SSN ID 819

Comment:

SSN have documented historical levels of sharp tailed grouse populations in the 30-40+ birds level in the area and historically have hunted- recent reductions in numbers have led to SSN members self imposing closures to respect the restoration of these populations and further impacts would be in contradiction to this principle

Response:

With respect to non-migratory gamebirds, including sharp tailed grouse, Section 6.16.7 Conclusion states that the loss of suitable sharp-tailed grouse habitat, and specifically the removal of one known active lek and the effective loss of another due to sensory disturbance, may result in a negative impact to this species. As the Columbian subspecies of sharp-tailed grouse present in the area is Blue-listed (special concern) in BC, the loss of sensitive sites could impact populations both locally and regionally. Habitat loss is considered not significant (moderate) for this species for Project-related residual effects, as 25% of known active lek sites will be removed. Habitat loss is considered not significant (minor) for residual cumulative effects, as suitable habitat still exists within the region, and that habitat has very few current or anticipated disturbances (projects/activities).

Section 6.16.4.3 Mitigation Measures for Non-migratory Gamebirds of the Application/EIS states that during Construction, Project infrastructure footprints will be kept to the minimum size required. At the end of mine life, during Decommissioning and Closure, habitat will be restored through reclamation and revegetation processes. Reclamation of the Project site has the potential to regain some lost habitat, if the appropriate seeds are included in the revegetation seed mix.

Habitat loss will be concentrated in the Project infrastructure footprints. Sharp-tailed grouse leks should be avoided if at all possible and whenever practical. All known lek locations will be provided to KAM Construction and Operation personnel and buffered to reduce or avoid impacts to these sites. Four known active leks occur in the Local Study Area (LSA), with three of these occurring in the Project Infrastructure Disturbance Area (IDA). One of these leks is located in the south mine rock storage facility footprint, and the loss of this lek is unavoidable. Based on the footprints of the pit, overburden stockpile, temporary reclamation pile and topsoil stockpiles in the northeast section of the Project IDA, three of the four known active leks within the LSA will not be physically removed as a result of Project Construction activities. Of the three remaining active leks, one will become effectively lost due to high levels of sensory disturbance. The potential for interaction with the two remaining active leks will be further reduced by ensuring that initial stockpile development occurs outside of the lekking season (late March through May).

Legislation and Best Management Practices regarding gamebirds do not exist in BC; however, KAM recognizes the importance of preserving sensitive habitat features for provincially Red- and Blue-listed species. New lek locations will be created to compensate for the one active lek that will be removed. As the success of lek creation is not well known, two potential lek sites should be created for every known lek removed. The initial Wildlife Habitat Objectives for Reclamation Plan (Aspen Park Consulting, 2013) suggests using flatter areas or gentle hummocks raised slightly above the surrounding land surface,

ranging in area from 400 to 1,000 metres squared, for lek creation on mine rock piles. These areas will be seeded with bunchgrass to ensure an area of low grass cover. As the creation of these leks will not occur until the end of mine life, lek creation outside of the LSA will need to occur during mine construction.

Section 11.27.3.11 Non-migratory Game Birds of the Wildlife and Vegetation Monitoring Plan states that artificial lek sites will be created to mitigate for loss of lek sites during Construction and disturbance during Operation. These sites will be on gentle hummocks raised slightly above the surrounding land surface and seeded with bunchgrass (see Appendix 11.26-A, Aspen Park Consulting, *Wildlife Habitat Objectives for Reclamation Plan*, 2013). These sites should also have dense grass cover for nesting and riparian areas nearby (Ritcey and Jury, "Columbian" Sharp-tailed Grouse [*Tympanuchus phasianellus columbianus*], *Accounts and Measures for Managing Identified Wildlife - Accounts V*, 2004). Lost leks will be replaced during reclamation. Male decoys, female decoys in the precopulatory position, and recorded grouse vocalizations may be used to induce grouse to attend replacement leks (Baydack, *Sharp-tailed Grouse Response to Lek Disturbance in the Carberry Sand Hills of Manitoba*, 1986). Annual monitoring of known, artificial and replacement sharp-tailed grouse leks will follow Resources Inventory Committee standards (*Inventory Methods for Upland Gamebirds. Version 1.1. Standards for Components of British Columbia's Biodiversity No. 17*, 1997) and be done in coordination with the BC Ministry of Forests, Lands and Natural Resource Operations. Monitoring of disturbance effects for known remaining leks (Figure 11.27-3) within the LSA during the breeding season (April 1 to May 31) will be done during Construction.

The Closure and Reclamation Plan (Section 3.17) describes that approximately 1,406 hectares (ha) will be re-vegetated following mine closure, while 299 ha — comprising the area of the open pit — will not be provided revegetation opportunities. The Closure and Reclamation plan will be further developed in consultation with SSN during the next phases of Project planning, as stated in Section 8.5.7.4 Proposed Mitigation Measures.

To mitigate effects on SSN occupancy of the land, KAM will work with SSN to document past, present and future land uses in the areas surrounding the Project and in the larger traditional territory. This will aim to support SSN involvement in future land use planning for consideration in the Reclamation Plan.

KAM will also provide support, as appropriate, for SSN's participation in accessing, harvesting and/or documenting plants or other resources of cultural value prior to and during Project execution.

KAM will work to identify and describe rare or valued plant communities within the Project footprint. As appropriate, KAM will work SSN to collect seeds, plants and soil samples to inform future reclamation plans. KAM will also work with SSN to investigate the need for future studies on biodiversity trends in the region to determine the possible role of the Project or other industrial activities on future conditions as they relate to harvested species (Section 11.26.2 Conceptual Framework).

With respect to monitoring, Section 11.26.8 Operational and Post-closure Monitoring and Reporting states, "*KAM, with engagement of First Nations and stakeholders, will conduct a range of monitoring programs to ensure:*

- *compliance with the terms and conditions of permits, licenses and approvals issued to mine operations;*
- *compliance with applicable provincial and federal legislation relating to mine operations and environmental protection;*

- *conformance with the Mining Association of Canada's Towards Sustainable Mining (TSM) Mine Closure Framework;*
- *the success of reclamation programs;*
- *the geotechnical stability of structures, including mine rock and tailings storage facilities, diversion ditches, sediment control ponds, soil stockpiles; and*
- *impacts to the environment are minimized."*

Section 8.5.6.3 Assessment of Residual Effects: Stk'emlupsemc te Secwépemc Nation states, "*KAM proposes to establish a committee with the SSN to facilitate implementation of mitigation and monitoring. The committee will foster SSN's participation in evaluating the effectiveness of the mitigation proposed on an ongoing basis*."