C3 KTUNAXA TITLE AND RIGHTS: TRADITIONAL KNOWLEDGE AND LANGUAGE SECTOR

The Traditional Knowledge and Language (TKL) Sector is one of the five pillars of Ktunaxa governance and nation rebuilding and plays a key role in achieving the vision of the Ktunaxa Nation Council:

> *…to achieve strong, healthy Citizens and communities speaking our languages and celebrating who we are and our history in our ancestral homelands, working together managing our lands and resources within a self-sufficient, self-governing Nation. (Ktunaxa Nation AGA 2000).*

As noted in C3.1 and C3.2, Ktunaxa cultural heritage includes both intangible cultural properties, such as values, practices, knowledge, and language itself, and tangible cultural properties, such as places or things. Anticipated effects of the Baldy Ridge Extension Project (the Project) on intangible and tangible cultural heritage are discussed separately below. Recommended mitigations and actions designed to reduce adverse effects and maximize Project benefits for intangible and tangible cultural heritage related to the Ktunaxa TKL Sector are also provided.

C3.1 Intangible Cultural Heritage: Ktunaxa Knowledge and Language Baseline

> *…having been created in interdependence with the land, its living things, and the spirit world, the Ktunaxa possess and are entitled to enjoy our inherent and pre-existing sovereignty over our land and our lives thereon…* (from the Qat'muk Declaration, Ktunaxa Nation Council 2010).

Intangible cultural heritage[1] includes language, knowledge, sacred values, sense of place, intergenerational transmission of knowledge and practices, and other values of importance. The Ktunaxa language is widely recognized as a language isolate, meaning that it does not share a common parent language with other indigenous languages.[2] Language isolates are generally associated with geographies that are mountainous, or that otherwise impede communication, and with continuous occupation of areas over a very long period of time. In 1962, it was estimated that there were 300 to 500 speakers of Kutenai, from Idaho, Montana, and British Columbia (Wallace 1962).[3] In 1990, American census figures for "speakers of American Indian Languages" indicated 102 speakers of the Kutenai language (Broadwell 1995). The 2014 *Report on the Status of B.C. First Nations Languages 2nd Edition* (First Peoples' Heritage, Language and Culture Council (FFHLCC) 2014) estimated that, as of 2014, there were only

[1] Also see Article 2 of the Convention for the Safeguarding of Intangible Cultural Heritage, UNESCO 2003, accessible at http://www.unesco.org/culture/ich/index.php?lg=en&pg=00006

[2] The academic literature on the Ktunaxa language is extensive. Major contributors in the late 19th and early 20th centuries included Chamberlain, Boas and Sapir. More recent linguists publishing on the Ktunaxa language include Paul Garvin, Mary Haas, Larry Morgan and Matthew Dryer.

[3] Kutenai is an alternate spelling for the Ktunaxa language, used predominantly in the US.

25 fluent speakers of Ktunaxa remaining in BC (approximately 2.2 per cent of Ktunaxa citizens in Canada). Furthermore, in the previous 2010 report, FFHLCC classified the language as “critically endangered” and “nearly extinct” (FFHLCC 2010). The survival and revitalization of the Ktunaxa language, and the ongoing learning and use of Ktunaxa by younger generations, is a priority for the Ktunaxa Nation and is fundamental to the transmission of Ktunaxa knowledge and way of life:

> *I grew up in an era where I caught the tail end of everybody still practicing their language. Every household had fluent speakers right down to the kids. Every household had sturgeon-nose canoes, ... everybody sweated in them days. Every household had trappers. I caught TB in the late ’50s ... I was only four years old. But I remember before I got taken away living that lifestyle of the old ways. It was awesome. And that’s how I learned, my grandma who was a mentor … She used to take us away in the sturgeon-nose canoe … And I was very fortunate that I lived with her, brought up with her, seeing the old ways. (Y01 August 10, 2012)*

The Ktunaxa Nation understands that, as part of Creation, Ktunaxa citizens were given their language as a method of communicating with each other and with the other non-human beings of the world. It is believed by some that this ability to communicate with nature has deteriorated as the Ktunaxa language changes over time from the original language: “This is why it is very important to recapture the language in its true form as much as possible, so that the integrity of the traditional knowledge contained therein can be protected” (KNC 2005).

As suggested by the Ktunaxa Nation vision stated at the outset of this section, the health and well-being of Ktunaxa individuals, families, and communities is linked to the vitality of Ktunaxa language and culture.

Outcomes associated with this Ktunaxa language vision include:

- Increased recognition and understanding of Ktunaxa traditions and language;
- Increased knowledge and use of Ktunaxa/Aboriginal languages;
- Increased awareness and knowledge of cultural ancestry;
- Strengthened identity as Ktunaxa, and identification with Ktunaxa culture; and
- Strengthened pride in cultural identity (KNC 2010a).

Specific aspirations or measures include the presence of the Ktunaxa language as a functional component of daily life, and that each Ktunaxa citizen have increased knowledge and use of the Ktunaxa language, including having a Ktunaxa name, knowledge of Ktunaxa community names, knowledge of the Ktunaxa Creation story and history, and knowledge of Ktunaxa ʔamakʔis place names (KNC 2010a).

The funding of language learning opportunities for Ktunaxa citizens, including language learners and experts, is critical to the preservation and revitalization of Ktunaxa language, as is the continued documentation, recording, archiving, and preservation of the living oral language. Continuing documentation of Ktunaxa is a responsibility made critical by the ongoing loss of knowledgeable Ktunaxa elders. In addition to language preservation, the renewal of the Ktunaxa language as a living language (i.e., a language used in everyday communication) within the community is a key objective. This is

recognized as a broad challenge that can be accomplished only through a cooperative effort by entire communities (Ktunaxa Nation 2015b).

Within the Elk Valley, the maintenance of place-based Ktunaxa language and associated knowledge, including place names, oral histories associated with the Elk Valley, and the transmission of knowledge related to harvesting and practicing rights in the area, is especially challenged by a combination of impacts. These include both historical impacts and ongoing industrial impacts, especially mining, forestry, highways, and alienation as a result of private lands.

C3.2 Tangible Cultural Resources: Ktunaxa Land and Resource Use Baseline

Current and historic Ktunaxa use of the Elk Valley, as well as oral historical information likely pre-dating 1846, provides insight into the importance of the Project area, including the area of Sparwood, to Ktunaxa peoples. While the alienation of Ktunaxa rights through land privatization, coal-related industrial development, and government policy (particularly provincial mining and hunting regulations) has been widespread in the Elk Valley, Ktunaxa elders and land users report ongoing use of the LSA and the surrounding area.

Based on interviews and oral histories collected in the late 19th and early 20th centuries, ethnographers (Chamberlain 1892; Curtis 1911; Boas 1918; Teit 1930; Turney-High 1941; Schaeffer 1935, 1966) clearly identify the area of the Elk Valley, including the Crow's Nest Pass area, as being originally and continuously occupied by Ktunaxa speaking people. Each of these sources supports an understanding that the Elk Valley, and the larger area of qukin ʔamakʔis in its entirety, was used, occupied, and effectively controlled by Ktunaxa speaking people for a long period of time prior to, and extending beyond, the assertion of British, Canadian or American sovereignty[4] in the region.

Ktunaxa oral histories, supported by historic archival and ethnographic data, suggest that Ktunaxa presence in the Elk Valley has long been centred on an important habitation area named k̓aqawakanmituk, a Ktunaxa settlement at the confluence of Michel Creek and the Elk River near present-day Sparwood. This is a very important cultural area in the Elk Valley and includes portions of the Project footprint. It was occupied annually, and likely for a long period of time up to the late 1800's, by the Michel Prairie people, also referred to as the Fernie Band, or k̓aqawakanmituknik̓. This was a historic Ktunaxa community with close ties to the current Ktunaxa community of Tobacco Plains whose annual round included hunting bison on the eastern slopes of the Rocky Mountains. As described further below, many Michel Prairie people died as a result of early smallpox epidemics, likely in the late 1700s.

The settlement of k̓aqawakanmituk at Michel Prairie included important tobacco cultivation areas, as well as habitation areas, processing areas, and other features including trails that connected the valley to mountain passes to the east. Another recorded Ktunaxa name connected to the associated cultural landscape surrounding k̓aqawakanmituk is wisiyaɬ referring to a Ktunaxa ceremonial sweat lodge or house,

[4] American assertions of sovereignty over much of BC, including the Project area, were not resolved until the Oregon Treaty was signed in 1846.

and an important figure in Ktunaxa ceremonial practice. In interviews, Ktunaxa knowledge holders interpreted the name as likely referring to the rounded ridges behind ḵaqawakanmituk (now Sparwood) that are being removed by the existing Elkview Coal Mine. Nearby areas, extending into the Crow's Nest Pass, and including Crow's Nest Lake and areas east of the Rockies, contains values of central cultural and ceremonial importance for Ktunaxa people.

Based on Ktunaxa oral histories recorded by Schaeffer (1935-1937; 1966), the ḵaqawakanmituknik̓ (qakawakanmi⊧uqnik in Schaeffer), along with other branches of the Ktunaxa Nation, including the katamukinik, were decimated by smallpox while hunting bison east of the Rockies, likely just prior to, or shortly after, the arrival of horses in Ktunaxa ʔamakʔis in the late 1700s. At least some of the survivors of the ḵaqawakanmituknik̓ returned to their people west of the Rockies and were later joined by Ktunaxa from further south under the leadership of Chief Michel (Hole-in-the-Head), an important Ktunaxa leader through the latter half of the 19th century. Chief Michel (also spelled Michelle) is mentioned by Teit (1930) and Turney-High (1941), and recalled in detail by Ktunaxa elders recorded by Schaeffer (1935-1937, 1966). Schaeffer records multiple versions, each differing slightly, of hunting buffalo east of the Rockies at a time when the Ktunaxa were decimated by an outbreak of smallpox or other illness. In the late 1960s, Chief Ambrose Gravelle provides a detailed oral history of the ḵaqawakanmituknik̓, or Michelle Prairie village, contracting smallpox when a group of Ktunaxa warriors returned home from a raid east of the Rockies. On the advice of an old woman who had dreamt of the disease, the ḵaqawakanmituknik̓ moved east onto the plains to avoid spreading the disease to other Ktunaxa communities. Only a handful of ḵaqawakanmituknik̓ survived and returned to their kin west of the Rockies. One of those survivors (Kanuk⊧u⊧am or Whitehead[5]) returned to the area of ḵaqawakanmituknik̓ and Columbia Lakes. Some years later, Chief Michel married a daughter of Whitehead, became the leader of the Michel Prairie people and continued Ktunaxa occupation and control of ḵaqawakanmituk and the Elk Valley.

While surviving ḵaqawakanmituknik̓ went to live with other Ktunaxa communities, regular Ktunaxa occupancy was maintained in the Elk Valley through the 20th century and is ongoing. While it is clear that other indigenous peoples from east of the Rockies, including the Piikani (Blackfoot), and Nakoda (Stoney or Assiniboine), occasionally visited the Elk Valley for war or trade with the Ktunaxa or for other reasons through the early 1900s, and at times hunted or harvested resources west of the Rockies, there is no evidence that Ktunaxa authority over the Elk Valley was successfully challenged.

Other important nearby Ktunaxa settlements were at Whiteswan Lake (Kaʔintak), northwest of the Project area, and Tobacco Plains to the south. Ktunaxa knowledge holders also reported that there were important camping or settlement locations at Grave Prairie, Round Prairie, and near Elkford, as well as elsewhere along the Elk River. As wage labour in the mining or forestry industry became more important to Ktunaxa livelihood, Ktunaxa families lived in work camps and other centres in the valley, but also maintained rights-based subsistence practices.

[5] In Ktunaxa, this is also a reference to bald eagle.

C3.2.1 Ktunaxa Use and the Seasonal Round in Qukin amakis and Adjacent Areas

The ʔkaqawakanmituk are discussed in Ktunaxa oral histories documented in Schaeffer's field notes (1935-37, 1966) as relying on a seasonal round that included regular bison hunts east of the Rockies, as well as residence, agriculture, and harvesting in the Elk Valley and nearby areas. The annual round included hunting for sheep, deer, elk and goat, as well as other species in the Elk Valley and adjacent valleys, fishing for cutthroat trout and other fish in streams and lakes, fishing salmon at Columbia Lakes and along the Columbia River drainage, and fishing for mariah or ling in winter in the area of Tobacco Plains (Schaefer 1935; Turney-High 1941). In summer, tobacco was cultivated at ʔkaqawakanmituk (Michel Prairie, now Sparwood), within the LSA and adjacent to the Project. Bison were hunted along the sheltered eastern slopes of the Rockies in the winter season, or farther afield on the plains in the summer. Numerous sources (e.g., Schaeffer 1935, Turney-High 1941, and use and occupancy mapping from the 2012-2015 Elk Valley Aboriginal Use and Interests Study), as well as archaeological evidence, indicate that mineral resources, including coal and stone tool material, were traditionally mined in the valley. Beyond habitation, cultural use, hunting, trapping, fishing, and gathering of plants, mining of mineral sources in the Elk Valley is recorded by Turney-High (1941), as is a Kutenai preference for sub-surface mining rather than surface collection:

> *The flint quarry near Missoula was mentioned in connection with arrow points. The Upper Kutenai also use one in Canada near Fernie, which they said was better. All informants in both subcultures (Upper and Lower Kutenai) say that flint work is the oldest and best known Kutenai art… The Kutenai preferred going to the quarries and digging for their flint claiming that surface flint was too brittle to work well... (Turney-High 1941).*

As recorded by Schaeffer in field notes taken in the late 1960s, Chief Ambrose Gravelle confirmed Ktunaxa mining and use of coal from the Elk Valley as a resource used by Ktunaxa to reliably transport fire in pre-contact times, especially for Ktunaxa peoples travelling east of the Rockies[6]:

> *The Kutenai used to collect coal at Coal Creek and use a piece to keep as a hot coal. They would keep a piece of heated coal in clam shells between camp sites and use it to start the fire. Mr. Fernie found a pile of coal at the Indian camp site and located the main vein on Coal Creek and claimed it. It was found and piled up by Mrs. Pierre Numa rather than by Chief David's wife (tale was that Mrs. David wore coal on her necklace)… (Interview recorded July 15, 1969, M1100 File #160, Book 5, File Folder 4, Box 17, folio page 2).*

[6] It is interesting to note that one of the unique features of the 19th century *qakawakanmiɬuqnik* (Michel Prairie) and Tobacco Plains seasonal round was a regular winter bison hunt on the eastern slopes of the Rockies using snow shoes, as well as summer hunts (Schaeffer 1964). Schaeffer (M1100 File 80) notes that, "the Michel Prairie and Tobacco Plains Kootenay, before horses were introduced, only went on buffalo hunt in winter on snowshoes" (M1100 File 80). The ability of Ktunaxa peoples to harvest and use coal from the Elk Valley in order to maintain a reliable source of fire and heat, as described by Chief Ambrose, may have been an important part of the Ktunaxa ability to safely travel difficult mountain passes in winter in order to hunt bison.

Other work by Schaeffer, as well as archaeological work on quarries in the east and west Kootenays and trade routes for mined material extending through adjacent regions, reinforces the importance of Ktunaxa mining as critical to Ktunaxa subsistence, trade, and economy. Ktunaxa continue to practice quarrying for mineral resources, including for ceremonial use as pipes and for other purposes.

Travel to the east side of the Rockies by various mountain passes, including Crow's Nest Pass, Tornado Pass, and Fording Pass, continued until bison populations were decimated on the northern plains in the late 19th century. Salmon remained a critical resource for Upper Ktunaxa along the Columbia drainage until the construction of the Grand Coulee Dam in Washington State in the late 1930s made it impossible for salmon to return to the upper Columbia.

> *But we used to always go to Buffalo two or three times a year and so there's, there's mountain passes getting through to go to Buffalo. And I think those are really important, those are important to me because that's, that's part of my aboriginal territory. Those are part of the lands that we were never, we were never consulted on…The trails are important because that's our network…You look at the archaeological record, you see sites here, sites there, sites here, but there's nothing really connecting them. They're all connected and it's those trails that connect them. (A01 27 June, 2012).*

The Michel Prairie people maintained a traditional seasonal round, including bison hunting on the eastern slopes of the Rockies, until at least the 1880s. When the bison became too scarce, the Michel Prairie people, as well as other Upper Ktunaxa, relied more heavily on other resources; these included fish, elk, berries, and deer in the Elk Valley and elsewhere in the valleys west of the Rockies, including the area of Columbia Lakes, and south along the Elk and Kootenay Rivers to Tobacco Plains and beyond. An image of Schaeffer's handwritten notes is shown in Figure C3-1 to provide a sense of the source material. Schaeffer's notes, as depicted in Figure C3-1, point to a series of at least seven named Ktunaxa campsites along a trail system running from the White River, north of Whiteswan Lake and within the area of qukin ʔamakʔis, extending through the area of Round Prairie on the Elk River, south to the main village site at Michel Prairie and then east towards important camp and sacred areas in the area of Crowsnest Lake, Alberta. Beginning at Whiteswan Lake, Schaeffer's notes indicate:

- A campsite of Michel Prairie Kutenai. The Kutenai camped here near the flint quarry used as material for tools. Name for White River was Kanukɬunmituk[7] (White River). Across the divide east from White River to head of Bull River was named akaɬsimuq… The trail there runs east across another divide into Crossing Creek and east to Round Prairie.
- Kekankokaɬmokɬe'et, "round prairie" and then south down Elk River to a large camp site.
- Yakamumts'ikukwi, "water smells" refers to some sulphur springs between Round Prairie and the junction of the Fording River with the Elk River.

[7] Where a direct quote from notes recorded by Schaeffer, Ktunaxa words are written to approximate Schaeffer's personal system of spelling. These are not standard Ktunaxa spellings approved by Ktunaxa language specialists.

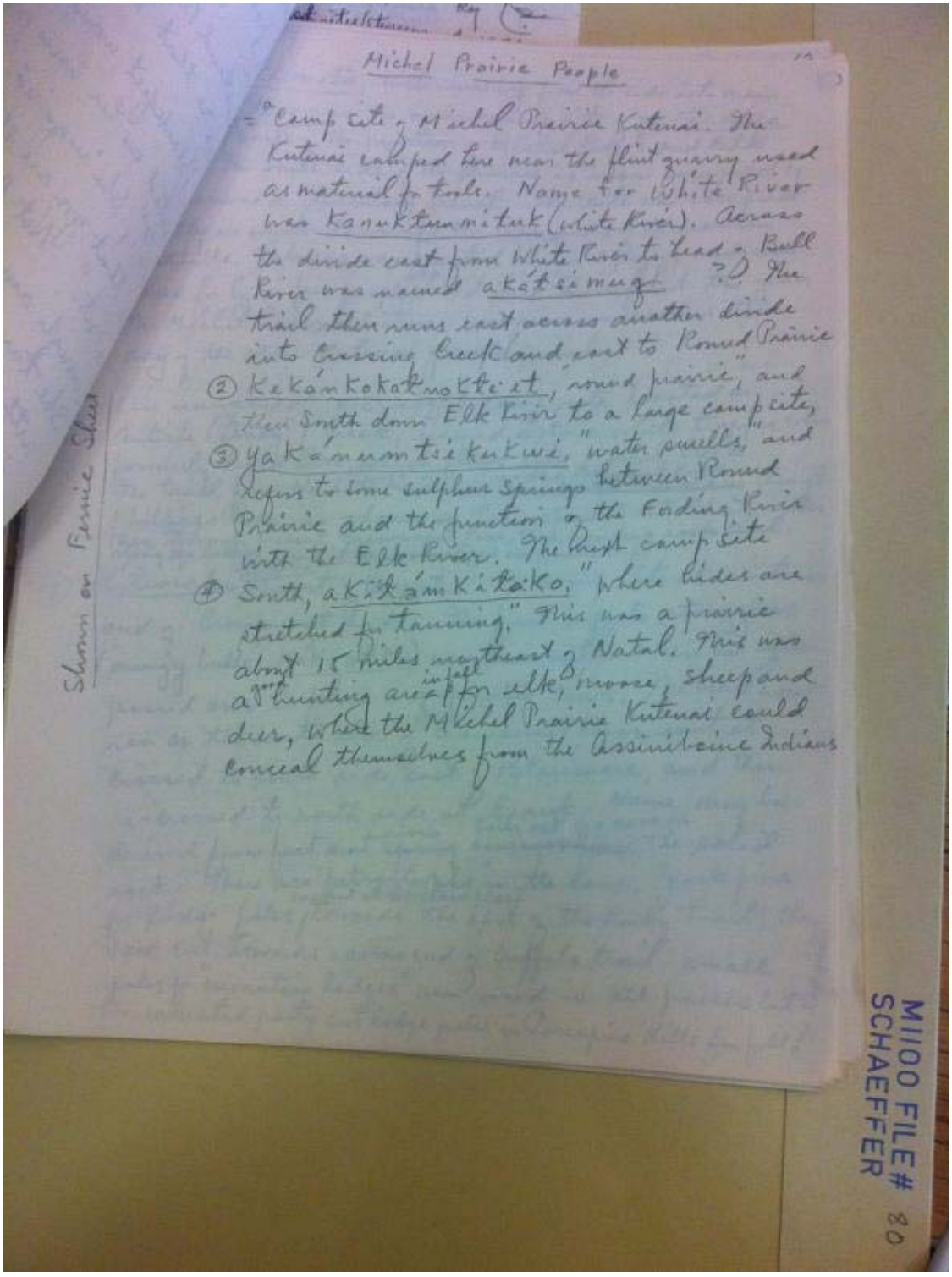
- The next camp site south, aki'łəmkiłaʼko, "where hides are stretched for tanning." This was a prairie about 15 miles north-east of Natal. This was a good hunting area in fall for elk, moose, sheep and deer, and also where the Michel Prairie Kutenai could conceal themselves from the Assiniboine Indians.
- Kakawakamiłu, "water running from the side into a main stream." This was the main camp site of the Tunaxa[8] located at a prairie south of the junction of Michel Creek and Elk River. The south side of the Prairie is now occupied by the Sparwood Elementary School[9]. The site was occupied mostly in winter to escape the blizzards of the eastern foothills. Tobacco was planted here in spring and was cared for by a few people who lived here throughout the year. The Michel Prairie Kutenai were more numerous than any of the other Kutenai groups…
- An unnamed overnight camp site located on Antiste ("Andy") Creek…which flows into Michel Creek…
- Kiłwiaki akinəwe [second word unclear], "heart of the water." A camp site at eastern end of Crowsnest Lake. The first buffalo stragglers ("mangy bulls", Kakqałka) were encountered here but often passed over in favour of younger cows. The trail now ran on the north side of Crowsnest River until it crossed to south side east of Blairmore, and then re-crossed to the north side at Frank. Name may be derived from fact that river boils out of a cave in the solid rock. There are petroglyphs in the cave… (Schaeffer, date unknown, M1100, File 80).

Beyond Schaeffer (1935-37, 1964, 1966), Turney-High (1941), and the broader ethnographic record, Ktunaxa oral histories and ongoing land use indicate that Ktunaxa citizens have relied on, and to the extent possible, continue to rely on, the Elk Valley, including the ǩaqawakanmituk or Michel Creek area, now Sparwood, for a range of practices including the harvesting of fish, plant, wildlife, and mineral resources, trails and transportation routes, and associated camps, cultural areas, and practices.

[8] Tunaxa is the term used in some early ethnographic literature to identify the plains Ktunaxa living east of the Rocky Mountains. Schaeffer uses it here to refer to the ǩaqawakanmituknik̓ as a group that spent substantial time east of the Rockies with an economic focus on the bison hunt. While based primarily west of the Rockies, the territories regularly used by Ktunaxa-speaking communities extended well into Alberta to the present location of Lethbridge and beyond until the decimation of plains bison in the late 19th century. The weight of evidence suggests that Ktunaxa-speaking peoples were a dominant force along the eastern foothills until the late 18th and early 19th centuries when conflict with the ascendant Blackfoot confederacy combined with small pox and other diseases reduced the extent of Ktunaxa ʔamakʔis. It is possible that, prior to the 19th century, some Ktunaxa-speaking communities may have lived mainly or entirely east of the Rockies, but all credible ethnographic sources agree that, despite changes in extent, Ktunaxa speaking peoples have been based in the area of the Kootenay and Columbia Rivers for an extremely long period of time.

[9] This is a direct quote from Schaeffer's notes – while the notes are not dated, they appear to be from Schaeffer's last field trip to the area and were likely written in 1967 or shortly after. Additional work would be needed to identify exactly where Schaeffer refers to. Sparwood was formed in 1966 as part of the relocation of the communities of Michel and Natal.

Figure C3-1 Sample Image of Schaeffer's Handwritten Notes (Glenbow Archives, M1100, File 80)



C3.2.2 Current Ktunaxa Use and Occupancy

While impacts to Ktunaxa rights through land privatization, railway development, coal-related industrial development, and government policy (particularly provincial mining and hunting regulations) have been widespread in the Elk Valley, Ktunaxa elders and land users continue to actively use and occupy the valley and surrounding mountains as a location for the practice of Aboriginal rights. Land use and occupancy interviews conducted between 2010 and 2015 (see methods in C1 above) reinforce the data from the KNC Diet Study and indicate that while Ktunaxa use of the Elk Valley is impaired by industrial footprints and concerns regarding contaminants, the Elk Valley continues to be widely valued and used by Ktunaxa citizens.

Figure C3-2 shows the spatial distribution of site-specific knowledge and use values reported by Ktunaxa citizens through Elk Valley interviews based on five broad categories of use.[10] A total of 416 site-specific values have been mapped to date within the regional study area. The data show the range and wide geographic extent of Ktunaxa practice in the Elk Valley and nearby areas based on the living knowledge and practice of today's Ktunaxa citizens. Downstream portions of the RSA, including Koocanusa Reservoir, are also of particular importance. Specific traditional use activities reported by Ktunaxa knowledge holders within the RSA for the Project include:

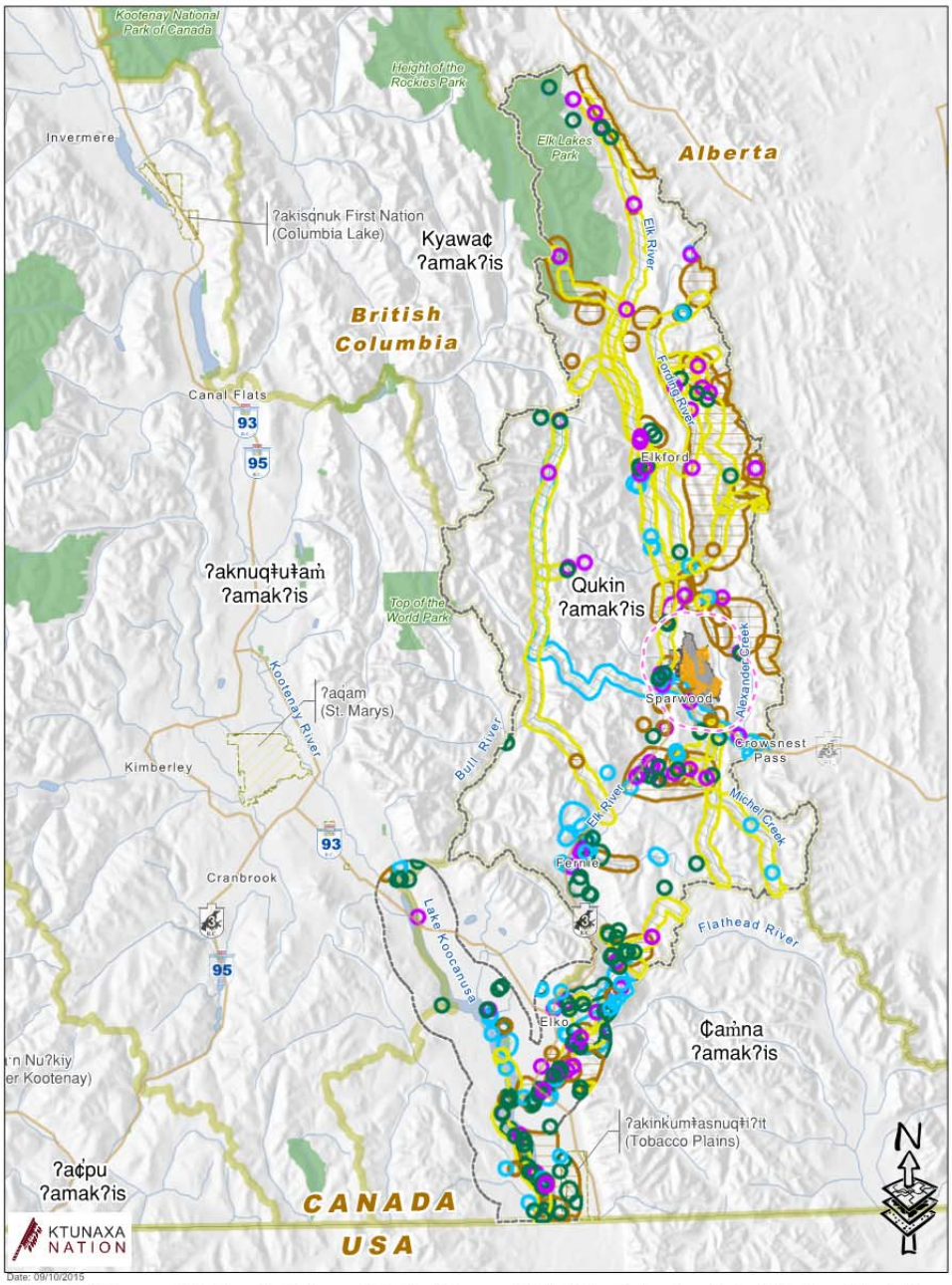
- 169 subsistence sites, including kill sites for large and small game including black bear, cougar, moose, elk, mule deer, white-tailed deer, mountain sheep, geese and other species, including fur trapping. There are also numerous recorded fishing sites for fish species including bull trout, cutthroat trout, and rainbow trout within the main stream of the Elk River and adjacent streams, as well as burbot (also called ling or mariah), kokanee, whitefish, and fresh water mussels and other species in the lower reaches of the Elk River and Kookanusa Reservoir. The winter harvest of burbot is of particular cultural importance to the winter seasonal round (Schaeffer 1935). Other important subsistence values in the RSA include important huckleberry picking areas and water use. Ktunaxa citizens hunt large and small game in the Elk Valley in all seasons, but most commonly in summer and fall, with access generally by road, horse, or foot trail; hunting is conducted by small hunting parties. Though past Ktunaxa fishing practices included net and weir methods, current fishing is generally by hook and line from shore or under ice. As indicated in the Ktunaxa Diet Study, the most commonly sought after food plants in the Elk Valley are berries, and especially black huckleberries.

[10] To account for margin of error and to protect confidential information, all Ktunaxa data were randomized and buffered. Points were randomized by 250 m, and then 1 km buffers were generated around all points, lines, and polygons.

- 69 ceremonial and cultural / spiritual uses, including:
  - harvesting of a wide range of sometimes rare or hard-to-find plants for medicinal purposes;
  - mining various rocks and minerals for pipestone and other uses;
  - harvesting bark for canoe construction;
  - sacred areas;
  - rock art sites;
  - areas associated with the historic planting and cultivation of plants including indigenous forms of tobacco; and,
  - teaching areas critical for the transmission of particular place-based oral histories and specific forms of Ktunaxa knowledge and practice.

  The Elk Valley includes multiple locations associated with Ktunaxa burials, ceremonial areas, rock art sites, and archaeological values. Several of these locations are known by Ktunaxa knowledge holders, and accounts from the ethnographic record and from oral histories indicate a strong continuity of Ktunaxa cultural and ceremonial use in the valley extending from prehistoric times to the present. High mountain areas, including high elevation forests, are spiritually important and especially susceptible to impacts from mountain-top removal and open-pit coal mining.
- 30 transportation features, including a network of trails, passes, and preferred river-based (canoe and boat) routes that travel north and south through the Elk Valley and along the Elk River extending to passes to the west, including the Crow's Nest pass. These passes were also used by groups from the east of the Rockies visiting Ktunaxa ʔamakʔis, with the Elk Valley providing an important location for trade and interaction between Ktunaxa and groups including the Stoney (Nakoda) and Piikani (Peigan) of the Blackfoot Confederacy. Large portions of these trails are still in use where they have not been intersected by road networks, including hunting trails along the eastern slopes, and major east-west trails that are used for Ktunaxa culture camps and for training and educating youth. Use of boat-access water routes is most common in the lower Elk near where it joins Koocanusa.
- 83 habitation values, including permanent cabins and frequently used campsites, as well as ancestral village areas or gathering places including areas near present-day Sparwood, Round Prairie, Elko, Mt. Broadwood, and elsewhere. Several Ktunaxa families currently live in the Elk Valley at Fernie, Elko, and elsewhere.
- 65 environmental features, including exceptional habitat areas for black bear, grizzly, moose, elk, mule deer, white tail deer, and other animals, as well as salt licks and important fish spawning areas (see C7 for additional information).

Figure C3-2 **Reported Ktunaxa Site-Specific Values within the BRE Extension Project RSA by Activity Class**



Date: 09/10/2015

Reported Ktunaxa Site Specific Values within the Ktunaxa Baldy Ridge Extension Project Regional Study Area

Regional Study Area
Ktunaxa Local Study Area (5kms)
Cultural
Environmental
Habitation
Subsistence
Transportation
Elkview Operations C-2 Permit Boundary
Baldy Ridge Extension Project Footprint
Parks & Protected Areas
Ktunaxa Traditional Districts
Ktunaxa Reserves
Major Highways

DRAFT

0 5 10 20 30 Kilometers

Mapping: JGaldamez, Ktunaxa Lands & Resources
UTM Zone 11 - NAD83 :: Data Source: Teck, KNC, BC Baseline

This map is preliminary, based on available information and constraints of time, budget and scope. This map is a living document and is intended to be amended and refined over time. It is not an expression of the extent of Ktunaxa Nation's Aboriginal rights and interests. The data used to produce this map originate from multiple sources and are presented without prejudice. This map is property of the Ktunaxa Nation and may only be reproduced with written permission.

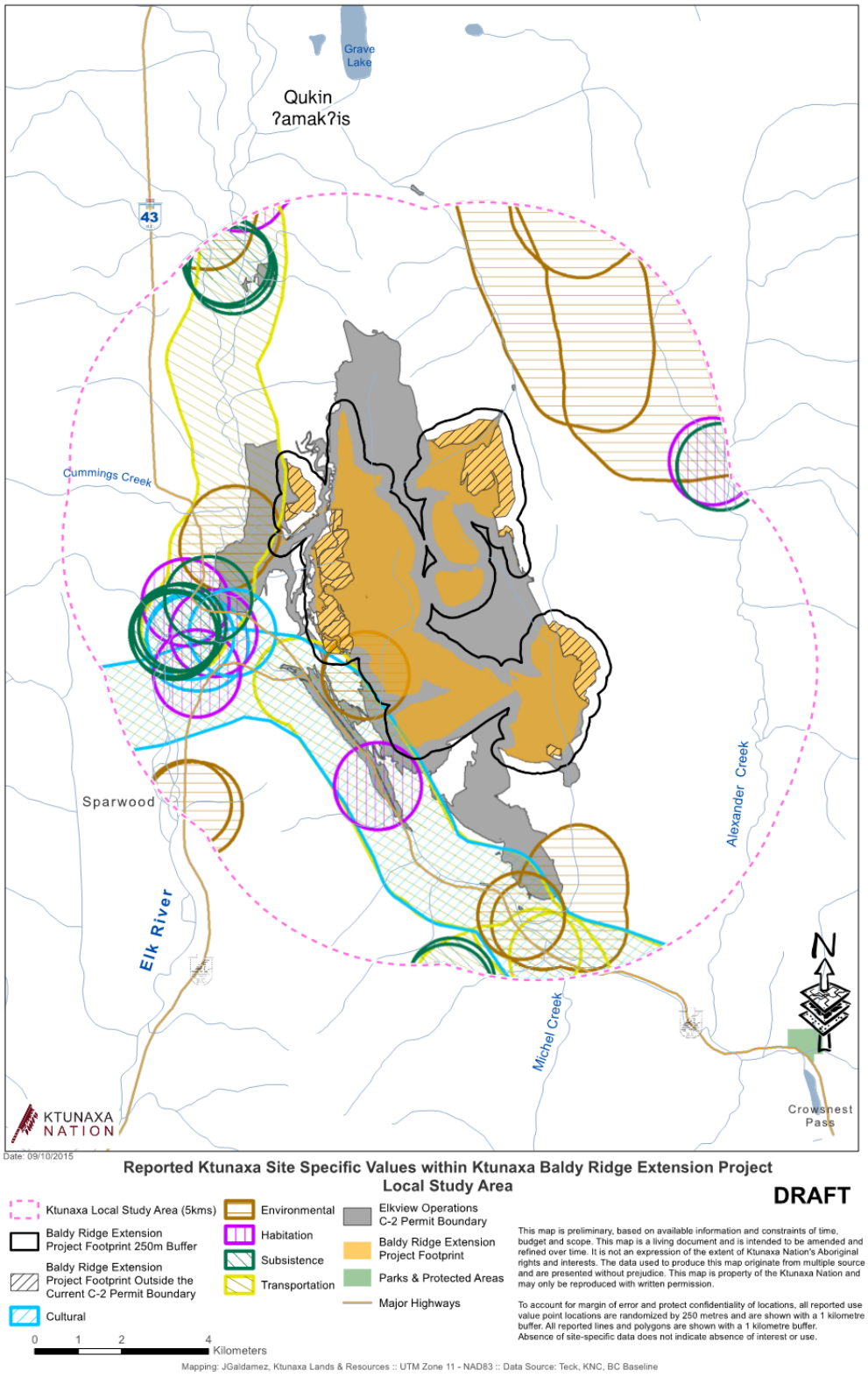
To account for margin of error and protect confidentiality of locations, all reported use value point locations are randomized by 250 metres and are shown with a 1 kilometre buffer. All reported lines and polygons are shown with a 1 kilometre buffer. Absence of site-specific data does not indicate absence of interest or use.

As shown in Figure C3-3, despite the existing disturbance within the area of the Project from the existing Elkview Operations (EVO) open pit mine, 36 site-specific values were reported within the Project LSA (within 5 km of the footprint). All mapped values are based on Ktunaxa use and occupancy reported by Ktunaxa citizens through mapping interviews.

Specific traditional use activities and environmental features reported by Ktunaxa knowledge holders within the LSA for BRE include:

- Five habitation values, including habitation areas in the area of ʔkaqawakanmituk (Michel Creek or Sparwood), Michel Creek and Alexander Creek, and recent residences in Sparwood belonging to Ktunaxa members. Ktunaxa knowledge holders (S08 2013) report that prominent Ktunaxa elders of the Michel family maintained a habitation area in the Sparwood area (likely within the LSA) and regularly "put up ceremonies" that were attended by other Ktunaxa families until at least the 1950s. Intense coal dust impacts, open pit mining at EVO, and the establishment of Sparwood in the 1960s, were all likely factors in eroding Ktunaxa use and occupancy in the area of ʔkaqawakanmituk and Michel Prairie after the 1960s.
- Ten reported environmental feature values, including exceptional fall and winter habitat for sheep, moose, and elk within the LSA, including directly west of the Project area along flats and side hills adjacent to the Elk River, and north-east of the Project along Erickson Ridge and in the Alexander Creek valley. Important fish habitat was reported within the LSA in the Elk River and Michel Creek for rainbow trout, cutthroat, whitefish and bull trout, especially at the confluence Michel Creek and the Elk River, and north of the confluence on the Elk River along the eastern boundary of the Project. Heron were also reported as using this this area as a feeding area because of deep, calm pools.
- Eleven reported harvest values, including moose and white tail deer kill sites and fishing areas where Ktunaxa knowledge holders report catching rainbow trout, cutthroat, whitefish and bull trout.
- Regularly used access routes and Ktunaxa traditional trails running along Michel Creek and the Elk River.
- Cultural and spiritual values, including ceremonial areas, archaeological values, teaching areas, and place names associated with ʔkaqawakanmituk and Michel Prairie as a historic Ktunaxa gathering place.

Figure C3-3 Reported Ktunaxa Site-Specific Values within the Local Study Area



In addition to the site-specific values mapped by Ktunaxa knowledge holders and based on Ktunaxa oral histories, non-site specific values include reported Ktunaxa cultural properties or heritage sites in the vicinity of the Project including:

- Particular oral histories regarding elders, ceremonies and “doings” that took place in the area of Sparwood through the 1930’s and likely much later.
- Non-site specific values associated with oral histories of the Elk Valley, including the creation of the Rocky Mountains themselves from the body of Naɬmuqɬin, the giant hero being known through the Ktunaxa creation story.

Table C3-1 provides a summary of reported values within the Project LSA and RSA.

Table C3-1 Reported Ktunaxa Site-Specific Values within the Local Study Area and Regional Study Area

Activity class type	Number within Local Study Area	Number within Regional Study Area
Environmental features	10	65
Transportation	5	30
Habitation	5	83
Subsistence	11	169
Cultural / Spiritual	3	69
Total	**34**	**416**

C3.2.2.1 Existing impacts and Ktunaxa Experience with Past Mining Effects

Several Ktunaxa participants identified important physical and cultural barriers to Ktunaxa use of the Elk and Michel Creek Valleys due to impacts related to the coal industry, including contaminants, traffic, disturbance and noise (blasting) from mining, and both active and passive discouragement of Ktunaxa hunting in the valley, particularly in the past. Thus, while some Ktunaxa citizens continue to hunt and practice subsistence rights in the Baldy Ridge area, the majority of land users indicated that their parents’ generation used the Elk, Michel and Erickson Valleys, but recent land users reported mine-related impairment and loss of use because of existing impacts.

Ktunaxa knowledge holders draw on a long history of experience with coal mines in the Elk and Michel Valleys, as well as elsewhere on Ktunaxa lands. These include experience of slope failures, rivers contaminated by mine tailings, and observed changes in fish abundance and quality, including reported deformities and expressed concern regarding contamination of fish caught in the Elk River. This existing impairment of Ktunaxa use suggests that cumulative effects in portions of the Elk Valley affected by mining have already exceeded a threshold of significant and adverse effect on Ktunaxa use and that existing coal mine development is a major contributing factor. The duration of this impaired use is already in excess of one generation and is widespread in the Ktunaxa community; this means that a large body of cultural knowledge related to the area of ʔkaqawakanmituk at Michel Prairie, currently held by a small number of Ktunaxa knowledge holders, is at risk of being lost unless Ktunaxa language, knowledge, use and occupancy in the region can be supported and revitalized.

> *Are they ever going to stop or are they just looking to take the whole valley? Like I'd like to see the top end of the Elk Valley at least preserved and kept to somewhat a natural state so that it gives us a chance to go up there and utilize the land again. (T12 11 July, 2012)*

The issue of impaired access in the area of the Project is compounded by access concerns elsewhere within the RSA and broader region:

> *You go up there now, you drive up there, there's gates, you can't get through there, like my son, the last time he wanted to go up there, [he] didn't know where the key was so he couldn't even go up there. And you come in from the other way, same thing, we used to go up there and pick berries and go up the Wigwam that way, now we go there and there's gates all over ... we can't go in there anymore to pick berries or fish or do anything. (T06 4 February, 2013)*

C3.2.3 Future Ktunaxa relationship with and knowledge of land and water

As a valued component, future Ktunaxa relationship with and knowledge of land and water includes the ability of Ktunaxa citizens to maintain cultural relationships, including realizing plans for cultural and linguistic revitalization. Maintaining cultural relationships includes establishing future relationships with the Elk and Michel valleys in order to repair ecological and cultural impacts incurred over the past century, and to support the maintenance and reclamation of Ktunaxa relationships with, and knowledge of, the Elk and Michel valley cultural landscape by future generations of Ktunaxa citizens.

C3.2.3.1 Current Ktunaxa Harvesting in the Elk Valley

The results of the 2012 – 2013 Ktunaxa Diet Study indicate that, despite industrial change, use of the Elk Valley and Koocanusa Reservoir by Ktunaxa is continuous and ongoing, both for the harvest of a range of traditional foods[11] and for the practice of subsistence rights including hunting, fishing, and plant food collection. The Diet Study was conducted by KNC and the Firelight Group (Fediuk et. al. 2013) using diet surveys conducted with a random sample of on- and off-reserve Ktunaxa households. Ninety-two households participated and 98 individuals completed surveys. Just over half of the households randomly selected were in the Cranbrook area, with the remainder living in the Grasmere, Creston and Columbia Valley areas. Of these households, almost 70 per cent indicated that they harvested berries; almost 60 per cent indicated that they fished, and more than 50 per cent indicated that they hunt.

Study participants were asked to list the last year that they had harvested in the Elk Valley and Koocanusa Reservoir along with the kinds of foods harvested. Thirty per cent of the sampled households reported that they had harvested in the Elk Valley and Koocanusa Reservoir areas. The range of species reported harvested in each area is provided in Table C3-2.

Respondents were also asked which areas they had relied on for harvesting over the last 10 years. Seventeen per cent of sampled households indicated that over the past 10 years they have harvested huckleberries in qukin ʔamakʔis either occasionally or every year, 9 per cent said they had harvested elk, and 8 per cent trout. Individuals who had never harvested or had not harvested recently were asked to describe their reasons for not harvesting in the area. This harvest information gives a general sense of the current relative intensity of harvesting (although not the cultural importance) of different foods harvested by Ktunaxa citizens from the Elk Valley and Koocanusa Reservoir. It is important to note that none of the Ktunaxa households residing in the Elk Valley were part of the random sample used for this study.

[11] The list of traditional foods harvested in the Elk Valley and Koocanusa Reservoir reflects the sampled households only. Less frequently harvested but potentially important foods, including mountain sheep, goat, and cougar, are known from other studies but were not reported by the households represented in the Diet Study as harvested in the Elk Valley or Koocanusa Reservoir areas.

Table C3-2 Ktunaxa Foods Harvested in the Elk Valley and Koocanusa Reservoir[a]

Types of foods harvested	Sampled Ktunaxa households that reported ever harvesting in Elk Valley and Koocanusa Reservoir areas	
	Elk Valley (n=28)	Koocanusa Reservoir (n=32)
Elk	29% (8)	31% (10)
Deer	25% (7)	28% (9)
Trout	29% (8)	68% (19)
Burbot	3% (1)	34% (11)
Huckleberries	71% (20)	18% (5)
Kokanee	0	21% (6)
Ayute	7% (2)	3% (1)
Bitterroot	3% (1)	-
Moose	3% (1)	-
Saskatoons	3% (1)	-
Shaggy Mane Mushrooms	3% (1)	-
Grouse	-	3% (1)
Strawberries	7% (2)	3% (1)
Thimbleberries	-	3% (1)
Soapberries	3% (1)	3% (1)

[a] From a Firelight Technical Memorandum by Fediuk et. al. 2013 entitled Final Results of the Ktunaxa Diet Study Prepared for Ktunaxa Nation Council, dated October 25, 2013.

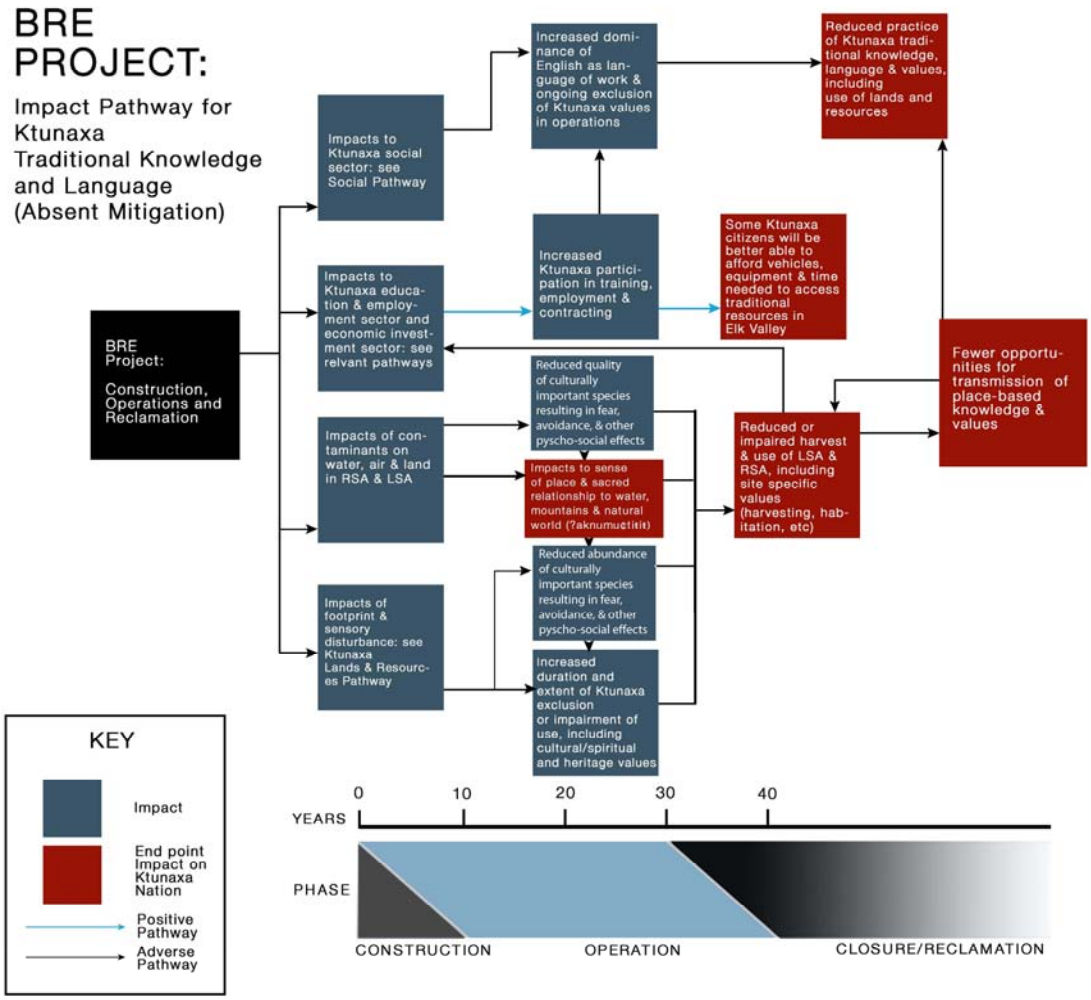
C3.3 Traditional Knowledge and Language: Project Effects, Mitigation and Significance

This section outlines the anticipated effects of the Project, recommended mitigations and actions, residual effects, and determination of significance for valued components associated with the Ktunaxa traditional knowledge and language sector.

Assessment of Project effects is based on methods outlined in Section C1. Major impact pathways from the Project relevant to Ktunaxa Traditional Knowledge and Language are shown in Figure C3-4; these are based on Ktunaxa knowledge, and on the Project absent additional Ktunaxa mitigations recommended below and in section C11.

Without additional Ktunaxa mitigation, adverse Project impacts relevant to the Ktunaxa Traditional Knowledge and Language sector, including use and occupancy, would occur during construction, operations, and during reclamation and closure (beginning in 2045). Impacts during construction and operation would be most severe and last between twenty-five and thirty years. Impacts would result from adverse and some positive social and economic effects (see sections C4.2, C5.2and C6.2), as well as adverse impacts to Ktunaxa lands and resources, including increased footprint and sensory disturbance and Project contribution of contaminants such as dust, selenium, and other metal contaminants within the LSA and extending downstream along Michel Creek and the Elk River within the RSA including Koocanusa Reservoir.

Figure C3-4 **Traditional Knowledge and Language Sector Project Effects Absent Mitigation (C11)**



The Project would have some positive effects on Ktunaxa knowledge and use in the LSA and RSA resulting from increased incomes and increased time spent in the region for a small number of Ktunaxa citizens who find employment as a result of the Project. However, the Project would likely have an overall negative effect on the traditional use of lands and resources by Ktunaxa citizens as a result of spatial extension, and temporal extension, of disturbance of habitat and increased or maintained contaminant and disturbance levels likely to result in:

- Ongoing impairment of Ktunaxa sense of place and relationships to water, mountains, and the natural world within the LSA and downstream within the RSA for the life of the Project;
- Ongoing mining activity in the Project area resulting in an extension of Ktunaxa knowledge holders' ongoing concern (see C3.2.2.1 and C7) regarding contaminant risk and reduced quality of fish and aquatic resources;
- Ongoing erosion of existing practice of traditional use, knowledge, language, and values in the LSA and downstream within the RSA, and;
- Impairment of the ability of Ktunaxa citizens to maintain particular place-based Ktunaxa knowledge and values, including those related to ʔkaqawakanmituk at Michel Prairie and associated oral histories in the area of the LSA and downstream within the RSA.

C3.3.1 Intangible Cultural Resources: Language and Place-specific Ktunaxa Knowledge

The Ktunaxa language is critically endangered. Place-specific Ktunaxa knowledge of ʔkaqawakanmituk at Michel Prairie and adjacent areas of the LSA and footprint are also endangered. Impacts on Ktunaxa language and place-specific knowledge in the Elk Valley are largely due to industrial displacement of Ktunaxa practice; these impacts have occurred over multiple generations and have resulted in measurable and perceivable adverse changes in culturally important place-based knowledge and language that are of concern to Ktunaxa citizens. As such, impacts on Ktunaxa intangible cultural resources in the LSA and RSA are already well past a threshold of significant and adverse effect on intangible cultural resources. Additional negative pressure from the Project would increase the severity of existing significant adverse effects on intangible cultural resources. Measures taken by the Project to increase resources available to Ktunaxa Traditional Knowledge and Language would help offset these already significant impacts.

Without the mitigations outlined in C11, the Project is likely to result in:

- a continued absence of Ktunaxa language and place names in day-to-day Teck operations;
- a continued trend of decline and erosion in the presence and visibility of the Ktunaxa language in the Elk Valley;
- reduced opportunities for transmission of place-based Ktunaxa language and knowledge; and,
- further losses to already critically endangered Ktunaxa language and knowledge.

See subsections C2, C3, C4, C5, C6, and C7 for an illustration of the Project effects that the mitigations and measures in Table C11-1 are designed to address. Mitigations are designed to reduce the impact of potential negative effects and to increase the impact of potential positive effects. The mitigation measures identified below are intended to reduce, manage and, where feasible, compensate for residual Project

effects to Ktunaxa Title, Rights and Interests. They reflect currently available knowledge and information, and may evolve as the Project EA progresses, including the following:

- Any recommended mitigations and measures not already agreed to in existing agreements and not included as conditions of the final Table of Conditions for the EVO BRE Environmental Assessment Certificate will be addressed through bilateral agreements or arrangements between Teck and KNC.
- If signed, the IMBA will also provide a framework for negotiating specific mitigations and measures related to mining projects, which may include the BRE Project.

Ktunaxa recommended measures and mitigations relevant to the valued component of intangible cultural resources are detailed in section C11 and summarized below:

- **C11.2 Water, Wild Foods and Confidence**: Consistent with LCO Phase II Condition #25 Teck will provide reasonable funding to Ktunaxa Nation for development, implementation and consultation activity on a plan for a Ktunaxa Elk Valley Wild Foods Program.
- **C11.3 Cultural Management**: By September 2018, with Ktunaxa leadership and direction, establish a Cultural Management Plan for cultural landscapes and archaeological resources related to the EVO and Sparwood area. Teck will provide reasonable funding to Ktunaxa Nation for development and consultation activity on a BRE Cultural Management Plan for implementation during construction, operations, closure and reclamation.
    - This plan should include clear measures to fund, document and protect Ktunaxa efforts to safeguard knowledge and language related to ʔkaqawakanmituk and Ktunaxa histories of Michel Prairie and surrounding areas. These include establishing a plan for educational, oral historical, archival, and potential archaeological work designed to identify, record, and protect remaining tangible and intangible Ktunaxa cultural heritage that has been damaged or eroded as a result of development associated with existing EVO operations, or that will be further damaged or eroded through the extension of operations through the Project.
    - This plan should result in legacy benefits to the Ktunaxa Nation and be geared to the protection and revitalization of Ktunaxa knowledge and language for future Ktunaxa generations in the Elk Valley.
    - Teck will work with KNC Lands and Resources to develop a Ktunaxa Use Management Plan, as part of the cultural management plan for the Project, or as a stand-alone document.
- **C11.5 Ongoing Access and Use:** By September 2018, and as part of the Cultural Management Plan, Teck will make best efforts to collaboratively establish with the KNC a Teck-KNC Access Task Group.
- **C11.11 Trail Corridors**: As part of the Cultural Management Plan Improve protection and cultural interpretation of Ktunaxa sites and properties associated with, and potentially disturbed by BRE.
    - Prior to Project construction, and as part of the Ktunaxa cultural management plan for the Project, or as a stand alone document, Teck will work with KNC Lands and Resources to identify the nature and extent of trail corridors and associated passes in the area of Michel Creek and extending to the eastern slopes of the Rockies, and including areas historically

disturbed by existing infrastructure (including rail link and access road) that will continue to be used by the Project. This work will include, where appropriate, rehabilitation of trails, marking of trail sections interrupted by disturbance, and additional archival or oral historical research regarding them.

C3.3.2 Tangible Cultural Resources: Cultural Areas and Properties

The ability of Ktunaxa citizens to use and rely on cultural areas and properties in the LSA and RSA, including the availability of preferred species and resources at preferred traditional use locations, has been impaired by industrial displacement. These changes have resulted in measurable and perceivable adverse impacts on culturally important locations and tangible resources that are of concern to Ktunaxa citizens. As such, impacts in the LSA and RSA on Ktunaxa cultural resources are considered already significant and adverse. Additional negative pressure from the Project would increase the severity and extent of existing significant adverse effects.

Without the mitigations outlined in C11, the Project is anticipated to remove or impair areas of high value habitat identified by Ktunaxa knowledge holders (particularly for black bear, grizzly bear, moose, mule deer, white tail deer, sheep, and elk, as well as culturally important plants – see section C7) associated with site-specific and non-site specific, past, present, and planned future Ktunaxa cultural values, hunting and subsistence practice. The Project would result in adverse impacts to the ability of Ktunaxa citizens to access preferred subsistence resources on or adjacent to mine property, and in the Elk River, Michel Creek, and adjacent watersheds. The Project would also further impact Ktunaxa cultural areas and properties including disturbing the sense of place associated with the cultural landscape of ǩaqawakanmituk at Michel Prairie, affecting historic foot and horse trails within the LSA, and extending the duration of impaired connectivity between existing trails in the LSA.

Ktunaxa recommended measures and mitigations relevant to the valued component of tangible cultural resources are detailed in section C11. Relevant mitigations to tangible cultural resources include many of those summarized above, as well as:

- **C11.4 Archaeology and CRM:** By September 2018, Teck will work with KNC to establish appropriate protocols for Ktunaxa archaeological and cultural properties protection including chance finds (as part of the Cultural Management Plan):
  - According to Cultural properties protection as addressed in LCO Phase II Condition #24.
- **C11.6 Stewardship and Conservation:** Prior to construction, establish a Biodiversity Management Plan, Invasive Plant Management Plan, Wildlife Mitigation Management Plan, and Reclamation Plan that seek to conserve biodiversity, and include provisions for long-term environmental monitoring (as per EWG), with attention to long-term Ktunaxa planning objectives, identification of thresholds for Ktunaxa management action, anticipated project effects, and climate change in the Elk Valley (likely in collaboration with the Elk Valley Cumulative Effects Management Framework (CEMF).
- **C11.7 Water and Fish**: Prior to Project construction that impacts fish habitat, Teck will work with KNC (through the Elk Valley Fish and Fish Habitat Committee) to refine the conceptual Fish Habitat Offsetting Plan for the Project.

- Teck will work with Elk Valley Fish and Fish Habitat Committee on the process of refining and finalizing the Fish Habitat Offsetting Plan, with the objective of completing this prior to a SHPAD (serious harm, permanent alteration or destruction) occurring.
- Also see Section B2 for additional detailed mitigations.

- **C11.8 Roads and Access Management:** Reduce impacts from increased duration of road use and access as part of closure plan:
  - Prior to Project construction Teck will work with KNC Lands and Resource to review the Conceptual BRE Operations Closure Plan
  - Through the Access Task Group, Teck will work with KNC lands and resource to develop mitigations for access.
- **C11.9 Ongoing Research and Support**: As part of the Cultural Management Plan support for further Ktunaxa research, documentation, and communication regarding past, present, and future Ktunaxa use and occupation of the Elk and Michel Creek valleys, and in particular in the vicinity of the Project, or downstream. This work will be designed for inclusion in reclamation planning and establishing reclamation objectives to support opportunities for long-term future viability of the area for Ktunaxa cultural use.

C3.3.3 Future Ktunaxa Relationship With and Knowledge of Land and Water

The ability of Ktunaxa citizens to maintain relationships with the lands and waters in the Elk Valley, including the fulfillment of their stewardship obligations, is currently impaired by industrial displacement. Industrial changes and lack of recognition of Ktunaxa title and stewardship has resulted in the erosion of Ktunaxa governance and measurable and perceivable adverse impacts on culturally important rights and practices that are of concern to Ktunaxa citizens. As such, impacts within the LSA and RSA on the valued component of future Ktunaxa relationships with, and knowledge of, land and water have already surpassed a threshold of significant and adverse effect. Additional negative pressure from the Project would increase the severity and extent of existing significant adverse effects.

The Project would increase the overall footprint of coal mining in the LSA and RSA, extend the duration and extent of operations, and result in continued or increased industrial alienation, loss of Ktunaxa use and occupancy in the Elk Valley, and a resulting decline in the Ktunaxa relationship with, and knowledge of, lands and waters in the Elk Valley and qukin ʔamakʔis.

Ktunaxa measures and mitigations relevant to the valued component of Future Ktunaxa Relationship are detailed in section C11. Relevant mitigations to impacts on Future Ktunaxa Relationship include many of those summarized above, as well as:

- **C11.12 End Land Use Objectives:** Support KNC to confirm land planning objectives for the Elk Valley:
  - Teck will work with KNC and MEM to confirm end land use planning objectives for the Project for consideration within the Reclamation Plan.
  - Following certification, Teck will work with KNC to confirm end land use planning objectives, including Ktunaxa uses, for consideration within Project construction and operations and closure planning.

- **C11.13 Recognition of KNC Governance:** Support recognition of Ktunaxa stewardship and governance in the Elk Valley
    - Confirm Teck support, through a letter or other document, for government-to-government revenue sharing and, where appropriate, bilateral or harmonized policy development, between Ktunaxa and Provincial or federal crowns.
- **C11.26 Compliance Monitoring**: Ktunaxa monitoring and annual reporting: Within six months of EA certification, and through IMBA or other agreements, Teck and the KNC will seek agreement on the need for and funding required to support the following:
    - Ktunaxa assessment of performance with respect to management plans and EA conditions;
    - Ktunaxa community based monitoring for quality assurance regarding other guidelines or standards.

C3.4 Traditional Knowledge and Language Sector: Characterization of Residual Project Effects

Based on reported Ktunaxa knowledge, and existing information regarding the Project, and based on the context of existing baseline impacts to land, water and Ktunaxa use of the Elk River and Michel Creek Valleys, and assuming full mitigations identified in C11, the Project is considered likely to contribute further measurable or perceivable residual adverse effects on all three valued components related to the Ktunaxa KNC Traditional Knowledge and Language Sector. The Project would result in a small increase in the spatial extent and a substantial increase in the duration of impacts to Ktunaxa use and knowledge, including impacts to tangible and intangible cultural resources in the LSA and extending downstream of the Project within the RSA.

Downstream effects are anticipated as a result of

- Project related increases in contaminant risk perceived by Ktunaxa land and water users;
- anticipated impacts on fish and aquatic health;
- declines in Ktunaxa use likely to result from these impacts, including declines in fishing and cultural use; and
- impairment of the practice of Ktunaxa rights in the area of Michel Creek, the Elk Valley, and Koocanusa Reservoir.

While the recommended mitigations and measures would support Ktunaxa citizens in coping with impacts, Project effects on the TKL VCs will remain measurable, perceivable and generally adverse.

The Project is predicted to contribute to already observed and perceived contamination in the LSA and RSA, and further reduce Ktunaxa confidence in water quality and wild foods around the footprint and extending downstream. This loss of confidence is likely to result in reduced or lost use of preferred harvesting areas, especially downstream of the Project, and a corresponding reduction in use and transmission of Ktunaxa place-based knowledge specific to the LSA and RSA, which would then likely reinforce the impaired use and result in cascading effects. The Project is considered likely to result in reduced confidence and consumption of wild foods from the LSA and RSA, including burbot, trout, and other resources, by Ktunaxa citizens.

Table C3-3 characterizes anticipated residual Project effects relevant to the Traditional Knowledge and Language sector. Because of existing impacts, the sensitivity or vulnerability of Ktunaxa tangible and intangible cultural resources and future relationships with lands and waters is considered to be high. The cultural importance of nearby trails, ancestral village areas, subsistence resources, and cultural places in the LSA and RSA, including downstream values, is also high. Therefore, the magnitude of effect is considered moderate to high. Effects would be continuous through construction and operations and will extend into the RSA, and especially downstream portions of the RSA. The duration of the effect on use and knowledge is expected to be greater than 20 years, and a condition similar to baseline is unlikely to be achieved after that time, thereby interrupting multiple generations of Ktunaxa use and knowledge. This effect is anticipated with a high degree of confidence.

Table C3-3 TKL Sector Characterization of Residual Project Effects

Valued Components	Magnitude	Direction	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Context
Intangible Cultural Resources	Moderate to High	negative	LSA and RSA	Permanent (> 1 generation)	continuous	no	likely	vulnerable/ medium confidence
Tangible Cultural Resources	Moderate to High	negative	LSA and RSA	Permanent (> 1 generation)	continuous	no	likely	vulnerable/ medium confidence
Future Ktunaxa Relationships with Land (and Water)	High	negative	LSA and RSA	Permanent (> 1 generation)	continuous	no	likely	vulnerable/ medium confidence

C3.5 Traditional Knowledge and Language Sector: Significance of Residual Effects

The Project is anticipated to result in changes in the environment that will result in measurable and perceivable adverse impacts on culturally important rights and practices that are of concern to Ktunaxa citizens. Considering the already significantly affected context within which Project impacts will take place, and absent resolution of concerns in a manner acceptable to the Ktunaxa Nation, the residual effects of the Project on Ktunaxa rights, title, and interests related to the TKL sector, including tangible and intangible cultural resources and relationships to lands and waters, are anticipated to be adverse and significant. If the Project is built, Ktunaxa citizens will be less likely to hunt, fish, visit, and practice rights in areas near the Project and downstream along the Elk River, and impacts to ʔkaqawakanmituk at Michel Prairie will continue to result in irreplaceable loss to endangered Ktunaxa language and knowledge. Ktunaxa knowledge of ʔkaqawakanmituk and surrounding areas, and practices reliant on fish and fishing downstream of the Project, including Koocanusa Reservoir, are likely to be particularly affected. This significance evaluation assumes the most sensitive Ktunaxa user or receptor, is based on post-mitigation residual effect, and is made with medium confidence.