs as they relate to the assessment factor are considered.
- 7) Conclusions on the significance of potential non-negligible adverse effects to the assessment factor are presented.

#### Identification and Characterization of Effects and Effect Pathways

As described in Section 26.1: Overview, the assessment of adverse federal effects considers non-negligible adverse residual effects following the implementation of mitigation measures. Therefore, potential effects and effect pathways that are considered to be negligible following the implementation of standard mitigation measures are not included. Further information on standard mitigation measures is included in the [Appendix A](#) Mitigation Table of the Revised Application

Non-negligible adverse effects on CULRTP and cultural heritage; and health, social and economic conditions of Indigenous peoples are characterized using terminology described in Section 26.5. In the context of assessing impacts to Indigenous interests, additional criteria must be considered when characterizing effects. These include the degree to which the effects will impact the ability of an Indigenous nation to continue customs, traditions, and practices that are integral to the group's distinct culture; whether the effects of the project will affect the community's ability and systems for self-governance and self-determination; and the effects of the project on sub-populations of a community (including women, Elders, youth, Two-Spirit individuals, and others).

#### Malfunctions and Accidents

A detailed assessment of malfunctions and accidents as they relate to Indigenous interests is included in [Appendix Z](#).

#### Characterization of Significance

As described in Section 26.1.5: Assessment of Effects Within Federal Jurisdiction, this Report characterizes whether adverse federal effects, including cumulative effects, are likely to be to some extent significant, and if so, to what extent.

### 26.5.2 Indigenous Peoples' Current Use of Lands and Resources for Traditional Purposes and Cultural Heritage

Section 2(e) of the IAA requires the assessment of non-negligible adverse effects – occurring in Canada and resulting from any change to the environment – on the current use of lands and resources for traditional purposes, and physical and cultural heritage, including any structure, site or thing that is of historical, archaeological, paleontological, or architectural significance (collectively considered as Cultural Heritage for the purposes of this assessment) as they relate to Indigenous peoples. This section assesses these potential effects from the Project.

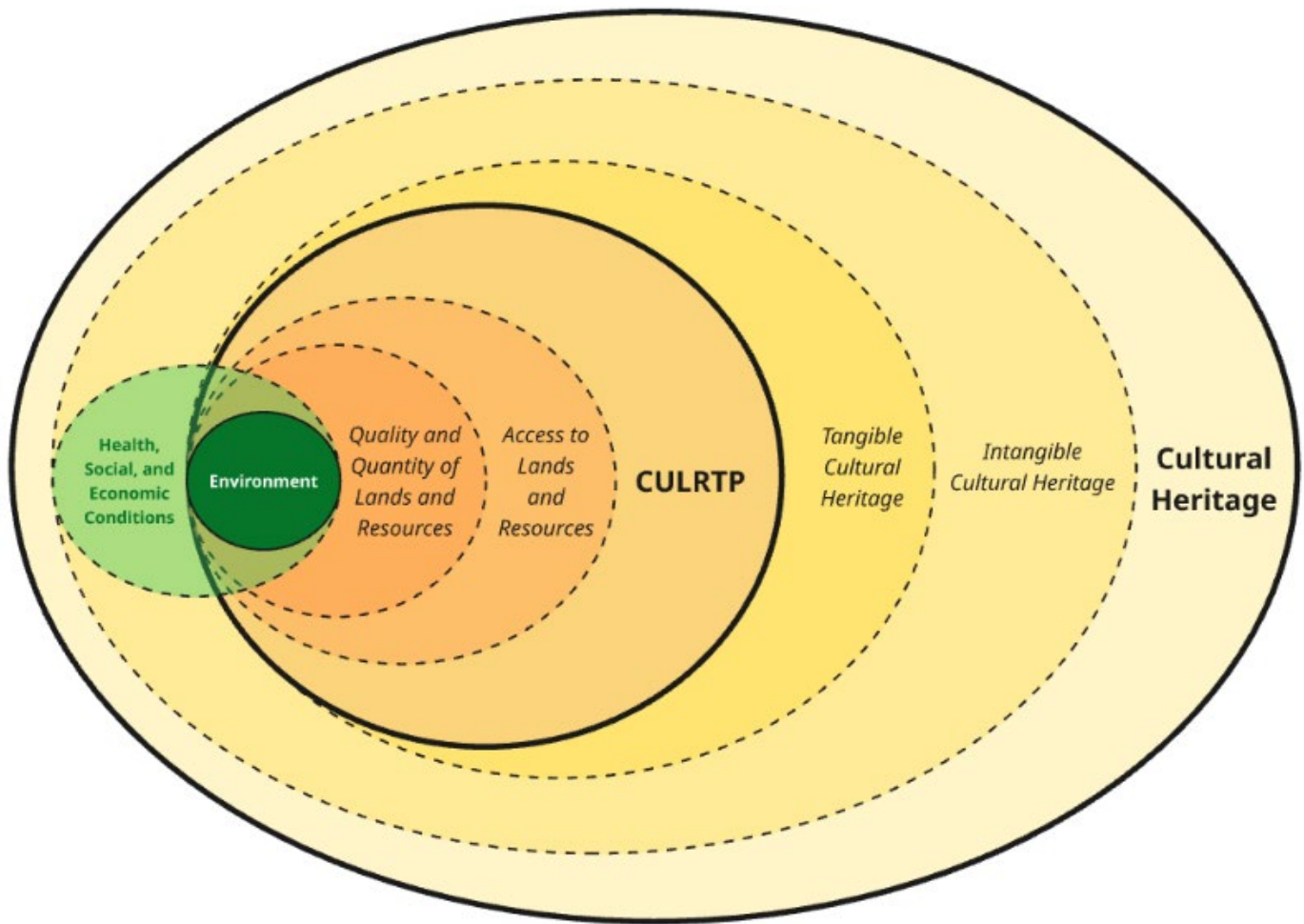


Figure 15: The Nested Circle Methodological Approach to Assessing Effects to CULRTP and Cultural Heritage

As illustrated in Figure 15, the assessment of CULRTP (Section 26.5.1) includes the analysis of two subcomponents: (1) quality and quantity of lands and resources and (2) access to lands and resources. The assessment of cultural heritage (Section 26.5.3.1) includes the analysis of two subcomponents: (1) tangible cultural heritage and (2) intangible cultural heritage; and the consideration of health, social, and economic conditions (Section 26.5.4). The figure further illustrates the ways in which subcomponents (CULRTP and cultural heritage) and their sub-factors are interrelated. These interrelations illustrate the foundational importance of the environment to Indigenous peoples' current use of lands and resources and cultural heritage.

### 26.5.3 Changes to Current Use of Lands and Resources for Traditional Purposes - IAA 2(e)(ii)

This section assesses the potential effects of the Project, with respect to Indigenous peoples, on current use of lands and resources for traditional purposes. CULRTP includes current use by Indigenous peoples, uses that are likely to occur in the reasonably foreseeable future and uses that may have ceased due to external factors.

CULRTP includes activities such as the harvesting of resources (including hunting, trapping, fishing, and gathering), accessing and inhabiting the land (including use of trails and travelways and connections), and preferred uses of lands and resources. CULRTP may have tangible values (e.g. wildlife species or traditional plants) and/or intangible values (e.g. ability to experience quiet enjoyment on the land, knowledge transmission, and community gathering).

In the assessment of CULRTP, the EAO organized data according to two identified subcomponents:

- Quality and quantity of resources; and
- Access to lands and resources for traditional purposes.

#### Quantity and Quality of Lands and Resources

The ability to harvest resources is a fundamental component of CULRTP. Changes in the quantity and quality of lands and resources may result in changes to harvesting activities, ability to access locations used for CULRTP, cultural heritage, and well-being. For affected Indigenous Nations, hunting, harvesting, and fishing are culturally important and communal activities where members experience the land and share intergenerational knowledge. The quantity and quality of resources is therefore important to the ability of Indigenous nations to engage in land-based practices and maintain cultural continuity. Potential impact to Indigenous peoples in proximity to the project area include effects to rights to harvest, hunt, and fish for food, social and ceremonial purposes, as described in [Appendix 5: Detailed Indigenous Nation Assessments](#).

The assessment of potential effects to the quality and quantity of resources has been subdivided into the two sub-factors outlined below: A) Species of Importance, and B) Vegetation and plant harvesting resources.

#### *(A) Species of Importance*

The assessment of potential effects from changes to the environment on species of importance considers potential effects on birds and fish resources. While noting that Tilbury Phase 2 activities will be occurring on the existing Tilbury Plant, consideration of these effects reflects the desire expressed by nations including Cheam First Nation, Kw'ikw'əłəm, Kwantlen First Nation, x'w'məθk'əyám (Musqueam Indian Band), Quw'utsun Nation, Snuneymuxw First Nation, the S'ólh Téméxw Stewardship Alliance, S'ÁUTW First Nation, Tsawwassen First Nation, and Tsleil-Waututh Nation to protect culturally important species (including but not limited to: salmon, sturgeon, eulachon, mallard, geese, and deer) and restart harvesting in the future.

The following table provides a summary of how Tilbury Phase 2 activities may result in potential effects to the quantity and quality of species of importance via the key effect pathways.

Table 82: Potential Project Effect Pathways on Quantity and Quality of Species of Importance

| Relevant Phase(s)                               | Effect Pathway                                                                                                                                                                                                                                             | Effect from change to the environment                                                                                                                                                                   |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Construction, Operation, Decommissioning</b> | Transportation of equipment and materials may result in a decrease of stormwater quality, including an increased seepage of run-off from tires (containing 6-PPD quinone) into waterways resulting in a decrease of fish health and the marine environment | Reduction in fish habitat quality, increased risk to fish health and mortality (especially salmonoids like coho and chinook salmon and steel head trout) and changes in fish distribution and abundance |
| <b>Operation</b>                                | Project emissions (air contaminants, dust, noise, and vibration) may result in deposition of air contaminants into waterways                                                                                                                               | Reduction in fish habitat quality, increased risk to fish health and mortality and changes in fish distribution and abundance                                                                           |
| <b>Construction, Operation</b>                  | Upland construction and operation generating underwater noise which may affect fish health                                                                                                                                                                 | Reduction in fish habitat quality, increased risk to fish health and mortality, and changes in fish distribution and abundance                                                                          |

#### *(B) Vegetation and plant harvesting resources*

The assessment of potential effects from changes to the environment on vegetation and plant harvesting resources considers potential effects on culturally important vegetation.

While noting that Tilbury Phase 2 activities will be occurring on the existing Tilbury Plant, consideration of these effects reflects the desire expressed by *kʷikʷəłəm*, Kwantlen First Nation, *xʷməθkʷəyəm* (Musqueam Indian Band), Quw'utsun Nation, Snuneymuxw First Nation, the S'ólh Téméxw Stewardship Alliance, *SʔÁUTW* First Nation, Tsawwassen First Nation, Tsleil-Waututh Nation, and Ts'uubaa-asatx Nation to protect culturally important vegetation (including but not limited to: wapato, salal, cranberries and blueberries, cattails, and crab apple) and restart harvesting in the future.

The following table provides a summary of how Tilbury Phase 2 activities may result in potential effects to the quantity and quality of vegetation and plant harvesting resources via the key effect pathways.

Table 83: Potential Project Effect Pathways on Vegetation and Plant Harvesting Resources

| Relevant Phase(s)       | Effect Pathway                                                                                                                                                                  | Effect from change to the environment                                                                    |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Construction, Operation | Project emissions (air contaminants, dust, noise, and vibration) may result in deposition of air contaminants into soil resulting in a decrease in terrestrial ecosystem health | Reduction in quality of vegetation and plant harvesting resources including culturally important species |

The changes in the quality and quantity of lands and resources can change the experience and preferences regarding the practice of harvesting rights and potential effects on the quality, quantity, and availability of resources for Indigenous nations. These changes can also affect harvesting methods and practices (such as timing and seasonality of such methods and practices).

#### Access to Lands and Resources for Traditional Purposes

To engage in current and future use activities, Indigenous peoples must have access to preferred areas associated with traditional practices. Preferred areas often include important locations such as hunting grounds, trapping routes, fishing sites, and key gathering areas. Preferred areas also include sites and locations necessary for intangible elements of current use such as knowledge transmission and spiritual, ceremonial, and cultural practices (e.g., historic camp sites, key gathering sites, and teaching locations). Loss of access to preferred areas may directly affect the ability of Indigenous peoples to engage in current and future use activities. As discussed in Appendix 6 - Land and Resource Use, many Indigenous nations raised concerns about the potential effects of the Project on their access to the site, or areas close to the site for harvesting and cultural practices. Loss of access to preferred areas is further connected to cultural heritage (Section 26.5.3.1), and the Health, Social, and Economic Conditions of Indigenous Peoples (Section 26.5.4).

It is important to note that access to preferred areas is directly connected to the quality and quantity of resources necessary for current use activities in that area (see Table 84). Perceived risk, such as the perceived risk of contaminated resources or community safety, may also result in avoidance of lands and resources. While studies may indicate no biophysical effect to the lands and resources, social avoidance due to perceived risk constitutes a potential effect. This nuance is further discussed in Section 26.5.4 Health, Social, and Economic Conditions.

The following table provides a summary of how Tilbury Phase 2 activities may result in potential effects to accessing lands and resources for traditional purposes, via the key effect pathways. The table also identifies key CULRTP sites within or close to assessment boundaries.



Table 84: Potential Project Effect Pathways on Access to Lands and Resources for Traditional Purposes

| Relevant Phase(s)                        | Effect Pathway                                                                                                                                                                    | Effect                                                                                                                    | Key CULRTP Sites                                                                                                                                                                                                                                                                                                |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction, Operation, Decommissioning | Discharge of project emissions (air contaminants, dust, noise, and vibration) may result in perceived reduction in the quality of lands and resources necessary to support CULRTP | Actual, functional and/or perceived loss in the ability to access lands and resources necessary to support desired CULRTP | <ul style="list-style-type: none"> <li>Historic Indigenous Village Site<sup>122</sup></li> <li>Historic Ts'uubaa-asatx Nation fishing camp</li> <li>Storied Places, habitation sites, place names, and archaeological sites along the south arm of the Fraser River, Tilbury Island, and Lulu Island</li> </ul> |
|                                          | Sensory disturbance due to dust, noise, vibration, and light resulting in a reduced quality of experience while engaged in the CULRTP                                             |                                                                                                                           |                                                                                                                                                                                                                                                                                                                 |
|                                          | Transportation of equipment and materials may result in increased seepage run-off from tires, resulting in a reduction in the quantity and quality of fish and marine resources   | Functional and/or perceived loss in the ability to access lands and resources necessary to support desired CULRTP         |                                                                                                                                                                                                                                                                                                                 |

### 26.5.3.1 Changes to Cultural Heritage – IAA 2e(i) and 2e(iii)

This section assesses the potential adverse impacts of Tilbury Phase 2 on Indigenous cultural heritage. Cultural heritage includes consideration of both factors IAA 2(e)(i) physical and cultural heritage, and 2(e)(iii) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance. Appendix 5 includes further discussion of cultural heritage for Indigenous nations.

Cultural heritage is holistic in nature and includes physical, emotional, mental, kinship and spiritual components. All elements of cultural heritage are considered valued due to cultural importance and meaning, and their connection to shared memory and collective identity. The assessment of potential effects to cultural heritage has been divided into two subfactors: (1) tangible cultural heritage and (2) intangible cultural heritage.

Physical and cultural heritage, as described by the IAA, includes both tangible and intangible elements. Tangible elements may include specific places or sites necessary to support culture, identity, and the CULRTP; as well as items or objects that are important for sustaining cultural heritage practices such as teaching, ceremony, or spirituality. Intangible elements may include knowledge systems, the transmission of knowledge, beliefs, values, practices, stories, songs, language, laws, and traditions. These elements are not tied to a specific place or item; however, they remain integral to the continuation and resurgence of Indigenous culture.

Comparatively, the assessment of any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, as described under the IAA, includes only tangible elements, for example locations such as burial grounds, historic settlements and camps, and travelways; and items such as pottery, stoneware, tools, and culturally modified trees.

As a result of these distinctions, conclusions to IAA factor 2(e)(iii) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance will be informed by the identified effects and effect pathways to tangible culture. Accordingly, conclusions to IAA factor 2(e)(i) physical and cultural heritage will be informed by the identified effects and effect pathways to both tangible culture heritage as well as intangible cultural heritage.

Potential effects to tangible and intangible cultural heritage are qualitatively evaluated based on descriptors of changes related to valued components.

See Section 3.1 for naming and jurisdictional context regarding the Historic Indigenous Village Site.



### Tangible Cultural Heritage

As described above, tangible cultural heritage includes any structure, site, or thing that is of historical, archaeological, paleontological or architectural significance, as well as some elements of physical and cultural heritage. Sites and structures of significance include mappable locations that are of cultural importance, including those related to the historic use of lands and resources, archaeological sites, and palaeontological sites. Items of significance include artifacts and features that have cultural value such as palaeontological and architectural resources.

Tangible elements of physical and cultural heritage are similar and may include areas and items necessary for practices such as ceremony, spirituality, or knowledge transmission, among others. These land-based practices require a certain quality of sensory conditions to facilitate a spiritual connection to the land. These conditions may include solitude, quiet, and a lack of sensory disruption. Changes and barriers to these conditions and the ability to participate in quiet enjoyment on the land therefore represent potential effects to cultural heritage.

As CULRTP is discussed in Section 26.5.1, this section focuses on potential project effects on archaeological sites, palaeontological sites, and items of cultural significance, as well as potential effects to the conditions necessary to support a spiritual connection to the land.

The following table provides a summary of how project activities may result in non-negligible adverse effects to tangible cultural heritage.

Table 85: Effects Pathways on Tangible Cultural Heritage

| Relevant Phase(s)                        | Effect Pathway                                                                                                                                                                                                       | Effect                                                              |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Construction                             | Site preparation, ground disturbance, and infrastructure development may result in the destruction of artifacts/features of cultural heritage significance                                                           | Direct loss of artifacts/features of cultural heritage significance |
| Construction, Operation, Decommissioning | Discharge of project emissions (air contaminants, dust, noise, and vibration) may result in increased sensory disturbance resulting in a reduced quality of experience, and avoidance of, sites of cultural heritage | Loss of desired access to sites of tangible cultural heritage       |

### Intangible Cultural Heritage

In contrast to tangible cultural heritage, intangible cultural heritage includes elements of physical and cultural heritage that cannot be seen or touched. Intangible cultural heritage is broadly understood as living heritage and is carried forward from generation to generation through the transmission of knowledge, beliefs, and values. Intangible cultural heritage can also be understood as the ability to preserve the historical traditions of culture and to carry them forward into the future in a desired way. This concept is closely tied to cultural identity and is related to the current and future use of lands and resources for traditional purposes (Section 26.5.3), and health, social and economic conditions (Section 26.5.4). The assessment of potential project effects on intangible cultural heritage therefore considers the potential effects to CULRTP, access to sites and items of cultural heritage, consideration of intangible facets such as knowledge transmission, ceremony, spirituality, and governance, stewardship obligations, self-determination, food sovereignty, and the consideration of health, social, and economic conditions.

As potential effects to CULRTP (Section 26.5.1), tangible cultural heritage (Section 26.5.3.1) and health, social and economic conditions (Section 26.5.4) are assessed elsewhere in this appendix, only the overall conclusions are brought forward and considered in the characterization of significance for potential effects to intangible cultural heritage. This section focuses on potential project effect pathways leading to effects to stewardship and governance.

The concept of stewardship and governance relates to the ability of Indigenous nations to self-determine and self-govern. This includes the ability of an Indigenous nation's government to ensure the safety, security, stability, and prosperity of their communities. More broadly, stewardship and governance relate to the practices and systems by which Indigenous peoples are able to manage their lands, resources, and communities.

Stewardship and governance over lands, resources, and communities therefore include the ability to make decisions concerning land use, the ability to engage in and maintain real and desired cultural practices, the ability to maintain cultural identity, the transmission of knowledge, and maintaining and ensuring health, social, and economic conditions.

The following table provides a summary of how project activities may result in non-negligible adverse effects to intangible cultural heritage via the identified effect pathways.

Table 86: Effects Pathways on Intangible Cultural Heritage

| Relevant Phase(s)                        | Effect Pathway                                                                                                                                                                                                                                                                   | Effect                                                                                                                                     |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Construction, Decommissioning            | Transportation of project equipment and materials may result in increased discharge of project emissions (air contaminants, dust, noise, and vibration) that reduce the perceived quantity and quality of culturally important species                                           | Loss of the ability to engage in and maintain desired cultural practices                                                                   |
|                                          |                                                                                                                                                                                                                                                                                  | Loss of the ability to maintain food systems and restore harvesting practices                                                              |
| Construction, Operation, Decommissioning | Discharge of project emissions (air contaminants, dust, noise, and vibration) as well as light and visual disturbances, that may result in a reduction in the quantity and quality of culturally important species resulting in a loss of existing and desired cultural practice | Loss of the ability to engage in and maintain desired cultural practices                                                                   |
|                                          |                                                                                                                                                                                                                                                                                  | Loss of the ability to maintain food systems and restore harvesting practices                                                              |
|                                          | Discharge of project emissions (dust, noise, and vibration) may result in a change to the sensory conditions that are necessary to support CULRTP, resulting in a loss of existing and desired cultural practices                                                                | Loss of the ability to engage in and maintain desired cultural practices                                                                   |
|                                          |                                                                                                                                                                                                                                                                                  | Loss of the ability to maintain cultural identity                                                                                          |
|                                          | Discharge of project emissions (air contaminants) may result in an increase in acute/chronic health effects                                                                                                                                                                      | Loss of the ability to maintain and ensure health, social, and economic conditions                                                         |
| Operation                                | Discharge of project emissions (air contaminants, dust, noise, and vibration) may result in a reduction in mental health due to real and perceived changes to CULRTP                                                                                                             | Loss of the ability to maintain and ensure health, social, and economic conditions                                                         |
|                                          |                                                                                                                                                                                                                                                                                  | Loss of the ability to maintain and ensure health, social, and economic conditions                                                         |
|                                          | Reduced mental health and increased community distress due to real and perceived concerns around climate change                                                                                                                                                                  | Loss of the ability to maintain and ensure health, social, and economic conditions                                                         |
|                                          |                                                                                                                                                                                                                                                                                  | Loss of intergenerational well-being and the ability to make decisions concerning cultural resurgence                                      |
|                                          | Reduced self-governance over matters of governance such as climate change resulting in reduced ability to make decisions concerning land use                                                                                                                                     | Loss of the ability or the delaying in ability to make decisions concerning land use, conduct stewardship planning and cultural resurgence |

| Relevant Phase(s)                        | Effect Pathway                                                                                                                          | Effect                                                                   |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Construction, Operation, Decommissioning | Inability to make decisions about the use of traditional territories and the inability to pursue desired use of traditional territories | Loss of the ability to engage in and maintain desired cultural practices |
|                                          |                                                                                                                                         | Loss of the ability to maintain cultural identity                        |
|                                          |                                                                                                                                         | Loss of the ability to make decisions concerning land use                |

### 26.5.3.2 Malfunctions and Accidents

The EAO assessed the effects of potential malfunctions and accidents on Indigenous peoples' CULRTP and cultural heritage in [Appendix 7](#). Potential risks (likelihood x consequence) of malfunctions and accidents related to cultural heritage are outlined in Table 87 below. Federal Key Mitigation Measures for malfunctions and accidents are summarized in Appendix 7 and described in full in [Appendix 2](#). All scenarios in Table 87 have a likelihood of rare to remote.

Table 87: Potential Risks of Malfunctions and Accidents for CULRTP and Cultural Heritage

| Accident/Malfunction Scenario               | CULRTP                            |        | Cultural Heritage |            |
|---------------------------------------------|-----------------------------------|--------|-------------------|------------|
|                                             | Quality and quantity of resources | Access | Tangible          | Intangible |
| Fire or Explosion                           | Medium                            | Medium | Low to Medium     | Medium     |
| Loss of Containment of LNG without Ignition | Low                               | Low    | Low               | Low        |
| Hazardous Material Release                  | Low                               | Low    | Low               | Low        |
| Terrestrial Vehicle Collision               | Low                               | Low    | Low               | Low        |
| Emergency Facility Shutdown                 | Low                               | Low    | Low               | Low        |

### 26.5.3.3 GBA Plus Considerations

The Project has the potential to cause disproportionate adverse federal effects to Indigenous women, girls, 2SLGBTQI+ people, Elders, and youth with respect to CULRTP and cultural heritage. The following describes the disproportionate effects and provides a characterization of those effects.

- Sensory disturbances may be experienced disproportionately by Indigenous peoples, particularly those with greater sensory sensitivity, participating in cultural heritage practices or when accessing cultural heritage sites.
- Due to potential increases in perceived risk when accessing sites of significance, Indigenous Elders and women may have fewer chances to participate in CULRTP and cultural heritage practices.
- Indigenous youth may disproportionately experience the impacts of diminished intergenerational transfer of knowledge, language, and cultural skills, as they may face reduced opportunities to engage in practices upheld by previous generations.

#### 26.5.3.4 Cumulative Effects

The assessment of potential cumulative effects in the area is analyzed throughout [Appendix 5](#) and [Appendix 6](#). A list of past, present, and reasonably foreseeable future projects and activities in the region is provided in [Section 2.4.5](#). Multiple Indigenous nations emphasized the importance of accounting for the long-term alteration and degradation of the area in which the project is located when assessing cumulative effects. The following list identifies potential cumulative effects on CULRTP and cultural heritage:

- Potential for cumulative effects from emissions and sensory disturbances from air quality, noise, vibration, and visual quality which may have a direct impact on perceived experiences when participating in cultural heritage practice or use of cultural heritage sites.
- Potential for cumulative effects from a reduction in or loss of quality and quantity of lands and resources and culturally important species which may have a direct impact on intergenerational knowledge, cultural transmission, cultural continuation, and food sovereignty.
- Potential for avoidance of the project area and areas associated with past, present, and reasonably foreseeable projects which may have a direct impact on access to cultural use sites.
- Potential for cumulative effects from a reduction in or loss of access disrupting intergenerational knowledge and cultural transmission, connection to place, and Indigenous cultural traditions, laws, and governance systems.
- Potential for cumulative effects from the above effects may impact the future governance and stewardship aspirations of Indigenous nations, such as habitat and wildlife restoration enabling the revitalization of cultural and spiritual traditions and harvesting practice.

#### 26.5.3.5 Key Mitigation Measures and Follow-Up Programs

The federal Key Mitigation Measures to reduce potential effects of the Project on CULRTP and cultural heritage are described in full in [Appendix 2](#): Key Mitigation Measures and Follow-Up Programs under the IAA. In summary:

- Develop and implement measures to prevent or mitigate impacts to sensory conditions including noise, odour, vibration, and visual landscape. Measures include controlling project lighting while meeting health and safety requirements, enclosing all compressors in sealed structures during operation to reduce noise, and a community feedback protocol to respond to noise complaints in a timely manner.
  - Relevant effect pathways and non-negligible adverse effects: sensory disturbance due to dust, noise, vibration, and light resulting in a reduced quality of experience while engaged in the CULRTP, avoidance of sites of cultural heritage, loss of existing and desired cultural practice from reduction in the quantity and quality of culturally important species and reduction in aquatic habitat from underwater noise.
  - Other relevant non-negligible adverse effects: disconnection from lands, enjoyment of lands, maintenance of food systems and restoring harvesting practices.
- Develop and implement measures to prevent or mitigate impacts to health from air quality, such as air contaminants in the airshed or deposition into waterways or soil. Measures include a vehicle idle reduction policy, routine inspections and maintenance of engines and exhaust systems on all mobile equipment and vehicles, measures to reduce fugitive dust by applying suppressants, minimize the quantity of vented and flared gas and duration of flaring events, and enclose all compressors in sealed structures during operation to reduce air emissions.
  - Relevant effect pathways: air pollution (CACs including NO<sub>2</sub>, SO<sub>2</sub>, PM, and VOCs), terrestrial and aquatic ecosystem health from potentially contaminated surface water.

- Relevant non-negligible adverse effects: disconnection from lands, enjoyment of lands, effect to water viable to wildlife and fish habitat.
- Develop and implement measures to prevent or mitigate impacts to surface water, such as seepage from vehicles resulting in reduction of aquatic habitat and fish distribution and abundance, and loss of access to lands and CULTRP. Measures include implementing measures to control erosion, sedimentation and runoff within the Project area, and collecting and treating, as necessary, any water discharges and contact water generated from site preparation activities.
  - Relevant effect pathways: aquatic ecosystem health from potentially contaminated surface water.
  - Relevant non-negligible adverse effects: loss of access to lands and CULTRP, effect to wildlife and fish habitat and water viable to those species.

Due to the holistic nature of CULRTP and cultural heritage, mitigation measures and follow-up programs designed to reduce potential effects to the valued components such as fish and migratory birds will also serve to reduce the potential for adverse federal effects and serve as additional protections to CULRTP and cultural heritage more broadly, even when a specific adverse effect to CULRTP or cultural heritage is not identified.

### 26.5.3.6 Residual Effects Characterization for Indigenous Peoples' Current Use of Lands and Resources for Traditional Purposes and Cultural Heritage

The following table provides a characterization of potential adverse federal effects to current use (IAA 2(e)(ii)) and cultural heritage (IAA 2(e)(i) and 2(e)(iii)). The characterizations are based on the information provided in Section 26.5.3 and the methodology described in [Appendix 3](#): Residual Effects Characterization Definitions. These characterizations take into account the application of the Key Mitigation Measures and Follow-up Programs described above.

Table 88: Summary of Residual Effects Characterization for Indigenous Peoples' Current Use of Lands and Resources for Traditional Purposes and Cultural Heritage

| Residual Effects Characterization <sup>123</sup> | Current Use                                 |                                                        | Cultural Heritage          |                              |
|--------------------------------------------------|---------------------------------------------|--------------------------------------------------------|----------------------------|------------------------------|
|                                                  | Quantity and Quality of Lands and Resources | Access to Lands and Resources for Traditional Purposes | Tangible Cultural Heritage | Intangible Cultural Heritage |
| Magnitude                                        | Low                                         | Low                                                    | Negligible to low          | Low                          |
| Duration                                         | Medium-term                                 | Medium-term                                            | Long-term                  | Long-term                    |
| Frequency                                        | Irregular                                   | Regular/Continuous                                     | Continuous                 | Continuous                   |
| Reversibility                                    | Partially reversible                        | Partially reversible                                   | Reversible                 | Irreversible                 |
| Risk                                             | Low                                         | Low                                                    | Low-to-Moderate            | Moderate                     |
| Uncertainty                                      | Moderate                                    | Moderate                                               | Moderate                   | High                         |
| Importance                                       | High                                        | High                                                   | High                       | High                         |

For further detail on the residual effects characterization, see [Appendix 3](#): Residual Effects Characterization Definition.

### 26.5.3.7 EAO Conclusions on Indigenous Peoples' Current Use of Lands and Resources for Traditional Purposes and Cultural Heritage

As described in Section 26.1: Overview, the Report concludes as to whether adverse federal effects, including cumulative effects, are likely to be to some extent significant, and if so, to what extent. The criteria for characterizing extent of significance for non-negligible adverse federal effects are defined in Section 26.1.3: Assessing Effects Within Federal Jurisdiction.

Based on the predicted effects to Indigenous peoples' current use of lands and resources for traditional purposes (Section 2(e)(ii) of the IAA), the EAO concludes that residual effects are significant to a low extent, and cumulative effects are significant to a low extent.

Based on the predicted effects to Indigenous peoples' physical and cultural heritage (tangible and intangible cultural heritage) (Section 2(e)(i)), the EAO concludes that residual effects are not significant. Given the status of the receiving environment, the cumulative effects are significant to a low extent.

Based on the predicted effects to any structure, site or thing that is of historical, archaeological, paleontological or architectural significance (tangible cultural heritage; Section 2(e)(iii)), the EAO concludes that residual and cumulative adverse federal effects are not significant.

Tsleil-Waututh Nation disagreed with the EAO's conclusion that the effects to CULTRP are not significant and expressed concerns about how the Project would hinder its stewardship obligations, self-determination, food sovereignty, and ability to govern in accordance with its laws. Tsleil-Waututh Nation furthermore views effects of the Project as undermining its intangible cultural heritage by interfering with its ability to exercise stewardship and self-determination towards cultural resurgence, climate governance, and intergenerational well-being.

### 26.5.4 Health, Social or Economic Conditions of the Indigenous Peoples of Canada

Section 2(f) of the IAA requires the assessment of non-negligible adverse changes to the health, social, or economic conditions of the Indigenous peoples of Canada.

As worker health is assessed in [Section 17.14: Human Health](#), this section focuses on Indigenous health outside of the workplace. This includes the health of community members living and using the land outside of the Project Footprint, community health, and health impacts associated with CULTRP.

For this Project, the spatial assessment boundaries for the Human Health VCs are defined differently for the social (including population health) and the environmental determinants of health. For social determinants of health, this includes the LAA and RAA boundaries of Metro Vancouver, which includes 21 municipalities, First Nation reserves, and Tsawwassen First Nation Treaty lands. The spatial boundary for environmental determinants of health includes the LAA boundaries of the VCs that may affect human health including Air Quality, Acoustic, Soil<sup>124</sup>, Country Foods<sup>125</sup>, Surface Water and Groundwater Quality. This spatial boundary also includes the RAA boundaries for VCs that may have indirect or cumulative impacts to human health from the Project including Air Quality, Acoustic, Soil, Country Foods<sup>125</sup>, Surface Water and Groundwater Quality.

Information from across valued components and Detailed Indigenous Nation Assessments was gathered and synthesized to assess these potential non-negligible adverse changes to Indigenous health and well-being according to a holistic framework in Figure 16.

<sup>124</sup> The temporal boundaries for Soil include the Construction (3-6 years), Operation (40 plus years), and Decommissioning (two years) phases of the Project.

The LAA for Country Foods Quality is the combined LAAs for the Vegetation, Fish and Fish Habitat, and Wildlife and Wildlife Habitat VCs.



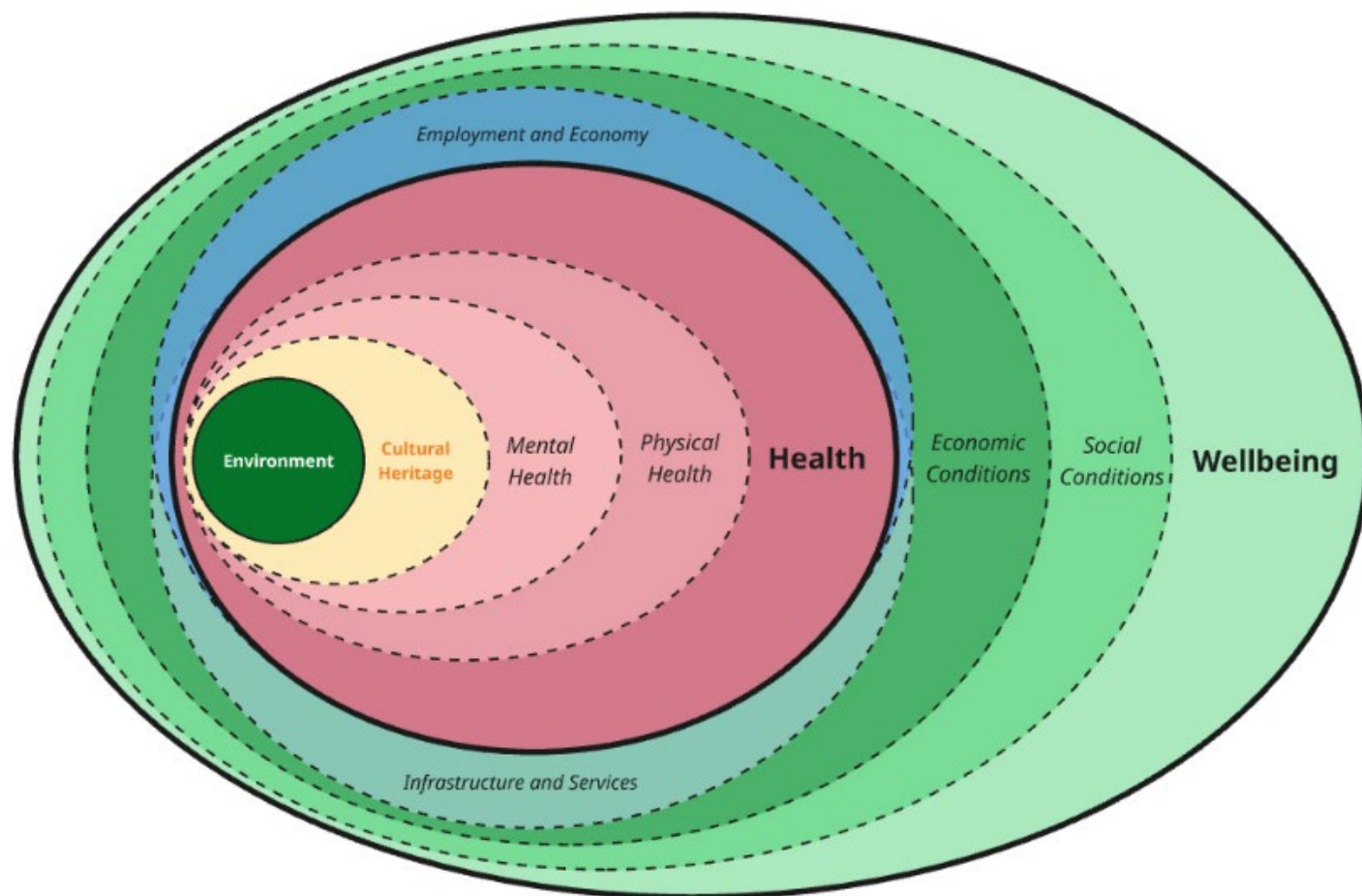


Figure 16: The Nested Circle Methodological Approach to Assessing Effects to the Health, Social, or Economic Conditions of Indigenous Peoples

As illustrated in Figure 16, the assessment of health, social and economic conditions of Indigenous peoples (Section 26.5.4) includes the analysis of two subcomponents: (1) health and (2) Indigenous well-being. The assessment of health ([Appendix 6, Section 14.12](#)) includes the analysis of potential effects to mental health and physical health, and the consideration of potential effects to cultural heritage (Section 26.5.3.1). The assessment of Indigenous well-being includes the analysis of potential effects to infrastructures and services, employment and economy, economic conditions, and social conditions, and the consideration of potential effects to health. Like Figure 16, this diagram illustrates the foundational importance of the environment to the health, social, and economic conditions of Indigenous peoples.

The assessment of potential effects to Indigenous health, social, and economic conditions necessitates a comprehensive approach that honors and integrates Indigenous Knowledge, values, and traditions. Health, social, and economic conditions are holistic, encompassing spiritual, environmental, cultural, and community dimensions. This perspective underscores the interconnectedness of all aspects of life.

As such, the assessment of potential adverse health, social, and economic effects of a project on Indigenous peoples must include consideration of both biophysical changes, as well as the broader social and economic environments in which people exist. Potential effects must be considered at both a community and Nation-level (e.g., political and economic shifts, and structural factors) and changes occurring at a more individual level (e.g., living, working, and material conditions).



As it relates to Indigenous nations, it is important to recognize the ways in which factors such as the quantity, quality, and access to land, and impacts of colonization intersect with determinants of health, social, and economic conditions in ways that are distinct from non-Indigenous peoples. As such, Indigenous determinants of health often emphasize the interconnections between the land and the spiritual and cultural determinants of health, social, and economic well-being.

In assessing potential effects of the Project on the health, social, and economic conditions of Indigenous peoples, the EAO has considered potential non-negligible adverse changes associated with physical and mental health, employment, the local economy, infrastructure, and community services. Where available, quantifiable information such as economics, employment standards, and census data has been used as a foundation on which conclusions are drawn.

#### **26.5.4.1 Physical and Mental Health Conditions**

The assessment of potential effects on Indigenous physical and mental health considers biophysical changes, such as air quality impacts and mental health related factors, including the ability to carry out CULRTP. Changes in air quality and land use can affect well-being and real or perceived risks associated with being on the land, contributing to cumulative health impacts. Because mental and physical health are closely linked, shifts in mental health may lead to behavioural changes that directly influence physical health outcomes.

Findings from Indigenous Well-being (Section 26.5.4.2) should be considered alongside potential impacts on Indigenous physical and mental health, with cumulative interactions discussed further in Section 26.5.4.5 (Cumulative Effects).

##### **Effect Pathways**

The following table provides a summary of how Project activities may result in potential effects to the physical and mental health conditions of Indigenous peoples, via the key effect pathways identified.

Table 89: Potential Project Effect Pathways on Health and Mental Health

| Relevant Phase(s)                    | Effect Pathway                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Effect                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Construction, Decommissioning</b> | Increased dust generation, diesel particulate matter (DPM) (e.g. excavation, heavy equipment operation, and truck deliveries) resulting in reduction in air quality within the Project Footprint                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Potential acute or chronic negative health effects, such as respiratory irritation or the exacerbation of existing respiratory or other health conditions (e.g., cardiovascular symptoms or irritation related effects)                                                                                                                                                                                                  |
| <b>Operation</b>                     | <p>Decreased air quality due to upset conditions and flaring resulting in elevated NO<sub>2</sub> and SO<sub>2</sub> emissions extending beyond the Project Footprint to areas of close proximity</p> <p>Reduced air quality during project Operation due to emissions of COPCs:</p> <ul style="list-style-type: none"> <li>• NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and VOCs: Generated or emitted beyond the Project Footprint to areas of close proximity</li> <li>• DPM: From diesel-powered equipment and vehicles within the Project Footprint</li> <li>• Deposition on land and water: NO<sub>2</sub> and SO<sub>2</sub> settling onto soil and water in the LAA</li> </ul> | <p>Potential increase in the prevalence and/or severity of respiratory symptoms and conditions, resulting in elevated respiratory health impacts</p> <p>Potential adverse health effects from project related air pollutants and deposition, through direct and indirect exposure pathways that may contribute to respiratory or cardiovascular conditions and increase overall health risks for exposed populations</p> |
| <b>All Phases</b>                    | <p>Increased real and perceived changes to CULRTP and cultural heritage may contribute to mental health stress</p> <p>Increased distress related to climate change and greenhouse gas emission concerns may contribute to reduced mental well-being</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>Decline in mental health, contributing to broader adverse health impacts</p> <p>Decline in mental health, contributing to broader adverse health impacts</p>                                                                                                                                                                                                                                                          |

#### 26.5.4.2

##### Indigenous Well-being

Indigenous well-being is holistic, encompassing physical and mental health, cultural continuity, and the ability to live in a preferred way. It is shaped by social, economic, and cultural conditions, including participation in CULRTP and tangible and intangible cultural heritage. At a community level, well-being includes considerations of the way people live, work, play, and practice their culture, and/or organize themselves. As such, the information below considers potential effects to social organization/community wellness, economic security and stability, and healthcare services.

This analysis includes a holistic perspective of Indigenous well-being, considering potential impacts to physical health, mental health, social conditions, economic conditions, Indigenous governance systems, and stewardship of lands and cultural heritage. These areas reflect the social determinants of health for Indigenous peoples and influence health and well-being by encompassing health, social, economic, political, and environmental conditions together with the ongoing impacts of colonialism.

Conclusions from sections on health, employment and the economy, and community well-being are carried forward into this analysis; however, full assessments are provided within each respective section.

##### Effect Pathways

The following table provides a summary of how Tilbury Phase 2 activities may result in potential effects to Indigenous well-being, via the key effect pathways identified.

Table 90: Potential Project Effect Pathways on Indigenous Well-being

| Relevant Phase(s)                            | Effect Pathway                                                                                                                                                                                           | Effect                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction, Operation, and Decommissioning | Reduction in the ability to maintain and ensure health, social, and economic conditions as a result of a reduction in stewardship and governance                                                         | Declines in social conditions that reduce quality of life, overall community wellness, and cohesion<br>Reduced ability to engage in and maintain desired cultural practices, including through the degradation of mental health<br>Loss of cultural identity as a result of changes to intangible cultural heritage |
|                                              | Reduction of mental health conditions as a result of real and perceived changes to CULRTP and tangible and intangible cultural heritage resulting in reduced ability to participate in the local economy | Decreased economic stability contributing to reduced overall wellness                                                                                                                                                                                                                                               |
| Construction, Operation, and Decommissioning | Project emissions and contaminants may contribute to negative physical health outcomes and reduce individuals' capacity to engage in daily activities and participate in the local economy               | Decreased economic stability contributing to reduced overall wellness                                                                                                                                                                                                                                               |
|                                              | Project emissions and contaminants may result in adverse health effects—both acute and chronic—that could require medical intervention                                                                   | Increased burden to health infrastructure, resulting in negative health effects                                                                                                                                                                                                                                     |

#### 26.5.4.3 Malfunctions and accidents

The EAO assessed the effects of potential malfunctions and accidents and their risk ratings in [Appendix 7: Risks of Malfunction and Accidents](#). Potential risks on the health, social, and economic conditions of Indigenous peoples (Section 2(f) factors) from malfunction and accidents are outlined in Table 91 below. The federal Key Mitigation Measures for malfunctions and accidents are described in full in [Appendix 2: Key Mitigation Measures and Follow-Up Programs](#) under the IAA.

Table 91: Potential Risks in Relation to Malfunctions and Accidents on Indigenous Health Conditions

| Accident/Malfunction                                             | Health, Social or Economic Sub-component |
|------------------------------------------------------------------|------------------------------------------|
|                                                                  | Physical and Mental Health               |
| Loss of Containment of LNG without Ignition                      | High                                     |
| Loss of Containment of LNG Resulting in Fire or Explosion        | High                                     |
| Release of hazardous materials                                   | Medium                                   |
| Terrestrial Vehicle Collision                                    | High                                     |
| Accident or Malfunction Resulting in Emergency Facility Shutdown | Low                                      |

#### 26.5.4.4 GBA Plus Considerations

Tilbury Phase 2 has the potential to cause disproportionate adverse federal effects to Indigenous women, Elders, children, and 2SLGBTQQIA+ individuals with respect to well-being. The disproportionate effects, and characterization of those effects is provided below:

- Existing population health disparities, including higher rates of chronic diseases, addiction and suicide among Indigenous peoples, may lead to disproportionate health effects from Tilbury Phase 2 project activities, as these pre-existing conditions increase sensitivity due to additional environmental stressors (e.g., noise, air emissions, odors).
- Indigenous Elders and children, particularly those with existing respiratory conditions, may face heightened respiratory risks from project-related emissions or air quality changes, resulting in disproportionate effects compared to other populations.
- Indigenous women may be less likely to obtain project-related employment, as they often carry a disproportionate share of domestic and caregiving responsibilities. Barriers to equitable healthcare access, including systemic discrimination and limited availability of culturally safe services, may reduce the ability of Indigenous peoples to manage or mitigate potential project-related health impacts, leading to disproportionate effects.
- Racism, inequitable treatment, and the lasting effects of past injustices continue to impact the mental, emotional, and physical health of Indigenous peoples. These systemic factors may amplify mental health impacts related to project activities, including noise, odours, CULRTP or culturally significant sites.
- Indigenous 2SLGBTQIA+ individuals may experience reduced access to project-related employment opportunities due to societal discrimination, exclusion, and economic marginalization, leading to disproportionate socio-economic effects.

The risk of disproportionate effects is considered low if policies such as the Proponent's Human Resource Policy and Statement of Indigenous Principles guide inclusive and culturally aware hiring practices. These measures are expected to reduce potential inequalities; however health risks are expected to remain across vulnerable populations.

#### 26.5.4.5 Cumulative Effects

The assessment of potential cumulative effects in the area is described in [Appendix 6: Valued Component Assessment](#) and include consideration of past, present, and reasonably foreseeable activities. The following list identifies potential cumulative effects on the health, social, and economic conditions of Indigenous peoples:

- Emissions of COPCs can degrade air and soil quality, contributing to cumulative impacts on both acute and chronic health outcomes for Indigenous peoples.
- Alterations to soil conditions and the deposition of COPCs may lead to cumulative, long term disruptions to CULRTP. Both real and perceived constraints on CULRTP can have lasting physical and mental health implications, diminish well-being, affect cultural identity, and hinder the intergenerational transfer of cultural knowledge.
- Reduced use or enjoyment of lands, stemming from real or perceived environmental impacts, can contribute to cumulative limitations to land-based activities, cultural practices, and social connection, all of which are vital determinants of physical and mental health for Indigenous peoples. Continued or compounding disruptions to access and use of culturally important places can erode wellness, weaken cultural identity, and reduce community cohesion over time, resulting in lasting cumulative effects.
- Historic and ongoing impacts of colonization, displacement, and discrimination can reduce resilience to health-related stressors. Barriers to accessible health and mental health supports further reduce protective factors, increase population-level vulnerability, and magnify cumulative impacts on Indigenous peoples.

#### 26.5.4.6 Key Mitigation Measures and Follow Up Programs

The federal Key Mitigation Measures to reduce potential effects of Tilbury Phase 2 on the health, social and economic conditions of Indigenous peoples are described in full in [Appendix 2](#): Key Mitigation Measures and Follow-Up Programs under the IAA. This reflects the holistic nature of Indigenous well-being which requires the ability to engage in the CULRTP and participate in cultural heritage activities and adequate health, social, and economic conditions. Mitigation measures designed to support these activities, and the overall physical and mental health of Indigenous nations, will therefore support Indigenous well-being.

- Develop and implement measures to prevent or mitigate impacts to health from air quality, such as air contaminants in the airshed or deposition into waterways or soil, as well as fugitive dust emissions. Measures include a vehicle idle reduction policy, routine inspections and maintenance of engines and exhaust systems on all mobile equipment and vehicles, measures to reduce fugitive dust by applying suppressants, minimize the quantity of vented and flared gas and duration of flaring events, enclose all compressors in sealed structures during operation to reduce air emissions, and a community feedback protocol to respond to air quality complaints and implement corrective actions to reduce exposure in a timely manner.
  - Relevant effect pathways: direct and indirect exposure to air emissions and dust (Inhalation of COPCs from DPM), dust generation from earthworks and DPM, changes to CULRTP, reduced autonomy over health, social, and economic conditions of Indigenous nations.
  - Relevant non-negligible adverse effects: Acute or chronic health effects, disproportionate effects, increased stress and anxiety, disconnect from traditional lands and cultural identity.
- Develop and implement measures to prevent or mitigate impacts to the economic conditions of Indigenous peoples. Measures include promoting safe, respectful and inclusive conduct in the workplace such as developing workplace code of conduct and mandatory cross-cultural awareness training, as well as creating and enhancing opportunities for Indigenous peoples, including Indigenous women and businesses, to obtain and retain employment, procurement or contracting opportunities related to the Project.
  - Relevant effect pathways: reduction in the ability to participate in the local economy from negative physical health outcomes due to project emissions, decline in mental health from disconnection to traditional lands and cultural identity.
  - Relevant non-negligible adverse effects: decreased economic stability contributing to reduced overall wellness.

#### 26.5.4.7 Residual Effects Characterization for the Health, Social, and Economic Conditions of Indigenous Peoples

The following table provides a characterization of potential adverse federal effects to the health, social, and economic conditions of Indigenous peoples (IAA 2(f)). The characterizations use methodology described in [Appendix 3](#): Residual Effects Characterization Definitions. These characterizations take into account the application of the Federal Key Mitigation Measures and Follow-up Programs described above.

Table 92: Summary of Residual Effects Characterization for Health, Social or Economic Conditions of Indigenous Peoples<sup>126</sup>

|               | Physical and Mental Health | Well-being           |
|---------------|----------------------------|----------------------|
| Magnitude     | Low                        | Low                  |
| Duration      | Long-term                  | Medium-term          |
| Frequency     | Continuous                 | Irregular            |
| Reversibility | Partially Reversible       | Partially Reversible |
| Resilience    | Low to Moderate            | Moderate             |
| Importance    | High                       | High                 |
| Uncertainty   | High                       | Low to Moderate      |
| Risk          | Moderate                   | Low                  |

#### 26.5.4.8 EAO Conclusions on Health, Social or Economic Conditions of the Indigenous Peoples of Canada

Based on the predicted effects to the health, social, and economic conditions of Indigenous peoples, which include consideration of the proposed Key Mitigation Measures, the EAO concludes that residual and cumulative adverse effects are significant to a low extent.

## 26.6 Indigenous Knowledge Provided With Respect to the Designated Project

The IAA requires the assessment to consider Indigenous Knowledge provided about the project and identify how Indigenous Knowledge was incorporated into the assessment.<sup>127</sup> The EAO worked with IAAC and Indigenous nations, as outlined in the [Cooperation Agreement](#) and the [Project's Substitution Agreement](#), to support the collection, sharing, and protection of Indigenous Knowledge. Where available and shared by Indigenous nations, EAO described key concerns expressed by Indigenous nations in the assessment of valued components in [Appendix 6: Valued Component Assessments](#) and [Appendix 5: Detailed Indigenous Nation Assessments](#).

Throughout the assessment, the EAO sought regular feedback from Indigenous nations to ensure the proper characterization and inclusion of Indigenous Knowledge and representation of Indigenous interests and concerns. This Indigenous Knowledge was used to inform Project design, the Revised Application, and the Report.

### 26.6.1 Indigenous Knowledge in Impact Assessment

Indigenous Knowledge is a dynamic, holistic, and intergenerational system rooted in the deep, reciprocal relationships Indigenous peoples maintain with the land, waters, animals, and ecosystems. Indigenous Knowledge is often directly tied to the exercise of Aboriginal and treaty rights, including land use for hunting, fishing, gathering,

<sup>126</sup> For further detail on the residual effects characterization, see [Appendix 3: Residual Effects Characterization Definitions](#) of this Report.

See 22(1)(g) and 28(3.1) of the *Impact Assessment Act*.

ceremonial purposes, and other cultural practices. These rights are recognized and affirmed by Section 35 of the *Constitution Act, 1982* and form a legal foundation for the protection of Indigenous ways of life in Canada. Unlike Western scientific paradigms, it emphasizes interconnectedness, oral transmission, stewardship, and relationality. The IAA recognizes Indigenous Knowledge not as static or solely traditional, but as a living system that evolves in response to environmental, social, political, and economic change. By explicitly naming it "Indigenous Knowledge," the IAA affirms its contemporary relevance and central role in Indigenous identities, governance, and well-being. Respectful engagement with Indigenous Knowledge holders must begin early in project planning and continue through decision-making, with recognition that such knowledge is often inseparable from constitutionally protected Aboriginal and treaty rights related to land, culture, and sustenance.

Canada's adoption of the [United Nations Declaration on the Rights of Indigenous Peoples](#) (UN Declaration) in 2021 further reinforces the legal and ethical obligation to integrate Indigenous Knowledge into impact assessments. The UN Declaration upholds Indigenous rights to protect and sustain their cultural heritage, knowledge systems, and spiritual practices, and affirms the principle of free, prior, and informed consent (UN Declaration Articles 18, 19, 25, 32). Aligning the IAA with the UN Declaration calls for a fundamental shift in regulatory approaches—one that respects Indigenous self-determination, co-governance, and legal traditions. Incorporating Indigenous Knowledge is not only a legal requirement but a cultural and environmental necessity that enriches impact assessments through a holistic lens of cumulative impacts and intergenerational responsibility. This integration is vital for advancing reconciliation and creating more just, inclusive, and sustainable environmental decision-making processes.

### 26.6.2 Sources of Indigenous Knowledge

While the EAO has described Indigenous Knowledge made available during the assessment in this Report, the EAO recognizes that knowledge-holders are the only people who can truly define Indigenous Knowledge for their communities. Throughout the assessment process, the EAO and IAAC regularly sought feedback and confirmation from Indigenous nations on the adequacy of the characterization and consideration of Indigenous knowledge within the Report, and representation of Indigenous interests and concerns. Similarly, the proponent worked directly with Indigenous nations to meaningfully include Indigenous knowledge into the project design and Revised Application. Indigenous knowledge was provided in a variety of forms, including:

- Indigenous knowledge studies and reports (identified in [Appendix 15, Section 26.6](#));
- Indigenous engagement (including technical review); and
- Indigenous-led assessments.

Where available and shared by Indigenous nations, the EAO described key concerns expressed by Indigenous nations in the assessment of valued components in [Appendix 6](#). Examples of Indigenous knowledge that were provided to inform the assessment include, but are not limited to:

- Characterization of existing conditions and potential Project effects;
- Identification of species and sites of importance for culture, spirituality, and traditional use;
- Technical review of Project information through an Indigenous Knowledge lens;
- Detailed Indigenous Nation Assessments;
- Detailed 19(4) assessments under the *Act*;
- Recommendations for mitigation measures; and
- Review and co-development of draft potential provincial and federal conditions.



Through the Technical Advisory Committee (TAC), Indigenous peoples applied and submitted Indigenous knowledge through their technical feedback on documents. Application review comments are captured in the [Application Review Issues Tracking Table](#).

### 26.6.2.1 Indigenous Consultation

Throughout the assessment, the EAO and IAAC consulted with potentially impacted Indigenous nations.

#### Collaboration with FortisBC

FortisBC engaged with Indigenous nations to complete Indigenous Knowledge studies and other reports specific to Tilbury Phase 2. Indigenous nations, including but not limited to xʷməθkʷəyám, Quw'utsun Nation, Chawathil First Nation, S'ólh Téméxw Stewardship Alliance (STSA), Tsleil-Waututh Nation, and Tsawwassen First Nation worked directly with FortisBC to include and verify the application of the Indigenous Knowledge studies into the Revised Application. FortisBC engaged with Indigenous groups to review draft Application sections, share information, resolve issues, and provide opportunities to collect existing information related to Indigenous Knowledge.

#### Technical Advisory Committee

The TAC was established to advise the EAO on technical matters related to the assessment and to facilitate review of documents such as the Revised Application and the Report. Indigenous nations were given the opportunity to identify as a participating Indigenous nation, which includes membership in the TAC. The TAC's draft Application review comments are captured in the [Application Review Issues Tracking Table](#).

### 26.6.2.2 Indigenous-led Assessments

xʷməθkʷəyám, Quw'utsun Nation, STÁUTW First Nation, Tsawwassen First Nation, and Tsleil-Waututh Nation completed their own assessments of the impacts of the Project on their rights, interests, and values using their own methodologies. These Indigenous-led Assessments were carried out under Section 19(4) of the Act. Where Indigenous nations did not complete their own assessment, the EAO collaborated with Indigenous nations on the assessment of their Indigenous interests and incorporated Indigenous Knowledge into these assessments. Opportunities for the verification of Indigenous Knowledge was provided to ensure the adequacy of the effects assessment.

The analysis and conclusions from the Indigenous-led Assessments along with the Indigenous nations consent decisions will be included into federal the decision-making materials.

#### Assessment of Impacts of the Tilbury Phase 2 LNG Expansion Project on xʷməθkʷəyám Culture

xʷməθkʷəyám carried out an assessment with respect to the potential residual effects on xʷməθkʷəyám rights (title, fishing, harvesting, hunting, cultural continuity, and health) resulting from the Project, as well as the Tilbury Marine Jetty Project given its physical proximity. The assessment considers residual effects of the Project following the application of mitigation and offsetting measures and will inform xʷməθkʷəyám on whether to provide or withhold consent to the Project. The assessment also provides context for ongoing conversations with the proponent and the Crown regarding consultation and accommodation, as appropriate. xʷməθkʷəyám's assessment serves as a direct means of including Indigenous knowledge into the Report.

#### Quw'utsun Nation Indigenous-led Assessment of the Proposed Tilbury Phase 2 LNG Expansion Project

Quw'utsun Nation carried out an assessment with respect to the potential effects of the Project on Quw'utsun Nation and its Rights, and in accordance with Quw'utsun *Snuw'uy'ulh* (described as including but not limited to law and teachings). The assessment assesses the impacts of the Project on Quw'utsun Rights and way of life through the lens of its culture, its *snuw'uyulh*, its values, its history, and its 2016 Declaration for Reconciliation for the Lands of Tl'uqtinus.

The assessment analyzes the effects of changes to the valued components in the context of Quw'utsun Nation's vision for the future and also includes an economic quantification from the alienation of its lands of Tl'uqtinus and the ecological context for Quw'utsun Nation's relationship to and stewardship of the lands and waters near the Project site.

Quw'utsun Nation characterizes the intention of its Indigenous-led Assessment is to provide a means for them to assess effects on Quw'utsun Nation and its rights through the Nation's own laws, knowledge systems, governance, and decision-making framework.

### **STÁUTW First Nation Assessment Indigenous-led Assessment**

STÁUTW First Nation carried out an assessment with respect to Project's potential impacts on its rights in consideration of existing cumulative effects. STÁUTW's assessment describes the Nation's Douglas Treaty and Aboriginal rights in the context of the proposed Project and existing cumulative effects and includes predicted adverse residual effects and cumulative effects on its rights and interests as well as characterization criteria for these effects. STÁUTW First Nation's assessment serves as a direct means of including Indigenous Knowledge into the Report.

### **Indigenous-Led Assessment of the Effects of the Tilbury Phase 2 Expansion Project on the Rights of Tsawwassen First Nation**

Tsawwassen First Nation carried out an assessment with respect to the potential effects of the Project on its Treaty Rights as outlined in the *Tsawwassen First Nation Final Agreement*. The assessment focuses on psychosocial conditions that support meaningful rights-based practice and include the often-intangible dimensions that shape the necessary conditions for the meaningful exercise of Tsawwassen's rights and Treaty objectives. The report also identifies recommended measures to reduce residual impacts. Tsawwassen First Nation's assessment serves as a direct means of including Indigenous Knowledge into the Report.

### **Assessment of Impacts of the Tilbury Phase 2 LNG Expansion Project on səliwətał 's Rights and Interests**

Tsleil-Waututh Nation carried out an assessment to assess the Project's potential effects on its rights, title, and interests. The assessment reflects Tsleil-Waututh Nation's own assessment framework, methodologies, legal orders, and knowledge systems and uses scé-len (salmon) as the primary indicator to trace pathways of effects from the Project through environmental effects and impacts to Tsleil-Waututh rights, culture, and governance. The assessment's views, conclusions, characterization of effects, and recommended conditions reflect Tsleil-Waututh Nation's perspectives and serves as a direct means of including Indigenous Knowledge into the Report.

#### **26.6.3 EAO Analysis and Conclusion**

Indigenous Knowledge was incorporated in the assessment through a variety of sources such as Indigenous Knowledge studies and reports, direct engagement with Indigenous nations, and the submission of Indigenous-led assessments. This Indigenous Knowledge was used to inform Project design, the Revised Application, and the Report. Throughout the assessment, EAO engaged with Indigenous nations to ensure the meaningful application of Indigenous Knowledge and sought feedback and confirmation on the adequacy of the characterization of Indigenous Knowledge, and the representation of Indigenous interests and concerns.

### **26.7 Considering Environmental Obligations and Commitments in respect of Climate Change**

This section assesses whether the likely effects of the project may hinder or contribute to Canada's ability to meet its environmental obligations and its commitments in respect of climate change.<sup>128</sup>

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See Section 22(1)(i) of the *Impact Assessment Act*.

The extent to which the likely effects of Tilbury Phase 2 contribute to Canada's ability to meet these obligations and commitments is also one of the three public interest factors to be considered in decision making under the IAA, should there be a determination that residual adverse effects within federal jurisdiction are likely to be, to some extent, significant.

The term "environmental obligations" refers to Canada's obligations in domestic and international law in relation to protecting the natural environment. In international law, legally binding international instruments (such as conventions) to which Canada is a party can create environmental obligations. "Commitments in respect of climate change" are set out in legally binding and non-binding domestic and international instruments.<sup>129</sup>

Identification of relevant obligations and commitments took into consideration the specific context of the Project, including:

- the potential emissions and discharges from the Project; and
- components of the environment, including potential effects to these components.

Canada's environmental obligations, including those related to species at risk and migratory birds, are discussed in [Appendix 6, Section 17.6](#), while Canada's climate change commitments are discussed in [Appendix 15, Section 26.7](#). The Project's contributions to sustainability with respect to these factors are assessed in [Appendix 15, Section 26.8](#); Considering the Extent to which the Project's Likely Effects Contribute to Sustainability. The assessment considered all Indigenous Knowledge provided in relation to these factors as described in [Appendix 15, Section 26.6](#) — Indigenous Knowledge Provided with Respect to the Designated Project.

### 26.7.1 Environmental Obligations

The following environmental obligations were considered relevant to the project, and therefore were identified in the Application Information Requirements:

Table 93: Environmental Obligations identified in the Application Information Requirements, applicable to the Project

| Environmental obligation                                                                                                                                                                                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Convention on Biological Diversity</i> and Canada's supporting national frameworks: Canadian Biodiversity Strategy, Canada's Biodiversity Outcomes Framework and current Biodiversity Goals and Targets for Canada | <p>The <i>Convention on Biological Diversity</i> is an international, legally binding treaty with three main goals: Conservation of biodiversity; sustainable use of the components of biological diversity; and fair and equitable sharing of the benefits arising from the utilization of genetic resources.</p> <p>It encourages actions that will lead to a sustainable future, and covers biodiversity at all levels: ecosystems, species, and genetic resources.</p> <p><i>This Environmental Obligation is applicable to the species at risk and migratory birds identified during the assessment, and to the consideration of Indigenous Knowledge and the application of Gender Based Analysis Plus.</i></p>                              |
| <i>Species at Risk Act</i> (SARA)                                                                                                                                                                                     | <p>SARA provides for the legal protection of wildlife species to prevent them from becoming extinct and to secure the necessary actions for their recovery. SARA requires that an assessment identifies the adverse effects of the project on all species listed in Schedule 1 or their critical habitat and ensures that measures are taken to avoid or lessen the effects on the listed species and its critical habitat and to monitor the effects. The measures must be taken in a way that is consistent with applicable recovery strategies and action plans.</p> <p>SARA is a result of the implementation of the Canadian Biodiversity Strategy, which is in response to the United Nations <i>Convention on Biological Diversity</i>.</p> |

<sup>129</sup> For more information, see [Policy Context: Considering Environmental Obligations and Commitments in Respect of Climate Change under the Impact Assessment Act](#).

| Environmental obligation                                                                                                                                                                                                                                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                | <i>This Environmental Obligation is applicable to the species at risk identified during the assessment.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Recovery Strategies and Action Plans developed under the <i>Species at Risk Act</i> for all species at risk potentially affected by the Project                                                                                                                                | A Recovery Strategy is a planning document that identifies what needs to be done to stop or reverse the decline of a species. An Action Plan identifies the measures to take to implement the Recovery Strategy for a threatened, endangered or extirpated species.<br><br><i>This Environmental Obligation is applicable to the species at risk identified during the assessment.</i>                                                                                                                                                                                                                                                                         |
| <i>Convention for the Protection of Migratory Birds in the United States and Canada</i> , as implemented in part through the <i>Migratory Birds Convention Act, 1994</i> , and supporting guidance on conservation objectives arising from Bird Conservation Region Strategies | This convention is an international agreement with the objective to protect migratory birds, their eggs, and their nests. The requirements of this convention have legislated components embedded in the <i>Migratory Birds Convention Act, 1994</i> , Migratory Birds Regulations and Migratory Bird Sanctuary Regulations.<br><br>Elements of this convention are also implemented via the North American Waterfowl Management Plan and the <i>Declaration of Intent for the Conservation of North American Birds and their Habitat</i> .<br><br><i>This Environmental Obligation is applicable to the migratory birds identified during the assessment.</i> |

### 26.7.2 Considerations for Migratory Birds

Migratory birds identified during the assessment are protected or supported under *the Convention on Biological Diversity*, the *Migratory Birds Convention Act, 1994*, SARA, and recovery strategies and action plans.

Numerous species of migratory birds are known or likely to occur within the area. Of those identified as likely to occur in the area of Tilbury Phase 2, none have SARA-defined critical habitat in the LAA or RAA. Effects to migratory birds and associated Key Mitigation Measures are discussed in [Appendix 6, Section 17.6](#). The adverse effects of Tilbury Phase 2 on migratory birds are anticipated to be not significant following the application of mitigation measures, recovery strategies and action plans. It is therefore expected that the likely effects of Tilbury Phase 2 will not contribute to Canada's ability to meet its obligations under the *Convention for the Protection of Migratory Birds in the United States and Canada*.

### 26.7.3 Considerations under the *Species at Risk Act*

Identification, mitigation and monitoring of effects to federally listed species at risk potentially affected by projects undergoing impact assessments is required under Section 79 of SARA. The federal species at risk that are likely to occur within the LAA and their status are listed below.

Tilbury Phase 2 is located near marine habitat via the Fraser River estuary; however, no impacts are expected to marine environments or the species that reside in them (e.g. cliff swallow), as a result of FortisBC's measures to avoid waterborne deliveries through the materials offloading facility (MOF) and additional mitigations through avoidance and minimization of potential discharges and spills. No SARA-defined critical habitat has been identified in the LAA or RAA. No listed plant species at risk were observed in the area.

**Special concern species:** Great blue heron, Horned grebe, Western grebe, Red-legged frog, Western toad.

**Threatened species:** Barn owl, Barn swallow (Special Concern – COSEWIC), Western painted turtle (Pacific Coast population).

**Endangered species:** Little brown myotis, Pacific water shrew.

Recovery strategies have been prepared for little brown myotis, Pacific water shrew, barn owl, and western painted turtle. The Project Footprint falls outside the identified critical habitat of the Little brown myotis, Pacific water shrew, and Western painted turtle, which have a low to moderate potential to occur within the LAA.

Two amphibians of special concern, the Red-legged frog and the Western toad, are predicted to have a low potential of occurrence. There is federally designated Critical Habitat for Pacific water shrew within 1.2 kilometres southeast of the project site near the Tilbury Slough, but outside of the Wildlife and Wildlife Habitat RAA, and its suitability is not optimal due to the lack of riparian forest and proximity to industrial development and resulting lower water quality. The Project Footprint and LAA overlaps with Critical Habitat for Barn owl; however, FortisBC indicated Barn owl are moderately likely to occur within the LAA, noting that the area was not suitable to support foraging, nesting, and roosting habitat.

Cheam Nation requested further information about the fish foraging species for the Great blue heron. Quw'utsun Nation and x̱m̱əθḵw̱əy̱əm (Musqueam Indian Band) requested more detailed assessments for species at risk other than birds, such as bats or amphibians, including the types of species-specific surveys, locations, effort/intensity, and timing. The proponent provided further information in the Revised Application regarding the suitability of habitat for these species and clarification of the methods used during field surveys, with additional mitigation measures related to controlled lighting.

The assessment of potential adverse effects to wildlife and associated federal Key Mitigation Measures are discussed in detail in [Appendix 6](#) Wildlife and Wildlife Habitat and [Appendix 2](#). The potential effects assessed include changes in habitat, changes in movement (not carried forward), and changes in mortality risk. Following the application of the identified Key Mitigation Measures and provincial mechanisms including conditions, residual effects to wildlife overall were characterized as negligible to low magnitude and reversible. The EAO is satisfied that the Project would not have significant adverse residual or significant cumulative effects on wildlife and species at risk habitat.

In consideration of the above, it is expected that the likely effects of Tilbury Phase 2 will not contribute to Canada's ability to meet its obligations under SARA.

#### 26.7.4 Canada's Climate Change Commitments

The EAO has assessed the effects of the project's greenhouse gas (GHG) emissions in [Appendix 12](#) – Greenhouse Gas Emissions. This section uses that analysis to inform the assessment of the contribution of the project's likely effects on Canada's ability to meet Canada's current climate change commitments relevant to the project. A list of these commitments is provided in Table 94. The EAO is of the view that the likely effects would not contribute to Canada's ability to meet its commitments in respect of climate change.

Table 94: Canada's Current Climate Change Commitments Relevant to The Project

| Climate change commitment                                                                          | Description                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">Canada's 2030 Emissions Reduction Plan</a>                                             | The target associated with this Plan was established under the <i>Canadian Net Zero Emissions Accountability Act</i> (described below). Under this plan, Canada must reduce its emissions by 40 to 45 percent of 2005 levels by 2030.<br><br>The current emissions target for 2030 is 443,000,000 tonnes CO <sub>2</sub> e (representing a 40 percent reduction from the 2005 baseline for Canada's GHG emissions). |
| <a href="#">Canadian Net Zero Emissions Accountability Act</a>                                     | This legislated commitment requires five-year emissions targets to demonstrate how Canada will reach its longer-term net-zero goal by 2050.                                                                                                                                                                                                                                                                         |
| <a href="#">Draft guidance for best-in-class GHG emissions performance by oil and gas projects</a> | Current Government of Canada guidance to proponents of new oil and gas projects subject to the IAA, enables them to demonstrate that they will have "best-in-class" low-emissions performance.                                                                                                                                                                                                                      |
| <a href="#">Strategic Assessment of Climate Change (SACC)</a>                                      | The SACC outlines the GHG emissions and climate change information requirements that proponents should provide, with details on calculation protocols provided in the supporting technical guidance documents. The SACC applies to projects assessed under the IAA.                                                                                                                                                 |

#### 26.7.4.1 Canada's 2030 Emissions Reduction Plan

The project would be in operations in 2030, and the provincial Net-Zero New Industry Policy (NZNIP) requires LNG facilities to plan how they will achieve net-zero GHG emissions by 2030. To comply with this policy, the proponent has committed to using renewable fuels for combustion and offsetting the remaining GHG emissions from sources including entrained CO<sub>2</sub>, fugitive emissions and acquired energy use. With these measures in place, the project is expected to reach net-zero GHG emissions in 2030. By meeting the provincial NZNIP by 2030, the project would align with Canada's commitment outlined in the 2030 Emissions Reduction Plan.

#### 26.7.4.2 Canadian Net Zero Emissions Accountability Act

The proponent's net-zero plan prioritizes reducing direct GHG emissions, as the proponent anticipates that the indirect GHG emissions from the use of electricity would decrease as the grid becomes net zero. As noted above, the proponent has committed to reducing and offsetting GHG emissions to achieve net-zero beginning in 2030. As such, the project is expected to align with Canada's commitment outlined in the *Canadian Net Zero Emissions Accountability Act*.

#### 26.7.4.3 ECCC's Supplemental Analysis

Section 6 of the SACC states that IAAC or the lifecycle regulator, with the support of expert federal authorities, will provide supplemental analysis on the project's net GHG emissions in the context of Canada's emissions targets and forecasts. This analysis for the Tilbury Phase 2 LNG Expansion Project prepared by ECCC fulfills this requirement.

#### Greenhouse Gas Emissions

##### *Greenhouse Gas Emissions from the Project*

The proponent estimated the maximum annual GHG emissions for each phase of the project prior to committed mitigation measures in [Appendix N](#) GHG Technical Data Report (TDR). The proponent states in Section 6 of the GHG Net- Zero Plan TDR that the proposed Project is predicted to have a GHG emission intensity of 0.072 t CO<sub>2</sub>e / t LNG, with a possibility to be as low as 0.011 t CO<sub>2</sub>e / t LNG using 100% renewable natural gas. Table 8.5-2 of the Application includes a comparison against seven other Liquid Natural Gas (LNG) facilities, in British Columbia (BC) and outside of Canada. The comparison shows that the proposed Project's projected emission intensity is lower than all the projects in the Table, except for Woodfibre LNG which is in its preconstruction phase in BC with a projected emission intensity of 0.04 t CO<sub>2</sub>e / t LNG. The proponent also projected that the proposed Project's emission intensity will be lower than various LNG benchmarks including the Global benchmark and the Top 5 percent global benchmark.

[Appendix N](#) of the Revised Application states that the proposed Project will not have quantifiable impacts to carbon sinks from land-use changes. The Project site will have similar use without any significant impacts on vegetation both pre- and post-Project, as it is a brownfield site.

##### *Upstream Emissions Related to the Project*

[Appendix M](#) of the Revised Application discusses the upstream emissions related to the proposed Project. The proponent states that the current policy scenario predicts that upstream production will not increase with the addition of LNG export facilities, referring to the Canada Energy Regulator's prediction of a future baseline scenario where global LNG demand will be fed, in part, by Canadian LNG exports.

The proponent presents two scenarios: the Conservative Scenario where upstream emissions are calculated based on maximum annual LNG production and annual emission intensities through 2030 and remaining constant thereafter; and the Net-Zero Scenario which is the same until 2030 but assumes Canada's target to be net-zero by 2050 in a linear decline after 2030.



Table 3 of Appendix M shows the annual upstream emissions ranging between 792,000 t CO<sub>2</sub>e and 818,000 t CO<sub>2</sub>e for the Conservative Scenario, and between 0 t CO<sub>2</sub>e and 818,000 t CO<sub>2</sub>e for the Net-Zero Scenario.

In the qualitative analysis of upstream emissions, the proponent compares the Project Case with a No Project Case.

- The Project Case assumes that all LNG produced will be for export, and renewable natural gas will not be used for exports. However, the proponent states that more than 40 percent of the LNG produced by the Project could be used to meet local demand, especially with the growing local demand for LNG in heavy duty vehicles, according to the demand projected by the Vancouver Fraser Port Authority.
- The No Project Case may result in local and global demand being met by an increase in operations at other facilities. Globally, the proponent states that due to the lack of feed gas to Tilbury from other jurisdictions, it is unlikely that upstream production and emissions would shift to other jurisdictions. Section 3.5.2 of Appendix M states that global demand for LNG is expected to continue to exceed global supply, and the proposed Project's contribution to global supply would be small and unlikely to impact the balance between global supply and demand noticeably.

### *ECCC's Observations*

The proponent has considered the anticipated Project activities that are within the scope of the Impact Assessment that have potential for GHG emissions. The proponent's estimated GHG emissions are adequately calculated and are supported by sufficient information provided in the Application and its supporting appendices. While the Application depicts the *maximum* possible emissions in the range presented by the proponent, the actual GHG emissions are likely lower due to the proponent's commitment to switching to 100 percent renewable fuel for combustion in the operation phase.

Table 8.5-2 of the Application shows that the proposed Project has one of the lowest emission intensities of the domestic and global LNG facilities listed in the Table. If the proposed Project achieves the stated operational GHG emission intensity of 0.072 t CO<sub>2</sub>e / t LNG, or 0.011 t CO<sub>2</sub>e / t LNG using 100% renewable natural gas, ECCC agrees that it would have one of the lowest GHG emission intensity in the sector.

The proponent has adequately presented the quantitative and qualitative analyses of upstream emissions related to the proposed Project. ECCC agrees with the proponent's conclusion that upstream GHG emissions could be fully or partially incremental domestically, but if the LNG demand was to be met by another existing project, it is likely to result in a net global increase in emissions, as the Project is expected to produce one of the least GHG-intensive LNG in the world. ECCC also agrees that if the Project's LNG is used to replace higher emitting fuels such as the ones currently used for heavy duty vehicles or marine vessels, it may contribute to a net decrease in emissions domestically or globally.

### *Net-Zero Plan*

#### *Proponent's Net-Zero Plan*

The proponent's mitigation measures are listed in the GHG Net-Zero Plan TDR ([Appendix O](#) of the Revised Application). The proponent committed to achieving net emissions reductions through the best available technologies and best environmental practices (BAT/BEP) and compliance with federal and provincial regulations, aiming to contribute to Canada's economic development positively and to support Canada in meeting its environmental obligations and climate change commitments. The proponent committed to achieving net-zero by 2030, in line with NZNIP, such that the Project is net-zero at the start of steady-state operations. The proponent states that the proposed Project represents best-in-class emission intensity due to the use of electrically driven compression.



The adoption of additional mitigation measures over the life of the proposed Project will ensure it remains best-in-class and support Canada's goal of net-zero by 2050. The proponent states that the proposed Project is expected to reduce emissions within Canada's largest port from bunkering, and globally by displacing the use of higher emitting fuels.

The Best Available Technology Conclusions of [Appendix O](#) of the *Revised Application* lists the following mitigation technologies for further consideration during the subsequent phases of design:

- Electric drive gas compression
- Gas fuel-fired hot oil heater
- Direct-fire thermal oxidizer
- Ultra-low NO<sub>x</sub> burners
- Totally enclosed ground flare

Appendix O also lists potential additional mitigation measures including:

- Electrification
- FortisBC Clean Growth Pathway
  - Low and zero-carbon vehicles and infrastructure
  - Continued growth of renewable and low-carbon gas
  - Increasing investment in conservation and energy efficiency programs
- Renewable Fuels
- Waste heat utilization
- Upstream removal of entrained CO<sub>2</sub> in process feed
- Offset measures, including carbon capture, utilization, and storage technologies (CCUS) and offset credits

The proponent stated that regardless of which technology is adopted, Tilbury LNG will continue to use 100 percent renewable natural gas for all combustion needs for the operation phase of the proposed Project. The proponent discussed the procurement strategies for renewable natural gas, as well as offset credits for residual GHG emissions from entrained CO<sub>2</sub>, fugitive releases, and electricity use.

#### *ECCC's Observations*

The proponent appropriately considered GHG mitigation technologies and practices, following the BAT/BEP Determination process outlined in the SACC Technical Guide. The proponent's commitment to implement the proposed BAT/BEP measures will contribute to the proposed Project being a comparatively low GHG-emitting LNG facility. With the above information, as well as the information provided by the proponent as a part of the review process, the Net-Zero Plan is deemed to be credible and aligns with the SACC Technical Guide requirements of section 3.5.2. The planned mitigation measures are expected to help the facility maintain its status as a producer of one of the least GHG-intensive LNG in the world, through the continuous improvement process of applying additional mitigation measures as they become feasible.

#### *Climate Change Resilience*

The proponent presented the site-level and regional climate trends for the 2050 time horizon, using the most conservative scenario. The Climate Change Resilience Assessment (CCRA) ([Appendix G](#) of the *Revised Application*) evaluated risks including heat waves, extreme precipitation, unusual wind, and flooding, focusing on impacts to operations, infrastructure and worker safety; Table 8.2-1 of the *Revised Application* shows the adaptation measures

for major risks. The resilience plan emphasizes monitoring, iterative review, and the ability to revise management strategies as climate projections or operational experience change.

#### *ECCC's Observations*

The CCRA aligns with SACC requirements and with best practices as it takes a site-specific, risk-based, and adaptive approach that supports long-term resilience.

#### **Conclusion**

The proponent followed the SACC approach, provided an Upstream Assessment, a Net-Zero Plan and a Climate Change Resilience Assessment, and has sufficiently considered various options to mitigate GHG emissions and risk of climate change in each phase of the proposed Project.

Given that the proponent has committed to achieving net emissions reductions through BAT/BEP, has committed to net-zero emissions by 2030 under BC's NZNIP, and has committed to comply with federal and provincial regulations and permits, ECCC is of the view that the proposed Project will be a low GHG-emitting LNG facility, and is likely to achieve net-zero by 2050, provided it carries out its commitments.

#### **26.7.4.4 Analysis of Uncertainty in the GHG emissions Information:**

The proponent approached the calculation of GHG emissions conservatively, based on the Project's maximum capacity and design flow gas compositions. The proponent identified potential uncertainties in the emissions quantification as the SACC Technical Guide does not include emission factors for LNG liquefaction. In terms of their net-zero plan, the Proponent noted that the procurement of offset credits is subject to considerable uncertainty, given the evolving nature of offset markets, regulatory frameworks, and proposed project parameters.

#### **26.7.5 EAO Analysis and Conclusions**

Based on the analysis of the considerations listed above and the adverse effects of the Project on terrestrial and aquatic environments that may not be fully mitigated, the EAO is of the view that the project would not contribute to Canada's ability to meet its environmental obligations.

Given the Project's Net Zero Plan and considerations above, the Project is expected to align with Canada's commitments in respect of climate change by 2030, when emissions reduction strategies committed to by the proponent are implemented. However, given the project's GHG emissions, the EAO is of the view that the likely effects would not contribute to Canada's ability to meet its commitments in respect of climate change.

### **26.8 Considering the Extent to which the Project's Likely Effects Contribute to Sustainability**

#### **26.8.1 Regulatory Context**

This section assesses the extent to which Tilbury Phase 2's likely effects contribute to sustainability.<sup>21</sup> Under the IAA, sustainability is defined as "the ability to protect the environment, contribute to the social and economic well-being of the people of Canada and preserve their health in a manner that benefits present and future generations."

As per Section 22(1)(h) of the IAA, the assessment must take into account the extent to which the Project contributes to sustainability. The extent to which the likely effects of the Project contribute to sustainability is also one of the three public interest factors considered in decision-making.

The sustainability analysis weighs the balance of positive effects and adverse federal effects. If a project's effects are likely to result in net positive contributions to sustainability, that means the Project is likely to result in positive and lasting equitable effects for present and future generations, and that positive effects include improvements over adverse environmental and socio-economic conditions or trends.

If a project's effects are likely to result in net negative contributions to sustainability (net sustainability losses rather than sustainability gains), that means the project's adverse federal effects or risk of irreversible harm outweigh a project's lasting contributions to sustainability.

### 26.8.2 Approach to determining the extent to which project effects contribute to sustainability

The approach characterizes VC effects and interactions with respect to health, social, and economic well-being for present and future generations, forming the basis for conclusions on the extent to which the Project's likely effects contribute to sustainability (Net Positive or Net Negative). This includes recognizing the precautionary principle to ensure that potential effects are examined carefully, and that uncertainty be clearly acknowledged. Finally, this incorporates a GBA Plus lens to understand how impacts may differ across populations and generations, consistent with a GBA Plus approach.

Key steps of the sustainability analysis are outlined below:

1. Identify the VCs pertinent to sustainability, establish spatial and temporal boundaries.
2. Consider interconnections between the VCs within the context of the human-ecological system associated with the Project.
3. Consider the benefits and costs to the environmental, health, social and economic well-being of present and future generations.

### 26.8.3 Valued Components, Spatial and Temporal Boundaries

VCs included in the sustainability analysis were selected based on their importance to long-term community well-being. The EAO considered Indigenous Knowledge and the values, concerns, and perceptions of risk described by Indigenous peoples, the public, and other Knowledge Holders affected by Tilbury Phase 2. The EAO also considered whether the VCs would experience long-term effects, interactions with other VCs, and the Project's probable effects.

The following VCs were selected based on the considerations above:

- **Air Quality:** Air quality is vital to long-term community well-being as it supports the health, cultural practices, and environmental conditions that Indigenous peoples rely on to sustain their relationships with the long-term community well-being.
- **Employment and Economy:** The Project could affect the economic well-being of Indigenous peoples, which must be considered under the IAA. Economic opportunities and impacts are important for long-term community sustainability.
- **Current Use of Lands and Resources for Traditional Purposes:** The Project may affect present and future land based activities, including tangible values such as plant harvesting and intangible values such as connection to place, knowledge sharing, and community use, as these practices rely on access to sustainable lands and resources. Changes to conditions or availability can influence cultural continuity and overall well-being.
- **Human Health, Human and Community Well-being:** The Project may affect health through changes in air, soil, and sensory conditions, which are closely linked to physical health, mental health, and overall well-being. Indigenous peoples in the LAA and RAA have identified health and well-being as key concerns for their communities and others.

### Spatial Boundaries

For the Project, spatial assessment boundaries for VCs are defined as:

- For social determinants of health (e.g. community well-being, employment, and economy), the spatial boundary includes the LAA and RAA boundaries of Metro Vancouver; 21 municipalities, First Nation reserves, and Tsawwassen First Nation Treaty lands.
- For environmental determinants of health, the spatial boundary includes the LAA boundaries of the VCs that may affect Human Health such as Air Quality, Acoustic, Soil<sup>130</sup>, Country Foods<sup>131</sup>, Surface Water and Groundwater Quality.
- The spatial boundary for environmental determinants of health also includes RAA boundaries for VCs that may have indirect or cumulative impacts to human health from the Project including Air Quality, Acoustic, Soil, Country Foods<sup>125</sup><sup>125</sup>, Surface Water and Groundwater Quality.

### Temporal Boundaries

To account for effects caused by the Project, and to recognize that impacts to individuals can persist after Project activities cease, the temporal boundary for the sustainability analysis was set at 70-80 years. This timeframe includes all the Project phases (Construction 3-6 years, Operation 40+ years, Decommissioning 2 years), plus a 25-year period that reflects one generation of time following the ceasing of activities relating to the Project.

From a sustainability perspective, some project impacts may continue even after activities end, particularly those affecting Indigenous Knowledge, cultural practices, health, and community well-being. While not all valued components will be affected long-term, some impacts could persist across generations. This perspective is consistent with the Seventh Generation Principle, which encourages consideration of potential impacts extending seven generations into the future.

## 26.8.4 Human–Ecological System Interconnections of Valued Components

This section describes the interconnections among VCs within the human ecological system associated with the Project. The analysis examines how changes to system components, functions, and linkages may influence environmental, health, social, and economic conditions, recognizing that these effects emerge through a series of interconnected interactions within the ecological system of the Project Footprint, LAA and RAA respectively.

### *Summary of Assessment*

The Project is located within the existing facility on Tilbury Island in Delta, B.C., and is linked to the health and well-being of Indigenous nations within the Project's RAA and LAA. These areas are urban environments characterized by strong connections between communities and nearby ecosystems, reflecting a complex and dynamic relationship in which people and the environment shape and rely on one another for long-term sustainability (see Figure 99 and 98 above). The following analysis considered the ways in which the Project's activities may influence interconnected systems, including both adverse and positive effects.

<sup>130</sup> The temporal boundaries for Soil include the Construction (3-6 years), Operation (40 years), and Decommissioning (2 years) phases of the Project.

The LAA for Country Foods Quality is the combined LAAs for the Vegetation, Fish and Fish Habitat, and Wildlife and Wildlife Habitat VCs.

Project activities that may adversely impact health through air quality, sensory and soil conditions:

- COPCs air emissions, including NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and VOCs, that may disperse beyond the Project Footprint. Additional decreases in air quality may result from upset conditions or flaring events, which can generate elevated NO<sub>2</sub> and SO<sub>2</sub> air emissions beyond the Project Footprint.
- Deposition of NO<sub>2</sub> and SO<sub>2</sub> onto soils and surface waters within the LAA may also occur.
- Sensory disturbances, including strong odours and visible haze, may be experienced outside of the Project Footprint.

These disruptions may contribute to broader adverse effects such as reduced real or perceived access to areas traditionally used for cultural practices and to sites of cultural significance. Over time, intersecting pressures may affect cultural continuity, land use, mental health, and overall well-being across generations.

In parallel, the Project presents opportunities for socio-economic advancement, with activities that may enhance community well-being and economic resilience through:

- Project related employment may increase household income, with Indigenous people potentially benefiting from both employment and procurement opportunities.
- Training and workforce development associated with the Project may enhance long term skill development and support economic independence.
- Benefit sharing agreements, where they exist, may provide stable and meaningful sources of income for Indigenous nations, and help to support community priorities, strengthen local programs and services, and contribute to long-term economic resilience.

### *Sustainability Analysis*

This analysis examines the Project's anticipated environmental, health, socio-cultural, and socioeconomic effects, with particular attention to how these interactions may influence well-being for different populations.

Overall, the Project is expected to result in medium-term environmental, socio-cultural and health interactions, with potential changes to air quality, including associated shifts in odour, visibility, and soil quality.

Potential health effects may cause respiratory and cardiovascular irritation and exacerbate chronic health conditions. These potential health implications may pose greater risks for vulnerable groups, including children, Elders, people with pre-existing conditions and Indigenous peoples who have a higher prevalence of respiratory illness.

Indigenous peoples may face disproportionate and cumulative health impacts linked to increased exposure from land-based activities and historic and systemic inequities. Factors such as reduced healthcare access and historical trauma can lower resilience to new stressors, while restricted access to mental health supports may compound vulnerability and heighten anxiety, distress, and perceived environmental risks.

Project activities may also contribute to mental distress, particularly for Indigenous people resulting from real or perceived loss of CULRTP, undermined confidence in CULRTP, weakened connection to culturally significant places and increase stress associated with environmental change.

Positive socioeconomic effects may arise through employment, income stability, skill development, and more equitable opportunities, particularly where hiring and procurement practices prioritize Indigenous workers and local businesses.

The extent of these benefits will depend on the effectiveness of Proponent's Human Resource Policy and Statement of Indigenous Principles, inclusive and culturally aware hiring practices, and broader regional affordability pressures. However, economic benefits may be unevenly distributed. Women, Indigenous people, and others facing systemic income inequities may have reduced access to Project-related opportunities, potentially reinforcing existing disparities.

Employment can enhance household income, reduce financial stress, and support social well-being, contributing to long-term socioeconomic stability. Benefit sharing agreements with Indigenous nations may further strengthen community conditions, health, and cohesion. Training and capacity building opportunities can also support long-term skills development and economic independence, creating pathways for future generations.

Considering these interactions, the Project could result in certain socioeconomic benefits, such as additional employment and modest income growth. The Project may also result in uncertain health impacts, including those associated with air quality, sensory and soil conditions. Federal Key Mitigation Measures may reduce adverse physical and mental health effects and shorten their duration; however, they may not fully eliminate these negative impacts over the long term.

## 26.8.5 Environmental, health, social and economic well-being of present and future generations

This section considers how the Project's positive outcomes and potential adverse federal effects on environmental, health, social, and economic well-being may change over time, considering not only the immediate impacts but also the implications for future generations beyond the Project's operational lifecycle.

### *Summary of Assessment*

Indigenous peoples have identified a range of interconnected elements as essential to their well-being, emphasizing the deep relationship between people, the environment, cultural practices, and resource use.

Although Project activities are confined to the existing Tilbury Plant site, the assessment also reflects Indigenous nations' perspectives on future use of culturally important lands and resources within the RAA and LAA, specifically those of the x<sup>w</sup>məθk<sup>w</sup>əyám, Quw'utsun Nation, Tsleil-Waututh Nation, and Ts'uubaa-asatx.

Table 95: Positive and adverse effects on the well-being of Indigenous Peoples

| Positive effects on the well-being of Indigenous Peoples and local communities <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                            | Adverse effects on the well-being of Indigenous Peoples and local communities <sup>2</sup> :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Economic benefits may include increased spending at local businesses, Indigenous procurement opportunities, and additional Indigenous government revenues where benefit sharing agreements are in place.</li> <li>Potential positive outcomes for Indigenous nations include employment and income gains, education and skills training, and more inclusive hiring for Indigenous and other underrepresented groups.</li> </ul> | <ul style="list-style-type: none"> <li>Acute or chronic health effects, including respiratory irritation and the exacerbation of existing conditions, may disproportionately affect Indigenous peoples due to higher prevalence of respiratory illness and elevated health vulnerabilities. These impacts may also disrupt cultural practices and intergenerational knowledge transfer, with Elders being particularly affected.</li> <li>Project activities may disrupt cultural practices and knowledge transfer when perceived or actual health risks, along with changes in air quality, sensory conditions, and soil quality, interfere with participation in CULRTP and ties to culturally significant places.</li> <li>The Project may contribute to adverse mental health outcomes for Indigenous peoples—now and in future generations—through employment related stress and concerns about climate change, with barriers to healthcare exacerbating vulnerability and increasing anxiety, distress, and potential substance misuse risks.</li> </ul> |

### *Sustainability Analysis*

The Project may have implications for the well-being of current and future generations of Indigenous peoples through its interaction with existing health vulnerabilities, mental health pressures, and factors that affect cultural practices and the intergenerational transfer of knowledge.

Indigenous nations may have constrained opportunities to meaningfully engage in CULRTP, both current and in future, as a result of Project activities situated within an area already heavily industrialized and altered by past development. Environmental changes and perceived contamination risks may reduce participation in cultural and land-based activities, creating challenges for cultural continuity, resilience, and traditional knowledge practices.

Conversely, the Project may enhance the long-term well-being of Indigenous peoples by providing economic benefits, expanding Indigenous procurement, offering inclusive employment and training opportunities and benefit sharing agreements that support household stability and community prosperity across generations. However, access to these opportunities may vary, especially for vulnerable groups, which could affect how broadly benefits are realized. Employment related pressures may also affect mental health and may extend into future generations.

Overall, the Project presents potential benefits alongside possible health and environmental impacts. With the application of key mitigation measures, adverse effects are expected to be limited although some uncertainty remains, making the effective implementation of these measures important.

#### **26.8.6 Proponent Analysis and Conclusion**

FortisBC states that the Project would deliver meaningful benefits, including a more resilient energy system capable of supplying a low carbon energy source, improved affordability, and enhancements to community infrastructure. As outlined in Figure 15.21 and subsections 15.2.2 and 15.2.3 of the Revised Application, FortisBC notes that these benefits extend beyond low carbon energy supply, contributing to climate resilience, community well-being, and positive economic outcomes through employment, skills training, contracting opportunities, and broader regional prosperity.

#### **26.8.7 Key Mitigation Measures and Follow Up Programs**

The sustainability analysis considered federal Key Mitigation Measures and how they address effects to valued components that inform the sustainability principles. The federal Key Mitigation Measures are described in full in Appendix 2: Key Mitigation Measures and Follow Up Program Under the IAA.

#### **26.8.8 EAO Conclusion**

The summary of assessment and the sustainability analysis above were used to inform the determination, taking into account the balance between positive and adverse federal effects, the interconnections among valued components within the human–ecological system, and how effects on the environmental, health, social, and economic well-being of Indigenous peoples may change over time. These are as follows:

- **Positive effects on current and future generations from increased economic opportunities:** The Project is expected to enhance economic well-being through increased employment, income stability, procurement opportunities, and benefit sharing (where existing), contributing to stronger and more resilient Indigenous communities. It may also support long-term skills development, reduce financial stress, and promote intergenerational economic independence, although outcomes will depend on equitable access to opportunities.



- **Adverse federal effects on health and well-being conditions of Indigenous people:** Project emissions (e.g., NO<sub>2</sub>, SO<sub>2</sub>, PM, VOCs), odours, and potential soil deposition may degrade environmental quality and increase risks of respiratory and cardiovascular illness, disproportionately affecting Indigenous peoples due to cumulative exposures and existing vulnerabilities. Sensory disturbances, limited access to culturally significant lands, and perceived climate and environmental risks may contribute to stress, anxiety, and adverse mental health outcomes, potentially undermining cultural continuity, traditional land use, and the intergenerational transfer of knowledge. These impacts may be further intensified by systemic barriers to healthcare, exacerbating overall health and well-being effects, particularly for vulnerable groups.

Overall, the Project is unlikely to make meaningful, long-term contributions to the sustainability of human–ecological systems for present or future generations. While it may generate some economic benefits that support community well-being and resilience, these benefits are expected to be limited and dependent on the effectiveness of future actions to enhance positive outcomes and mitigate adverse federal effects, including cumulative impacts on the health and social conditions of Indigenous peoples. While acknowledged that potential adverse federal effects, particularly impacts on health, social conditions, and cultural continuity, may also pose ongoing risks, some uncertainty remains about how these impacts may manifest over time. Taking this into consideration, mitigation measures will be required to effectively manage adverse federal effects and enhance positive contributions to sustainability.

Based on conclusions reached through the application of the sustainability analysis, the EAO determined that Tilbury Phase 2's likely effects would contribute to sustainability to a low extent. The EAO is therefore of the view that Tilbury Phase 2's likely effects would result in net positive contributions to sustainability.

## 26.9 Federal Crown's Duty to Consult and Tsawwassen Treaty Obligations

This section assesses the extent to which the substituted assessment process supports Canada's ability to meet its constitutional obligations to Indigenous peoples, including the duty to consult and treaty obligations under the *Tsawwassen First Nation Final Agreement*. If there is a determination that adverse federal effects are likely to be significant, the effects on Indigenous peoples will be considered as a public interest factor in decision making by Canada.<sup>132</sup> This section draws on the information provided by or about potentially affected Indigenous nations in various sections of the Report, including:

- [Section 2](#): Regional and Regulatory Context;
- [Section 6](#): Indigenous Nation Engagement and Summary of Effects;
- [Section 12](#): Notifications of Consent or Lack of Consent by Participating Indigenous Nations;
- [Appendix 5](#): Detailed Indigenous Nation Assessments;
- [Appendix 8](#): Human and Community Well-being;
- [Appendix 10](#): Effects on Current and Future Generations; and
- [Appendix 11](#): Consistency with Land Use Plans.

The information has been used to describe the potential effects of the project on Indigenous peoples from a holistic perspective, considering Indigenous Knowledge described throughout this Report.

<sup>132</sup> Further information on the consideration of effects on Indigenous peoples in the public interest factors can be found in [Policy Context: Public Interest Determination under the Impact Assessment Act](#).

### 26.9.1 The Duty to Consult and Tsawwassen Treaty Obligations

The former federal Minister of Environment and Climate Change approved the substitution of the provincial assessment process for the federal impact assessment on November 29, 2022. As per the [Cooperation Agreement](#) and the [Notice of Substitution Approval under the IAA](#), the EAO conducts the procedural aspects of consultation with Indigenous peoples through the substituted assessment process. However, Canada retains its duty to consult with Indigenous peoples and its treaty obligations under Chapter 15 of the *Tsawwassen First Nation Final Agreement*.

The IAA describes how this duty is to be implemented, including support for coordination action among jurisdictions; fostering reconciliation and working in partnership with Indigenous peoples; and the integration of Western scientific information and Indigenous Knowledge. Consideration of any potential adverse impact on the exercise of the rights of Indigenous peoples that may be caused by the Project is required by the IAA and to fulfill the Crown's constitutional obligation to consult with respect to potential impacts.

Chapter 15 of the *Tsawwassen First Nation Final Agreement* contains obligations related to the assessment that are additional to the requirements of the IAA. Information gathered during the substituted assessment will inform Canada's determination of whether it has met the requirements under Chapter 15 of *Tsawwassen First Nation Final Agreement*.

IAAC collaborated closely with Tsawwassen First Nation throughout the substituted assessment to understand their concerns regarding the Project in relation to the Treaty and how the Project may impact Tsawwassen First Nation's aspirations as stewards of its territory and resources.

Tsawwassen First Nation conducted their own Indigenous-led Assessment according to their own laws, knowledge systems, and decision-making frameworks. The assessment evaluated the potential effects of the Project on the psychosocial conditions that support Tsawwassen's Aboriginal and Treaty rights, as well as Treaty Objectives. Additionally, it focused on mental and emotional well-being, sense of place and identity, and experiences of marginalization within a landscape shaped by sustained industrial transformation.

Tsawwassen's Indigenous-led Assessment concludes the following impacts to Tsawwassen's Aboriginal and Treaty rights and Treaty Objectives:

Residual effects on psychosocial well-being are characterized by high vulnerability, moderate magnitude, long-term duration, and low reversibility. When assessed against Tsawwassen's articulated desired future conditions, including strengthened cultural continuity, stewardship, and confident intergenerational renewal and rights-based practice, the Project contributes incrementally but materially to ongoing strain in a negative direction.

The overall severity of residual psychosocial effects, which translate into effects on Tsawwassen's rights and Treaty Objectives, is determined to be Moderate. The Project does not eliminate the ability of Tsawwassen members to exercise their rights. However, it reinforces cumulative pressures in a landscape where psychosocial thresholds have already been crossed, further constraining the conditions that support confident, future-oriented revitalization of rights-based practices.

IAAC acknowledges and respects Tsawwassen First Nation's leadership in undertaking its own Indigenous-led Assessment and the considerable time and effort taken to provide a thorough analysis of the Project's potential impacts on Tsawwassen First Nation. Tsawwassen First Nation's Indigenous-led Assessment considers not only the environmental effects of the Project, but also the cultural, historical, and cumulative impacts on the exercise of rights. The assessment puts Indigenous perspectives, knowledge, values and laws at the forefront; with Tsawwassen selecting the assessment methods, indicators and thresholds that are most relevant to its community.

Tsawwassen First Nation concludes in their Indigenous-led Assessment that the Project does not eliminate the ability for members to exercise their rights, but it contributes to the cumulative pressures that constrain the practice of

rights in the preferred manner. IAAC is supportive of the assessment conducted by Tsawwassen and acknowledges the conclusions reached by Tsawwassen in the Indigenous-led Assessment.

### 26.9.2 Consultation Principles and Objectives

The objectives of Crown consultation are to meet the duty to consult, uphold the honour of the Crown, and help build long-term relationships based on shared reconciliation objectives. The methods for meeting the legal duty to consult can be different for every project, but are informed by government policies, best practice, and evolving jurisprudence such as:

- [\*Aboriginal Consultation and Accommodation Guidelines\*](#) (Guidelines);
- [\*Principles Respecting the Government of Canada's Relationship with Indigenous Peoples\*](#) (Principles);
- [\*Impact Assessment Agency of Canada's Reconciliation Framework\*](#) (Pathways)
- [\*Building Relationships and Advancing Reconciliation through Meaningful Consultation\*](#);
- [\*Collaboration with Indigenous Peoples in Impact Assessments\*](#)
- [\*Indigenous Knowledge under the Impact Assessment Act\*](#); and
- [\*Considering Community Knowledge under the Impact Assessment Act\*](#).

As described in the documents above, key principles and objectives driving the Crown's Duty to Consult include the following:

- **Respectful:** The process must respect the potential or established Aboriginal or Treaty rights of First Nation, Métis, and Inuit people while engaging in consultation and should demonstrate how the Crown has sought to accurately understand all issues and potential impacts on Indigenous peoples and their rights (Guideline No. 1, No.2, No.3, and No.8; Principle No.5, and No.10). This includes ensuring that Indigenous nations are given opportunities, appropriate to the level of potential impacts on rights, to learn about the project and its potential impacts, evaluate the project, and communicate concerns to the Crown (Guideline No.2, and No. 3; Pathway No.1 and No.4).
- **Meaningful:** The process must clearly reflect that the Crown has made meaningful efforts to understand Indigenous concerns, potential impacts, and identify solutions for accommodation where required (Guideline No.4, and No.8, Principle No.6, and No.7; Pathway No.2, and No.3).
- **Flexible and Responsive:** Through its consultation record, the Crown must demonstrate that the process remained flexible and responsive, and identified means to address potential impacts on Indigenous peoples and their rights (Guideline No.4, No.5, No.7, and No.8; Principle No.6; Pathway No.1, and No.2). Responsiveness must be both meaningful and reasonable, where 'meaningfulness' is measured by sufficiency, quality, and consistency (Guideline No.4; Pathway No.2).
- **Accommodation:** Where appropriate, accommodation should be considered, and commensurate to the degree of seriousness of the potential impact on Indigenous nations and their rights (Pathway No.3, and No.4).

Overall, the process must be accessible, reasonable, flexible and fair, founded in the principles of good faith, respect and reciprocal responsibility, and respectful of the uniqueness of each Indigenous nation.

### 26.9.3 The Tilbury Phase 2 LNG Expansion Project Consultation Process

Throughout the consultation process, each Indigenous nation had opportunities to:

- Evaluate the Project's impacts on Indigenous interests;
- Provide Indigenous Knowledge related to the assessment site and potential impacts to Indigenous rights and interests;
- Conduct studies to support the characterization of potential impacts to Indigenous rights and interests;
- Raise concerns to the proponent, the EAO, IAAC, and Federal Authorities who participated through the TAC; and
- Meaningfully engage in the substituted assessment and consultation process, including on potential federal conditions which are based on the federal Key Mitigation Measures.

Issues raised by Indigenous nations were documented and tracked in the [Application Review Issues Tracking Table](#). This document was regularly updated and shared with Indigenous nations to facilitate discussion.

During the Effects Assessment and Recommendations phase, the EAO and IAAC are pursuing a collaborative approach to consultation with the aim of achieving consensus with Indigenous nations on the draft Report, the proposed provincial conditions, and the potential federal conditions. The EAO and IAAC will hold consultation meetings and/or provide written correspondence to respond to outstanding issues or concerns from Indigenous nations prior to the Decision phase.

The EAO is of the view that, to date, the substituted assessment offered sufficient opportunities and funding to all Indigenous nations to enable them to participate meaningfully in all phases of the process. Indigenous nations received timely information to enable them to understand the Project, the substituted assessment and consultation process, and to evaluate the potential changes to the environment, health, social and economic conditions, and the potential impacts on the rights of Indigenous peoples.

### 26.9.4 Meeting Federal Crown Consultation Objectives

Below is a summary of Detailed Indigenous Nation Assessments from [Appendix 5](#) and a description of how these assessments support meeting federal consultation obligations.

#### 26.9.4.1 Consensus Seeking Under the Provincial EA Process

The EAO sought consensus with participating Indigenous nations at each phase of the substituted assessment and offered the opportunity to submit notifications of consent or lack of consent at the conclusion of the assessment. These notices of consent will be noted in the Report and are provided to decision makers to support both federal and provincial decision making on the Project.

#### 26.9.4.2 Tsawwassen First Nation Final Agreement

Chapter 15 of the *Tsawwassen First Nation Final Agreement* specifies unique provisions for environmental assessments that are in addition to the requirements of the IAA and B.C.'s *Environmental Assessment Act (2018)*. The decision maker must consider the requirements in Clauses 4 and 5 of Chapter 15. Canada's representatives worked collaboratively with Tsawwassen First Nation and B.C. as part of a tripartite government approach, which supported timely information sharing, the discussion of issues relevant to decision-making, and application of Tsawwassen First Nation's treaty rights and interests, while respecting each government's distinct requirements and responsibilities.

### 26.9.4.3 Mitigation Measures and Conditions

During consultation on the draft Report, proposed provincial conditions, and potential federal conditions, provincial and federal representatives indicated the measures proposed to address the concerns and interests of Indigenous nations, as summarized in [Appendix 5](#): Detailed Indigenous Nation Assessments, [Appendix 6](#): VC sections, and in [Appendix 15](#): Requirements of the *Impact Assessment Act*.

### 26.9.5 Issues Outside the Scope of the Project

Indigenous nations also raised concerns about broader issues affecting Indigenous interests that are outside the scope of the assessment and may not fully be addressed by Project-specific mitigation measures, as described below.

#### Federal Assessment Scope

Tsleil-Waututh Nation raised ongoing concerns throughout the substituted assessment process, including in comment submissions and in a letter to IAAC on August 5, 2025, noting that the environmental assessment does not consider the full scope of the Project by omitting marine shipping impacts from the transportation of materials to the project or from shipping the LNG product overseas, and splitting components and activities of the expansion through numerous regulatory reviews.

Tsleil-Waututh Nation indicated that statements provided by the proponent have not been considered in balance with potential impacts of the project beyond the scope of the sustainability analysis, including electricity demands and greenhouse gas emissions (GHG). The proponent described project benefits, including satisfying demand for natural gas, however Tsleil-Waututh argued it did not fully consider the economic impacts on communities—particularly Indigenous communities—related to higher renewable electricity costs and cumulative climate pressures. Tsleil-Waututh also raised concerns about the proponent’s qualitative assessments regarding the global GHG reductions from shipping LNG to overseas markets and using LNG as a beneficial alternative marine fuel. Downstream GHG emissions and components of upstream or Project emissions, such as methane slip, are outside the scope of the assessment, as well as the consideration of GHG emissions or other impacts from shipping and bunkering of ships transporting the LNG product overseas.

More information on these concerns is described in [Section 7.1](#) Greenhouse Gas Emissions, [Section 7.3](#) Project Scope and Aquatic Effects, and [Appendix 5, Section 16.20](#) of this Report.

In responding to these concerns, the EAO worked with IAAC, ECCC, and B.C.’s Climate Action Secretariat to meet with Tsleil-Waututh Nation in October and November 2025 regarding the Strategic Assessment of Climate Change and provincial GHG emission requirements. IAAC also provided a further response in writing to Tsleil-Waututh Nation’s outstanding concerns raised in its August 5, 2025, letter. The EAO and IAAC acknowledge that Tsleil-Waututh Nation continues to have outstanding concerns as identified in this section and in [Appendix 5, Section 16.20](#) of this Report and will continue to work with Tsleil-Waututh Nation through the Effects Assessment Phase to attempt to resolve outstanding issues.

Most Indigenous groups have also raised concerns about splitting components and activities of the expansion through numerous separate regulatory reviews. The EAO and IAAC sought information from FortisBC in Early Engagement and Readiness Decision phases to clarify the relationship and linkages between the project, Tilbury Marine Jetty, and the Tilbury Phase 1 activities. The EAO and IAAC remains of the view that Tilbury Phase 2, the Tilbury Marine Jetty Project and the Tilbury Phase 1 activities are separate projects and have been considered or are being assessed under the appropriate regulatory mechanisms.

#### Cumulative effects in the lower Fraser River

Many Indigenous nations emphasized the significant cumulative effects from industrialization on Tilbury Island, in Tilbury Slough, and in the lower Fraser River. Indigenous nations noted these effects are limiting or preventing the practice of their Rights in these areas, as described in [Appendix 5](#) of this Report. While these impacts were raised in

the context of the Project, Indigenous nations also identified these concerns as more broadly related to the cumulative effects of the region.

The provincial and federal governments remain committed to meaningfully addressing these concerns in partnership with Indigenous nations through the various collaborative initiatives currently underway. Examples include the B.C. Coastal Marine Strategy, which will invest more than \$2.5 million in Indigenous-led marine stewardship initiatives focused on habitat restoration, pollution prevention, and environmental monitoring, and the British Columbia Salmon Restoration and Innovation Fund, which invested \$128.6 million in 97 projects between 2019 and 2024 to support salmon restoration, habitat recovery, sustainable fisheries, climate resilience, and Indigenous participation. Federally, through the Oceans Protection Plan, the Government of Canada is also investing \$1.5 billion to improve marine safety, protect coastal ecosystems, and strengthen Indigenous partnerships through the Cumulative Effects of Marine Shipping (CEMS) Initiative that assess and manage cumulative effects of marine shipping and the Whales Initiative that aims to reduce cumulative impacts on Southern Resident Killer Whales. The Government of Canada is investing an additional \$2 billion over nine years to continue these existing initiatives and to establish 15 new measures to expand ocean protection initiatives to more regions and improve marine safety.

### 26.9.6 The EAO's Analysis and Conclusion

The EAO is of the view that for the purpose of informing federal decision making, the potential impacts of the Project on Indigenous interests have been effectively identified and meaningfully consulted on for each potentially impacted Indigenous nation. Comments received from Indigenous nations on drafts of this Report, and the federal Key Mitigation Measures and Follow-Up Programs were meaningfully considered by the EAO. The EAO notes, however, that a number of Indigenous nations developing their Indigenous-led Assessments do not share this view and continue to have outstanding concern related to the sufficiency of information to inform their own decision-making, prior to providing their own conclusions on the Project.

To inform both federal and provincial decision making on the Project, Indigenous nations may provide input directly to decision makers, including expressions of consent or lack of consent with this Report, the EAO's draft recommendations and the federal Key Mitigation Measures and Follow-Up Programs to inform the Minister's decision.

The EAO is satisfied that through the substituted assessment process, the proposed provincial conditions and other related mechanisms, federal Key Mitigation Measures and Follow-Up Programs will avoid, minimize, or otherwise accommodate for potential adverse effects of the Project on Indigenous interests. The engagement undertaken with Indigenous nations on the Project supports the federal Crown in meeting its duty to consult and broader reconciliation objectives.