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7.2.7 Current Land and Resource Use for Traditional Purposes

7.2.7.1 Introduction

This section of the Application for an Environmental Assessment Certificate/Environmental Impact Statement (Application) assesses the potential effects of the proposed Blackwater Project (Project) on Aboriginal groups' current land and resource use for traditional purposes (CLRUTP). Current Aboriginal Use refers to Aboriginal peoples' land based practices, including fishing practices, hunting and trapping practices, gathering practices, social and ceremonial practices, and traveling and habitation practices. In accordance with Schedule B of the section 11 Order issued by the British Columbia Environmental Assessment Office (BC EAO) on 9 July 2013, section 9.2 of the Final Environmental Impact Statement Guidelines (EIS Guidelines) issued by the Canadian Environmental Assessment Agency (Agency) on 19 February 2013, the Aboriginal groups considered in this assessment include:

- Lhoosk'uz Dene Nation (LDN);
- Nadleh Whut'en First Nation (NWFN);
- Saik'uz First Nation (SFN);
- Stellat'en First Nation (StFN);
- Ulkatcho First Nation (UFN);
- Nazko First Nation (NFN);
- Skin Tyee Nation (STN);
- Tsilhqot'in National Government (TNG); and
- Métis Nation British Columbia (MNBC).

The assessment follows the general environmental assessment (EA) methods outlined by the BC EAO (2013) and the Agency (1994), including for the: identification of Valued Components (VCs); description of the scope and methods of the assessment; description of baseline conditions; assessment of Project-specific effects; proposed mitigation of potential effects; characterization of predicted residual effects; assessment of significance of residual effects; and assessment of cumulative effects.

This assessment is based on the Project design described in the Application (**Section 2.2**) and draws on conclusions related to assessments of noise (**Section 5.2.3**), air quality (**Section 5.2.4**), vegetation (**Sections 5.4.5** and **5.4.6**) and wetland resources (**Section 5.3.7**), terrestrial environment (**Section 5.4**), visual quality (**Section 7.2.8**), heritage resources (**Section 8**), health (**Section 9.2**), and accidents and malfunctions (**Section 10**). Additional information relating to Aboriginal issues is located in Part C of the Application, Aboriginal Groups Information Requirements.

7.2.7.1.1 Regulatory and Policy Framework

CLRUTP was selected as a VC in accordance with section 5.1 (c) (iii) of the *Canadian Environmental Assessment Act, 2012 (CEA Act, 2012)*. The policy framework for CLRUTP is presented as follows.

Vanderhoof Land and Resource Management Plan

The Project is located within the Vanderhoof Land and Resource Management Plan (LRMP; BC Ministry of Forests [MOF], 1997) area. The LRMP does not provide specific management direction with respect to Aboriginal groups' CLRUTP¹. However, the LRMP seeks to protect Aboriginal groups' archaeological, cultural, and heritage values via the establishment of Resource Management Zones (RMZs) and associated management strategies. The proposed mine site is located in the Davidson Creek RMZ. The proposed transmission line is located in the following RMZs:

- Nechacko West;
- Upper Nechako River;
- Crystal Lake;
- Kluskus;
- Chedakuz; and
- Davidson Creek.

LDN participated in developing access management provisions in areas of critical moose habitat in the Davidson Creek RMZ during the LRMP process. The Project is not located within any Protected Areas described in the LRMP. However, the closest Protected Area – Entiako – provides opportunities for the UFN and manages for several First Nations interests, including hunting and fishing opportunities. The LRMP also notes the need for resource and tourism employment to be available for Aboriginal communities and residents of the remote Upper Blackwater area.

Aboriginal Stewardship Plans and Strategic Agreements

Publically-available information related to agreements and Aboriginal land stewardship plans are described in **Table 7.2.7-1**.

¹ Local First Nations chose not to participate in the LRMP process due to concerns related to compromising land claim and treaty negotiations. First Nations were apprised of the LRMP process and progress.

Table 7.2.7-1: Aboriginal Land Use Plans and Strategic Agreements

Aboriginal Group	Title of Plan or Agreement	Description of Plan or Agreement
Lhoosk'uz Dene Nation (LDN)	Lhoosk'uz Dene Forest and Range Consultation and Revenue Sharing Agreement (2014)	Establishes a forest revenue sharing contribution and consultation process regarding accommodation measures in addition to the revenue sharing contribution
Nadleh Whut'en First Nation (NWFN)	Forest Tenure Opportunity Agreement	Establishes a process for building capacity and participation in the forest sector by offering a forest tenure opportunity
Saik'uz First Nation (SFN)	Nechako Sturgeon Recovery Initiative (member) Environmental Stewardship Plan (in development) Forest and Range Interim Measures Agreement (2003)	Development of environmental stewardship plan as part of participation in the Nechako Sturgeon Recovery Initiative
Stellat'en First Nation (StFN)	Stellat'en First Nation Forest and Range Consultation and Revenue Sharing Agreement (expired 2014)	Establishes a forest revenue sharing contribution and consultation process regarding accommodation measures in addition to the revenue sharing contribution
Ulkatcho First Nation (UFN)	Ulkatcho Forest Consultation and Revenue Sharing Agreement	Establishes a forest and range resource development revenue sharing contribution and consultation process regarding accommodation measures in addition to the revenue sharing contribution
Nazko First Nation (NFN)	Nazko Forest Consultation and Revenue Sharing Agreement (2011)	Establishes a forest and range resource development revenue sharing contribution and consultation process regarding accommodation measures in addition to the revenue sharing contribution
	Incremental Treaty agreement (2012)	Provides treaty benefits in advance of a Final Agreement based on the strength of a completed Agreement-in-Principle.

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Aboriginal Group	Title of Plan or Agreement	Description of Plan or Agreement
Skin Tyee Nation (STN)	Wet'suwet'en Natural Resource Project Development Protocol	Establishes consultation process regarding natural resource development projects
	Skin Tyee Forest Consultation and Revenue Sharing Agreement (2011)	Establishes a forest and range resource development revenue sharing contribution and consultation process regarding accommodation measures in addition to the revenue sharing contribution
	Skin Tyee Natural Gas Pipeline Benefits Agreement (Coastal Gaslink Pipeline Project) (2014)	Establishes partnership framework for liquefied natural gas (LNG) opportunities, which includes development skills training and environmental stewardship
	Skin Tyee Economic and Community Development Agreement (Huckleberry Mine) (2014)	Establishes direct tax revenue on new mines and major mine expansions, and major resort developments
Tsilhqot'in National Government (TNG)	Tsilhqot'in Stewardship Agreement (2014-2017)	Establishes joint decision-making and consultation processes with respect to lands and resource development
	Tsilhqot'in Mining Policy	Provides guidance for resource development work or staking claims within the traditional territory of the Tsilhqot'in Nation
Métis Nation British Columbia (MNBC)	Métis Nation British Columbia - Natural Resource Act (2013)	Establish natural resource regulation, policy and guidelines

Fishing, Hunting, and Trapping Regulations

The current *Wildlife Act* states that BC residents that are registered (or entitled to be registered) as an Indian under the *Indian Act* may:

- Hunt wildlife without a hunting licences or any other licence that is required by regulation;
- Trap furbearing animals without a trapping licence;
- Angle in non-tidal waters of BC without an angling licence or permit required by regulation; and
- Hunt a furbearing animal on private land with the written permission of the owner/occupier and on Crown land with the permission of the Crown despite if they are

not the registered trapline holder, do not have written permission of the registered trapline holder, do not own or occupy that area, and do not have a permit to trap.

First Nations people (registered as per the *Indian Act*) are not restricted to specific seasons or bag limits when hunting, fishing, or trapping within their traditional hunting areas for food, social, or ceremonial reasons. At times, the Province and First Nations may differ in their interpretation of where a First Nation hunter can hunt without restriction; typically this is due to a lack of clarity regarding First Nation traditional territory boundaries.

7.2.7.1.2 Influence of Consultation Activities on the Assessment

Consultation activities played a critical role in understanding how the Project may interact with various types of Aboriginal land uses. As part of the consultation process, the New Gold Inc. (Proponent) undertook a number of activities to generate information on potentially-affected Aboriginal rights and land uses in the areas surrounding the Project. These activities are described in detail in **Section 17** - Aboriginal Groups Consultation. The information generated during consultation was used in the assessment to identify the following:

- Preferred harvested species of fish for the assessment of effects on fishing. For example, kokanee, trout and sucker were species of fish confirmed to be harvested by Aboriginal groups within Tatelkuz Lake while salmon (including spring, sockeye and pink salmon) are harvested in the Nechako and Nautley Rivers (as noted in **Section 14** - Aboriginal Groups Background Information).
- Preferred harvested species of small and large mammals for the assessment of effects on hunting. For example, caribou, moose, deer, bear, marten and beaver were species of mammals confirmed to be harvested by most Aboriginal groups to varying degrees such as LDN, UFN, SFN and NWFN (as noted in **Section 14** - Aboriginal Groups Background Information).
- Preferred harvested species of plants for the assessment of plant gathering. For example, different types of plants for food and medicinal uses (i.e., Saskatoon berries, kinnickinnick, wild strawberry, red raspberry) were confirmed to be harvested by Aboriginal groups (as noted in **Section 14** - Aboriginal Groups Background Information).
- Traditional trails that are used to access land and resources. For example, interviews with LDN and SFN members were conducted to gather information about the use of the Messue Wagon Trail for traditional purposes (as noted in **Section 14** - Aboriginal Groups Background Information).
- Areas of value for other cultural and traditional uses of the land. For example, LDN identified Kuyakuz Mountain and the east side of Tatelkuz Lake as areas of high importance for cultural and spiritual uses of the land (as noted in **Section 14** - Aboriginal Groups Background Information).

7.2.7.1.3 Approach

Aboriginal groups' CLRUTP is comprised of a number of distinct (although related) practices. The following uses were selected as indicators for the assessment of this VC:

- hunting activities;
- trapping activities;
- fishing activities;
- plant gathering activities; and
- other cultural and traditional uses of the land (e.g., cultural and spiritual places, trails, navigation).

The Project has the potential to affect CLRUTP by adversely affecting the availability (i.e., abundance and distribution) of resources used by Aboriginal groups; the quality of resources used by Aboriginal groups; the ability of Aboriginal groups to access lands and resources; and the sensory environment in which Aboriginal groups carry out CLRUTP. **Table 7.2.7-2** identifies potential effects on CLRUTP and the rationale used for their measurement.

Table 7.2.7-2: Potential Effects on Current Land and Resources Use for Traditional Purposes

Factors Used to Assess Effects on Indicators	Measurement of Project Effects
Change in the availability of harvested resources	<ul style="list-style-type: none"> • Quantitative changes in fish habitat (estimation will be based on fish habitat losses in surface area of fish habitat losses-m²) • Quantitative changes in wildlife habitat for preferred harvested species (estimation will be based on habitat suitability modeling conducted as part of the wildlife effects assessment) • Changes in wildlife mortality as a result of the Project • Quantitative change in habitat for preferred harvested plants (estimation will be based on the terrestrial ecological mapping) • Areas described in hectares (ha) and as a percentage of the traditional territory, or where applicable as a percentage of the loss of a trapline or keyoh
Change in access to land/resources	<ul style="list-style-type: none"> • Changes in access to preferred harvesting areas (qualitative) • Descriptions of areas where access by non-Aboriginal users may increase, generating competition for resources • Descriptions of potential restrictions or obstructions to preferred resource harvesting areas (qualitative)
Change in the experience of using lands and resources (sensory disturbances)	<ul style="list-style-type: none"> • Qualitative changes in the visual experience of using the land and resources • Quantitative effects due to potential noise disturbances
Changes in the quality of resources	<ul style="list-style-type: none"> • Quantitative changes in human health related to dust deposition, air quality, and water quality changes

7.2.7.1.4 Assessment Boundaries

7.2.7.1.4.1 *Temporal Boundaries*

The temporal boundaries for the assessment of effects on CLRUTP include:

- Construction phase- 2 years;
- Operations phase- 17 years;
- Closure phase- 18 years (after the cessation of mining and ore processing); and
- Post-closure phase- includes maintenance and monitoring and begins after the closure phase.

7.2.7.1.4.2 *Spatial Boundaries*

The spatial boundaries for the assessment are illustrated in **Figure 7.2.7-1**. The Local Study Area (LSA) includes a representative area to allow for assessment of potential effects related to activities associated with the mine site, access roads, airstrip, Kluskus Forest Service Road (FSR) and the transmission line.

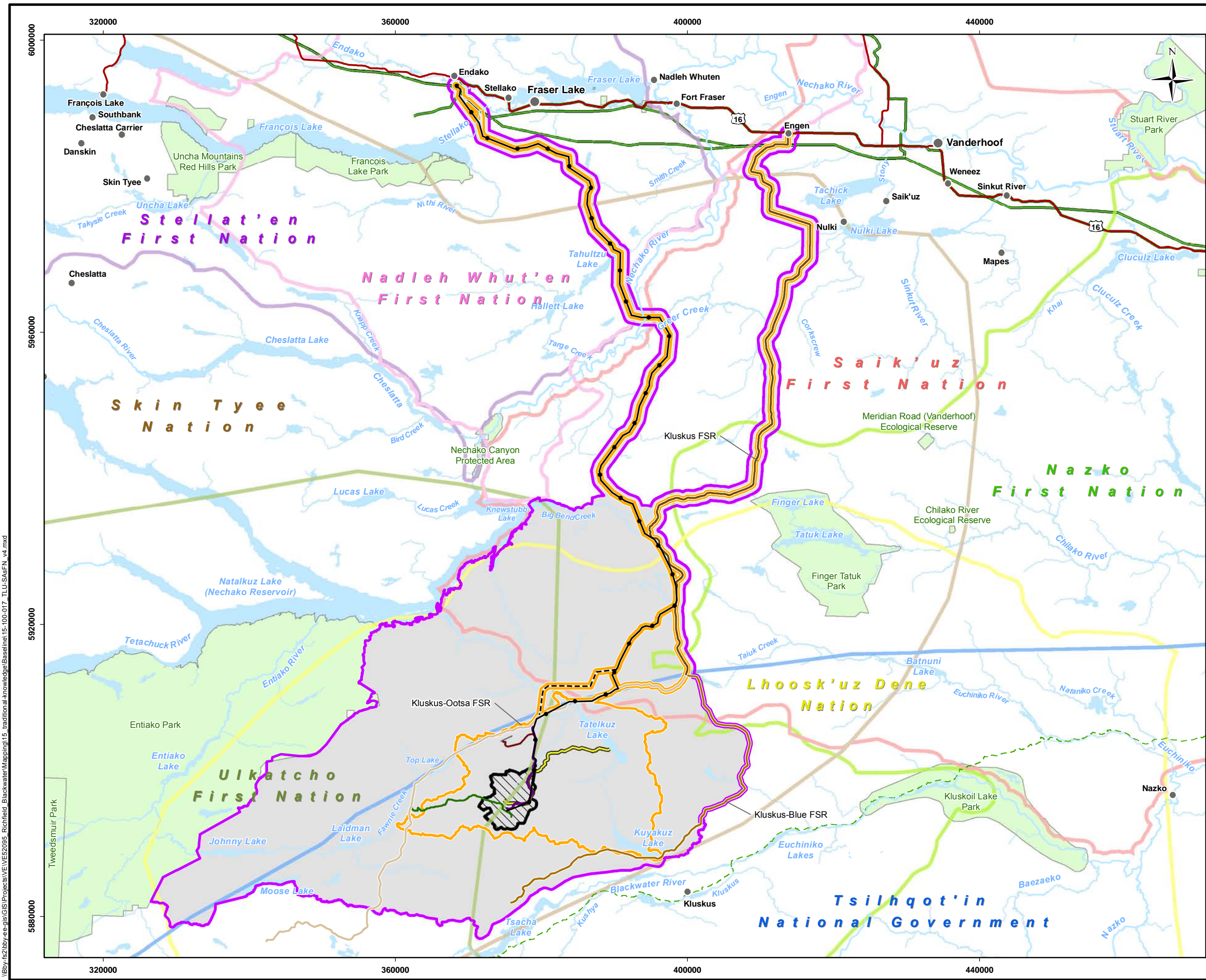
The Regional Study Area (RSA) and LSA are primarily based on other study areas defined for some biophysical disciplines. The disciplines considered include aquatics, terrestrial vegetation (ecosystem composition), and wildlife, which reflect unique ecosystems and natural landform barriers. Any effects on these terrestrial and aquatics VCs would have cascading effects on the quality or abundance of resources that may be used for traditional purposes. The LSA is the area with the potential to have more significant effects and considers all the catchments where the mine site is located, extending towards the east to include the west facing slopes of Kuyakuz mountain and buffers along the linear project components. The RSA was defined as equal to the wildlife RSA in order to capture the regional context for wildlife around the mine site and the linear components (**Section 4, Table 4.3-1**).

7.2.7.1.4.3 *Administrative and Technical Boundaries*

The assessment is constrained by the availability of information about Aboriginal groups' CLRUTP within the LSA and RSA. The information presented on current land and resource use was obtained through semi-structured interviews with Aboriginal knowledge holders; three studies providing traditional knowledge/traditional land use (TK/TLU) data for LDN, StFN, and UFN; secondary TK/TLU data sources; and consultation activities with Aboriginal groups (community meetings, meetings with leadership). The technical limitation relates to the completeness of the information obtained through these sources and affects the confidence of predictions.

Confidentiality agreements signed with LDN and UFN with regard to their respective TK/TLU reports prevents the Proponent from reproducing confidential information.

Each of the five Aboriginal groups set out in Schedule B of the section 11 Order has asserted traditional territories that are considered in the CLRUTP assessment.



Legend

- Populated Place
- 16 Highway
- Kluskus FSR
- Kluskus-Ootsa FSR
- Kluskus-Blue FSR
- Railway
- Existing Transmission Line
- - - Alexander Mackenzie Heritage Trail
- Parks & Protected Areas

Project Components

- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- - - Proposed Transmission Line Reroutes
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access
- Proposed Airstrip
- Proposed Mine Site

First Nations Boundaries

- Lhoosk'uz Dene Nation
- Nadleh Whut'en First Nation
- Nazko First Nation
- Saikuz First Nation
- Skin Tye Nation
- Stellat'en First Nation
- Tsilhqot'in National Government
- Ulkatcho First Nation

Current Land and Resource Use for Traditional Purposes

- Regional Study Area
- Local Study Area

Reference

Context layers: BC Government GeoBC Data Distribution

Traditional Territories:

- Carrier Chilcotin Tribal Council - <http://www.carrierchilcotin.org/>
- Lhoosk'uz Dene Nation; Ulkatcho First Nation Carrier Sekani Tribal Council - <http://www.carriersekani.ca/>
- Nadleh Whut'en; Stellat'en and Saik'uz First Nations BC Treaty Commission - <http://www.bctreaty.net/>
- Nazko First Nation
- Tsilhqot'in Framework Agreement, 2011
- Tsilhqot'in National Government Amended Agreement Among the Province of BC, the Tsilhqot'in Nation and the Tsilhqot'in National Government.

Scale: 1:500,000

0 5 10 20 Kilometres

CLIENT: newgold™

PROJECT: Blackwater Gold Project

Traditional Territories and Current Land and Resource Use for Traditional Purposes Study Areas

DATE: October, 2014	ANALYST: WR	Figure 7.2.7-1
JOB No: VE52277	QA/QC: LR	PDF FILE: 15-100-017_TLU-SAsFN_v4.pdf
GIS FILE: 15-100-017_TLU-SAsFN_v4.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	

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7.2.7.2 Valued Component Baseline

This subsection provides a summary of baseline information on CLRUTP and identifies the source of the information. It also identifies past, present, or future projects/activities that may impact the VC; and describes traditional knowledge or community knowledge, where available.

7.2.7.2.1 Information Sources and Methods

As part of ongoing consultation efforts (documented in **Sections 3.3 and 17** of the Application), the Proponent funded TK/TLU for five of the Aboriginal groups (i.e., LDN, UFN, SFN, StFN and STN), two of which (i.e., SFN and STN) are in varying stages of completion. In addition to TK/TLU studies, the Proponent relied on the following methods and information sources to collect relevant TK/TLU information (see **Section 17** for more detail):

- Semi-structured interviews with community representatives, Elders, Band members who hold provincially registered traplines and keyoh members;
- Focus groups and community meetings with Aboriginal groups and knowledge holders;
- Meetings with Aboriginal leadership such as Chief and Council;
- One-on-one discussions with community members, as requested;
- Site tours with key community representatives including elders; and
- Secondary data sources including ethno-historical and ethnographic literature (e.g., Carrier Sekani Tribal Council [CSTC] Aboriginal Interest and Use Study [2006]) as well as information summarized in relevant EA applications (e.g., Coastal GasLink EA Application and Pacific Trails Pipeline EA Application).

Available information on current land and resource use varies depending on the participation of each Aboriginal group and the availability of secondary TK/TLU data.

The Proponent utilized TK/TLU data from the Ethnohistory of LDN Traditional Territory (Dewhirst, 2013), the UFN Traditional Land Use and Ecological Knowledge of the Proposed New Gold Inc. Blackwater Project, Final Report (DMCS Ltd., 2013), and the Stlat'en First Nation Land and Resource Use Study Report (Proponent Version for New Gold Incorporated) (Triton Environmental Consultants Ltd. 2014). TK/TLU studies for SFN and STN are underway but were unavailable at the time of writing. The Proponent is committed to the integration of TK/TLU information into mitigation, monitoring, and other Project-related activities as additional TK/TLU information is provided. NWFN have noted that a TK/TLU study is required to identify potential effects on current land and resource use. The Proponent is negotiating an agreement to undertake this study. The Proponent is committed to working with NWFN in understanding their TK/TLU information within the RSA and LSA and to integrating relevant information when available into the Project design, execution, management plans, permitting, and monitoring in subsequent stages of Project development. The Proponent is working with other Aboriginal communities to establish agreements for the completion of TK/TLU studies.

The Proponent had over 20 face-to-face meetings with trapline holders to discuss the Project and potential effects on trapping within the traplines and on other uses within the trapline and associated keyoh areas. The Proponent recognizes that Aboriginal groups' trapping interests are wider than provincially-registered traplines, and thus sought to obtain broader trapping-related information.

Primary data collection relied primarily on semi-structured interviews with individuals or groups that have key information about CLRUTP or have the potential to be affected by the Project. Apart from provincially-registered trapline holders, the Proponent connected with potential interviewees through respective Chief and Councils (or similar) and with individuals such as Elders identified as knowledge holders by Chief and Council.

Correspondence with Aboriginal groups also yielded information about TK/TLU. For example, NWFN identified interests with respect to salmon and white sturgeon fishing in the Nechako River and interests with respect to hunting moose and ungulates (provided by NWFN on 11 June 2014). This information is included in **Section 15** (cited in **Section 15.3.2**) of the Application and **Sections 7.2.7.4.1.3** and **7.2.7.4.3.2**. Subsequent to the September 2014 Application, SFN and NWFN provided additional information related to their Aboriginal interests (e.g., amphibians). Further dialogue is required with SFN and NWFN to gain further insights as to the nature of these Aboriginal interests during the Application review stage.

Baseline information collected through the methods described above includes both spatial and non-spatial information. Where spatial information was available, a spatial overlay of all CLRUTP activity areas that intersect areas directly affected by the Project (i.e., mine footprint, mine access road, transmission line right-of-way (ROW) corridors, Kluskus FSR) and within the LSA or RSA was undertaken. The results were quantified (i.e., counts, percent, area), which allowed analysis to be both quantitative and qualitative. Potential effects were also identified from qualitative information provided through the interviews and other information provided by Aboriginal groups or individuals.

7.2.7.2.2 Past, Present, Certain and Future Project or Activities

Past, present certain, and future projects or activities that have the potential to interact with the Project either spatially or temporally include:

- Mining and mineral exploration;
- Nulki Hills Wind Project;
- Forestry-related activities (cut blocks, woodlots);
- Agriculture and grazing;
- Transportation and access;
- Non-traditional hunting, fishing, trapping and guide outfitting; and
- Other recreational activities.

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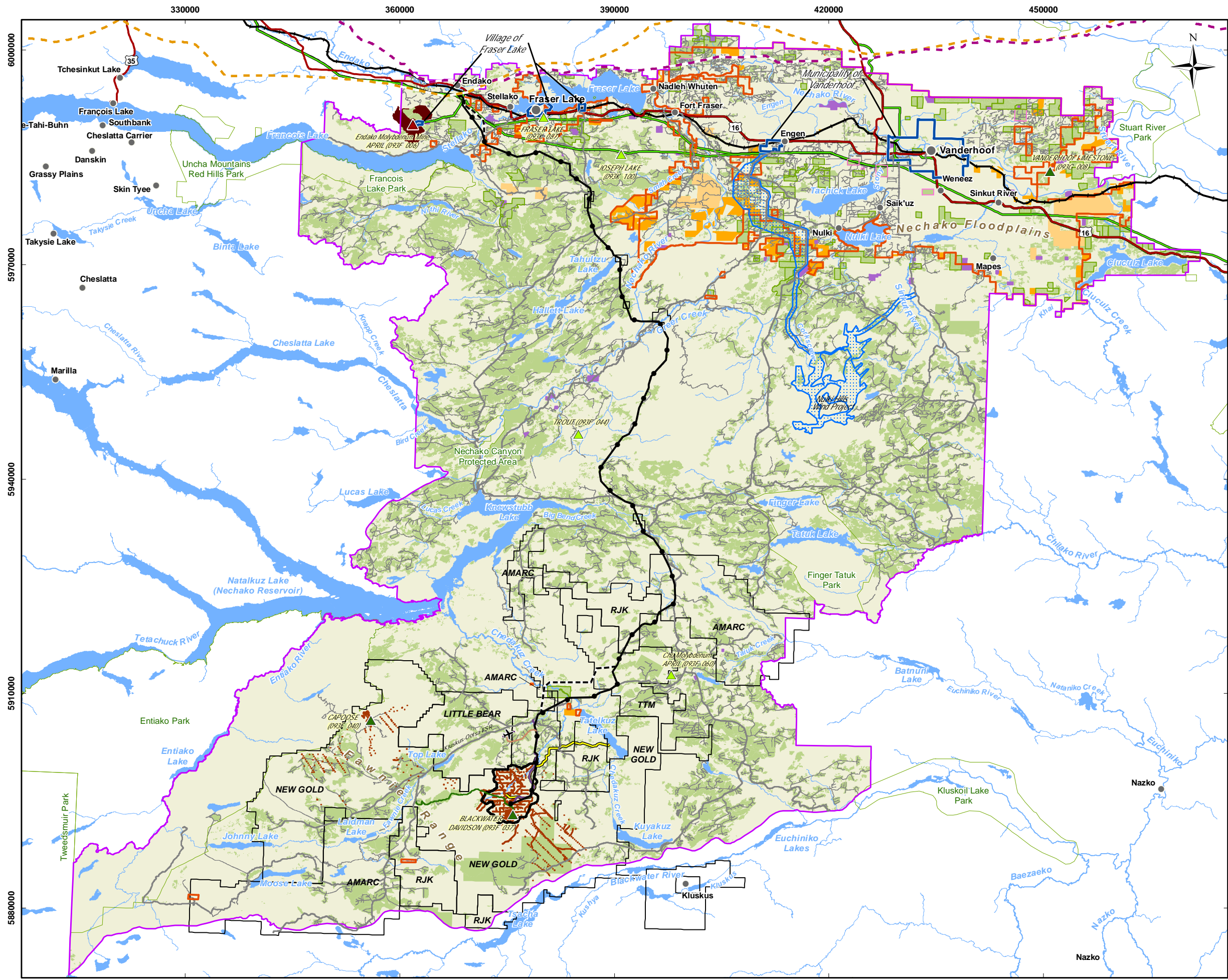
The RSA is 296,705 hectares (ha), of which 84,957 ha interacts with these other activities (see **Table 7.2.7-3** and **Figure 7.2.7-2**).

Table 7.2.7-3: Spatial Overlap by Project/Activity

Project/Activity	Spatial Overlap with Terrestrial RSA (Yes/No)	Temporal Overlap with Terrestrial RSA (Yes/No)	Amount of Spatial Overlap (ha)	Past	Present	Future
Mining and exploration	Yes	Yes	424 ⁽¹⁾	n/a	Current Prospecting 222 Active Quarries 200	Pending Quarries 2
Nulki Hills Wind Project	Yes	Yes	2,896	n/a	n/a	Proposed Infrastructure 2,896
Forestry (cutblocks and woodlots) - past, present & future	Yes	Yes	75,955	Retired Cutblocks and Woodlots 22,536	Active Cutblocks and Woodlots 28,514	Full harvesting inventory and Pending Woodlots 24,905
Forestry roads	Yes	Yes	3,614	n/a	Current Roads 3,614	n/a
Agriculture and grazing	Yes	Yes	670	Present Extensive Agriculture Tenures 417	n/a	Pending Extensive Agriculture Tenures 253
Other transportation and access roads (excluding forestry)	Yes	Yes	704	n/a	Current Main Roads 704	n/a
Non-traditional hunting, trapping and guide outfitting	Yes	Yes	n/a ⁽²⁾	n/a	Active Traplines 290,911 Active Guide Outfitter Areas 294,662	n/a
Other recreation uses	Yes	Yes	694	n/a	Active Recreation Sites 471 Active Recreation Trails (km) 364	Retired Recreation Sites 223 Retired Recreation Trails (km) 118
Total⁽³⁾			84,957	22,953	34,089	28,279

Note: ⁽¹⁾ Current prospecting = 222 ha and Quarries = 202 ha
⁽²⁾ The entire RSA is overlapped with guide outfitting and trapline areas.
⁽³⁾ The total does not equal the sum of the Projects because of overlap

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Legend

- Populated Place
- 16 Highway
- Parks
- Municipal Boundaries

PROJECT COMPONENTS

- ✈ Proposed Airstrip
- Proposed Airstrip Access Road
- Proposed Mine Access Road
- Exploration Road
- Proposed Transmission Line
- - - Proposed Re-routes (Stellako, Mills Ranch)
- Proposed Fresh Water Pipeline
- Proposed Mine Site

AGRICULTURE

- Nechako Valley Agricultural Land Reserve

Crown Tenure Purpose

- Extensive
- Grazing
- Intensive

FORESTRY

- Forest Cutblocks
- Logging Roads (ROW)

Woodlot Licenses

- Active (Present)
- Pending (Future)

MINING

Mineral Deposits

- ▲ Producer
- ▲ Developed Prospect
- ▲ Prospect

Mining Activities

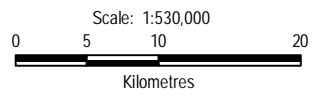
- Active Mining
- Current Prospecting
- Quarries (Tenure Purpose)

Mineral Tenures

- Currently prospecting

Cumulative Effects Study Area

- Non-Traditional Landuse RSA



Reference
 BC Government GeoBC Data Distribution
 NRCAN Geobase
 Ministry of Forests, Lands and Natural Resource Operations

CLIENT: 		
PROJECT: Blackwater Gold Project		
Projects and Human Activities Included in the Cumulative Effects Assessment (Disturbed Areas)		
DATE: October, 2015	ANALYST: WR	Figure 7.2.7-2
JOB No: VE52420	QA/QC: MY	PDF FILE: 17-100-108_CEA_v2FTP_v3.pdf
GIS FILE: 17-100-108_CEA_v2FTP_v3.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	

7.2.7.2.3 Traditional Ecological or Community Knowledge

7.2.7.2.3.1 *Overall Historical Context*

This subsection provides the overall historical profile for CLRUTP and provides information specific to individual Aboriginal groups.

The First Nations that have asserted territories that overlap the Project area are primarily speakers of a dialect of the Dakelh language, known formally in the literature as “Southern Carrier/Dakelh” (Poser, 2004; Gessner, 2003). The Dakelh, or Carrier, people are the indigenous people of a large portion of the Central Interior of BC. The name Dakelh translates to “people who travel upon water” (CSTC, 2011).

Hunting, trapping, fishing, gathering plant foods, and pursuing other activities within their traditional territories remain culturally and economically important for these Aboriginal groups. However, only a few of these First Nations are actively engaging in traditional activities within the LSA.

Several families within these First Nations have identified a continued reliance on lands within the LSA for a range of sustenance, cultural, socio-economic, and spiritual purposes. They view engaging in traditional activities and maintaining a traditional way of life as essential elements of their well-being.

The traditional Dakelh way of life was based on what is commonly called the seasonal round, during which small extended family groups harvested animals, food and medicinal plants, and fish during different seasons and in different locations. The harvesting occurred within keyohs, exclusive traditional use areas that sustained each family, and were used for all traditional use activities including hunting, trapping, fishing, and plant harvesting (refer to **Section 14**).

Seasonal round activity peaked in the summer, when berries were gathered and processed, and fish, especially salmon, were caught and preserved. During interviews with Dakelh elders, it was noted that berry gathering in the summer continues to be an important activity, as does the use of salmon (Dakelh Elders pers. comm.). Elders communicated that spring is a time when the Dakelh diet takes on a cleansing aspect, and is focused on fresh greens such as nettles, fiddleheads, and other green plants. These plants and the spring diet provide an opportunity to clean the blood after a winter of meat. The greens, including fresh grass, are eaten in copious amounts (Dakelh Elders, pers. comm.).

Water resources were, and remain, vital to Dakelh peoples. This is illustrated in the names of many Dakelh bands, which often correspond to a lake system or watershed. For example, the word for river (often written as “ko,” “quo,” or “ka”) is prominent in Dakelh place names such as Stellaquo, Endako, or Nechako (Brown, 2002). Most First Nation communities continue to fish, and fishing remains an important part of their culture.

7.2.7.2.3.2 Lhoosk'uz Dene Nation

7.2.7.2.3.2.1 Context

The LDN traditional territory covers approximately 1,405,246 ha, of which 0.34% (4,777 ha) overlap the Project. Historically, the LDN territories were owned by four primary family descent groups (*sadeku*). The territories were split into four family keyohs which were exclusive traditional use areas that sustained each family under the direction of the most senior family male (*detso*). The word *keyoh* means trapline in the Carrier language and is also used to mean “land” or “family territory” (Dewhirst, 2013). The keyohs were used for hunting, trapping, fishing, and plant harvesting. The keyohs were inherited primarily through male descendants and were subdivided in the early twentieth century into provincially registered traplines. These traplines were used for commercial trapping, but also continued to provide food and resources for the family group.

The Project lies primarily within the Cassam-Baptiste keyoh, with a portion of the footprint extending into the Mashu family keyoh.

The historic Baptiste keyoh was inherited by the Cassam family through marriage in the early twentieth century. The Cassam-Baptiste keyoh is located in the southwest quadrant of the LDN traditional territory:

From Tatelkuz Lake in the north...southward to the Ilgachuz and Itcha mountains. It stretched from the end of Squirrel Lake (the uppermost Kluskus Lake) westward to Johnny Lake. The keyoh included Kuyakuz Lake, Tsacha Lake, Blue Lake and most of the headwaters of the West Road River [Blackwater River]. (Dewhirst, 2013)

The historical Mashu family keyoh, was inherited by the Jimmie family through marriage in the early twentieth century. The Mashu keyoh is located in the:

...northwest quadrant of the [LDN] tribal territory. It includes Tatelkuz Lake and the Chedakuz Creek valley northward to the Knewstubb Reservoir, as well as mountains and foothills on the east and west sides of the valley. (Dewhirst, 2013)

The Jimmie family continues to actively use their keyoh for traditional purposes.

LDN is concerned that “the Mashu keyoh is [potentially] affected by runoff from the [Project] tailings pond, the freshwater pipeline, the transmission line and access roads.” Studies indicated that traditional practices of the LDN are still widely pursued and highly valued by the people. Activities such as sweat lodges, smudge ceremonies, hunting, fishing, berry picking, working buckskin, and making traditional baskets are all important cultural practices (Andrew Leach & Associates, 2008). The people living at Kluskus Indian Reserve (IR) #1 refer to themselves as “traditional bushpeople” that continue to follow traditional activities, including hunting, gathering, and fishing, as well as using hides to create traditional clothing (Indigenous Work Force, 2013).

Current traditional land use of the LDN is described below and shown on **Figure 7.2.7-3**.

7.2.7.2.3.2.2 *Hunting*

Site-specific information about current LDN hunting practices was not available at the time of writing. However, information reviewed by the Proponent indicates that LDN harvest the following species within its traditional territory:

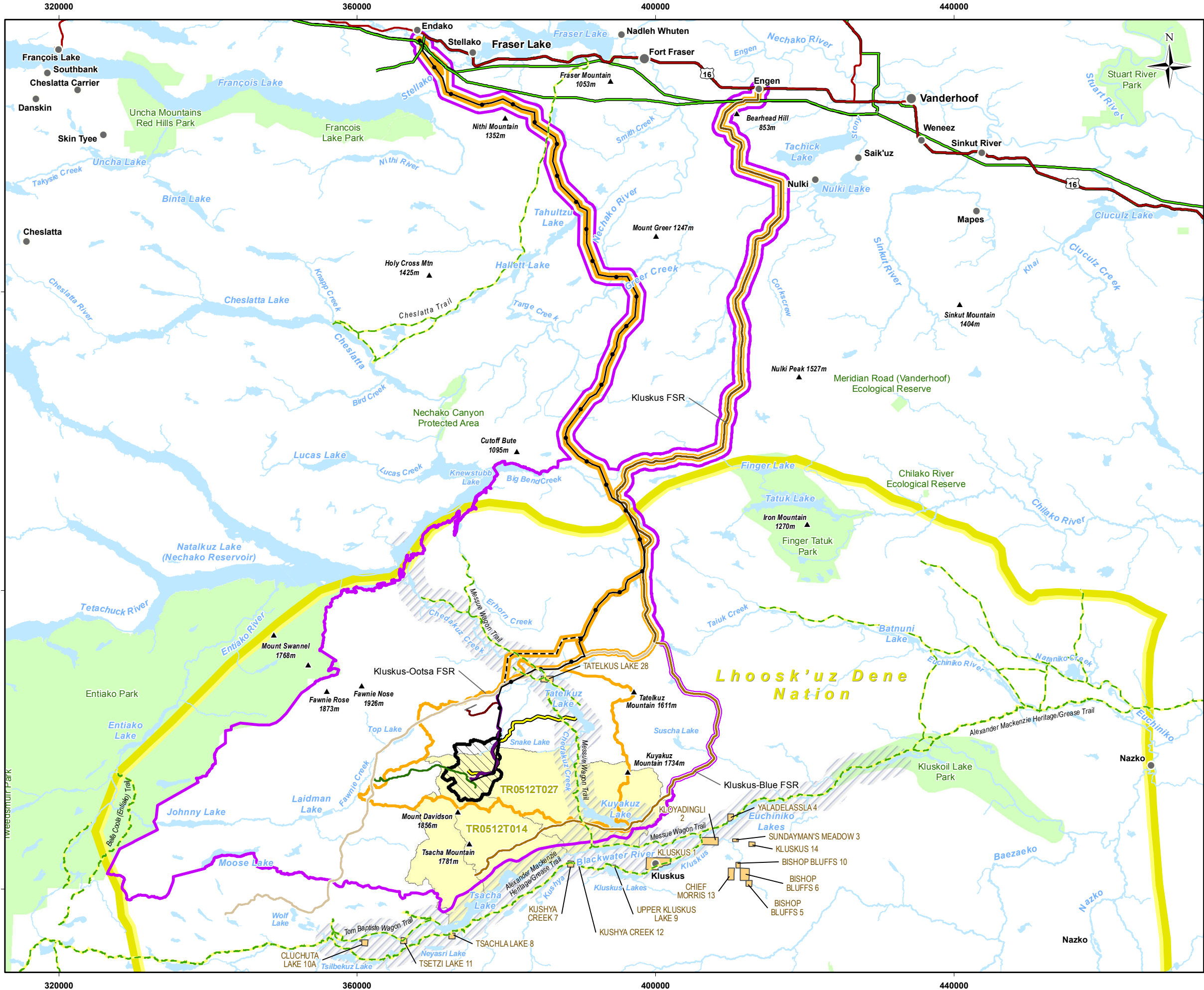
- Moose;
- Deer;
- Beaver;
- Duck;
- Grouse; and
- Smaller mammals such as squirrel, muskrat, and rabbits.

LDN hunting activities likely take place in the LSA, given LDN traditional knowledge about harvestable species within the LSA, historical hunting patterns, and statements that hunting currently occurs throughout the “whole area” (presumed to mean Mashu keyoh), rather than in specific areas (LDN Elders pers. comm.).

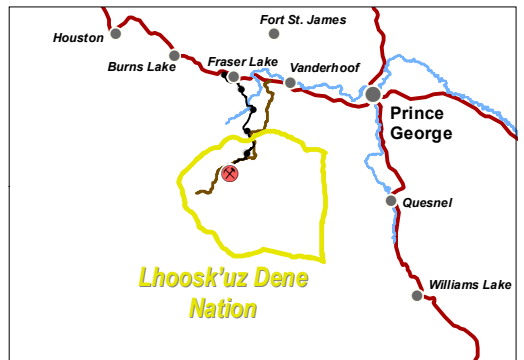
Large game such as moose and elk were historically hunted in mountain areas, such as Mt. Davidson in the LSA (Trapline TR0512T014 pers. comm.; Dewhirst, 2013).

Moose were noted to migrate to the top and sides of the Mount Davidson range, while grizzly bears may use the hillsides of Mount Davidson for denning (LDN Elders pers. comm.).

Elders noted that the moose population in the LSA and RSA was historically much higher, but there has been a substantial decline since their childhoods (LDN Elders, pers. comm.). Historically, caribou were also hunted, but interviewees noted that not as many people hunt caribou now since it is more costly to access the areas where they exist (Trapline TR0512T014 pers. comm.). The movement of other ungulates, such as moose and elk, has also impacted caribou. As a result, caribou is now considered a delicacy by the LDN (LDN Comments, 2014).



- Legend**
- Populated Place
 - 16 Highway
 - Kluskus FSR
 - Kluskus-Ootsa FSR
 - Kluskus-Blue FSR
 - Railway
 - Existing Transmission Line
 - Recreation Trails
 - Stream
 - Waterbody
 - Parks & Protected Areas
 - Lhoosk'uz Dene Nation**
 - LDN Territory
 - LDN Reserves
 - LDN Traplines
 - Intensive Historic and Current Use Areas
 - Project Components**
 - Exploration Road
 - Proposed Mine Access Road
 - Proposed Transmission Line
 - Proposed Transmission Line Reroutes
 - Proposed Fresh Water Pipeline
 - Proposed Airstrip Access Road
 - Proposed Airstrip
 - Proposed Mine Site
 - Current Land and Resource Use for Traditional Purposes**
 - Regional Study Area
 - Local Study Area



Scale: 1:7,400,000
 0 5 10 20 Kilometres

Reference
 Context layers:
 BC Government GeoBC Data Distribution

Traditional Territories:
 Aboriginal Affairs and Northern Development Canada
 Carrier Chilcotin Tribal Council - <http://www.carrierchilcotin.org/>
 - Lhoosk'uz Dene Nation

CLIENT:			
PROJECT:		Blackwater Gold Project	
Lhoosk'uz Dene Nation Traditional Territory and Study Areas			
DATE: March, 2015	ANALYST: WR	Figure 7.2.7-3	
JOB No: VE52277	QA/QC: LR		
GIS FILE: 15-100-022_TLU-LhooskuzFN.mxd		PDF FILE: 15-100-022_TLU-LhooskuzFN.pdf	
PROJECTION: UTM Zone 10	DATUM: NAD83		

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7.2.7.2.3.2.3 Trapping

Two provincially registered traplines (TR0512T014 and TR0512T027) held by LDN members overlap the Project area (**Figure 7.2.7-3**). These traplines are associated with larger historic keyohs inherited by the Jimmie family and the Cassam family, respectively. Based on an interview with the holder of trapline TR0512T027, the line has not been used for 20 years. The Messue Wagon Trail was used to access this trapline. Beaver was the main animal trapped at that time and big game were not hunted in the trapline (Trapline TR0512T027 pers. comm.).

Based on an interview with the holder of trapline TR0512T014, the line is currently used (bear and marten were identified as harvested species). The economic return has been low due to a number of factors (e.g., price of fuel, fur prices) (Trapline TR0512T014 pers. comm.).

Information on specific LDN trapping activities that take place outside of provincially-registered traplines was not available at the time of writing. Some LDN members noted that they no longer participate in trapping activity (LDN Elders pers. comm.).

7.2.7.2.3.2.4 Fishing

The residents of IR#28 fish for trout, kokanee, and suckers in Tatelkuz Lake (within the LSA). The residents of IR#28 noted that fishing in lakes for trout near IR #28 is preferable to fishing for trout in the rivers, since trout caught in rivers “taste muddy” (LDN Elders, pers. comm.). The residents of IR#28 also fish for kokanee in Davidson Creek within the LSA. Elders noted that kokanee spawn in this creek. Lower Chedakuz Creek, within the LSA, is a spawning area for suckers and provides ample trout fishing.

The LDN also fish on Kuyakuz Lake (within the LSA), the Twin Lakes (location unknown), and a little creek (not named by interviewees) near the Kluskus FSR and km 104, before the gravel pit (LDN Elders, pers. comm.) within the RSA.

Residents of IR #28 rely heavily on fish resources as a food source, with three to four meals per week consisting of fish, which are eaten dried or fresh. Fishing occurs in the spring, but extra fish is dried for consumption throughout the year (LDN Elders pers. comm.). Fish are a primary food staple, and the Lhoosk’uz people use a range of fishing techniques. For example, moose heart is used as bait for larger rainbow trout (Indigenous Work Force, 2013).

7.2.7.2.3.2.5 Plant Gathering

Plants gathered by LDN include soapberries, spruce pitch and tips, pine, willow (green and red), strawberry runners, kinnikinnick, Oregon grape, bear berries (used as eye medicine), poplar bark, and poplar buds (LDN Elders, pers. comm.).

Plants used by LDN as food sources include wild celery, wild onion, soapberries, huckleberries, raspberries, strawberries, and blueberries (LDN Elders, pers. comm.). During wild fruit harvest season, band members are known to pick, process, and preserve a number of wild berries, including blueberries, strawberries, raspberries, Saskatoon berries, and cranberries. They also

pick wild mushrooms, other wild plant foods, and plant medicines during this time (Indigenous Work Force, 2013; LDN Elders, pers. comm.).

Plant harvesting is done 'as needed' by LDN around Tatelkuz Lake and towards the river to the east of Tatelkuz Lake within the LSA. Plant gathering is also conducted along trails, including the Messue Wagon Trail within the LSA. Interviewees noted that sometimes balsam and spruce bark are harvested near Vanderhoof (outside of the RSA and LSA) for flu medicine (LDN Elders, pers. comm.).

7.2.7.2.3.2.6 Other Cultural and Traditional Uses of the Land

LDN members use cultural and spiritual sites within the LDN traditional territory, including sacred sites and trails used for centuries by local First Nations people.

Two sacred sites - Kuyakuz Mountain and an area east of Tatelkuz Lake – are located within the LSA (Andrew Leach & Associates, 2008; LDN Elders, pers. comm.). The east end of Tatelkuz Lake was traditionally used for cremation of family members. Cremated remains were carried by relatives for a year and then scattered in this area (LDN Elders, pers. comm.). LDN members currently consider the site to be a sacred place, particularly for praying. Review of information available at the time of writing did not identify any sacred sites within the Project footprint (LDN representative, pers. comm.).

LDN residents of Kluskus IR #1 use historic trails to access TLU areas (by horseback or on foot). Trails used include the Messue Wagon Trail that connects IR #28 to the Knewstubb Lake in the north and the West Road (Blackwater River)/Alexander MacKenzie (Grease) Trail and the West Road/Blackwater River in the south. LDN members fish, hunt, and gather food while using the trail along the way.

Canoeing and boating were popular activities on Tatelkuz Lake. Elders noted that historically the lake would attract people from SFN and LDN, but now residents of IR #28 are the primary users of the lake along with residents of the Tatelkuz Lake Ranch.

7.2.7.2.3.3 Nadleh Whut'en First Nation

7.2.7.2.3.3.1 Context

The NWFN traditional territory covers approximately 534,479 ha, of which .04% (237 ha) overlap the Project. The NWFN occupy seven IRs totalling 969 ha but primarily reside on three reserves located between Fraser Lake and the Nechako River, along the banks of the Nadleh River, and another reserve on the south shore of Fraser Lake.

The NWFN were semi-nomadic people, often moving throughout their traditional territory with the seasonal changes in their resources (Brown, 2002). Typically, this was dictated by the availability of primary food sources, such as salmon and other fish, moose, caribou, deer, small game (particularly beaver), and nuts and berries (School District 91: Nechako Lakes; Hudson, 1983). An extensive network of trails and waterways were used for trading (Brown, 2002). The NWFN people are noted

to have welcomed and guided early explorers like Alexander Mackenzie and Simon Fraser along key trails such as the Nuxalk-Carrier Grease Trail and those trails surrounding the Nechako and Stuart Rivers (MOF, 1997).

NWFN land ownership, use, and access are managed under the clan-based keyoh system (see **Section 14** for more information). Each clan owns and controls a distinct keyoh (or traditional area) (CSTC, 2006). Boundaries of keyohs typically correlate to physical landscape features such as mountains, rivers, creeks, lakes, and other natural features. The five clans of the NWFN are: Frog (*Lhtseh yoo*); Grouse/Owl (*Ulstah mus yoo*); Bear (*Dumdehm yoo*); Caribou (*Luk sil yoo*); and Beaver (*Tsah yoo*). NWFN noted that portions of the proposed transmission line and Kluskus FSR traverse areas belonging to the Frog Clan where members engage in harvesting practices (NWFN Meeting, 2014).

The NWFN traditional territory overlaps the LSA by 0.72% along the proposed transmission line from the Nechako River north to the Glennanon substation connection point at Endako (**Figure 7.2.7-4**).

7.2.7.2.3.3.2 *Hunting*

NWFN members hunt throughout their traditional territory (PTP ASEP Training Society, 2010; CSTC, 2006; PTP, 2007; Coastal GasLink Pipeline, 2014). Hunting provides traditional food staples for the NWFN people. Animals hunted include moose, deer, bears, and small game (PTP ASEP Training Society, 2010; CSTC, 2006; Hudson, 1983; Cranny, 1986).

Consultation efforts with NWFN to date have not identified specific hunting locations. A review of available information identified a number of NWFN hunting sites, but none within the LSA or RSA (CSTC, 2006; Coastal GasLink, 2014). However, game species hunted by NWFN are present in the RSA and LSA and therefore the NWFN may hunt in these areas.

7.2.7.2.3.3.3 *Trapping*

Typically, traplines run along the edges of waterways and shorelines where game travel (Hudson, 1983). Carrier people actively trapped beaver, muskrat, lynx, marten, weasel, fisher, wolverine, wolf, coyote, and black bear for their pelts, and consumed the meat of beaver and black bear (Hudson, 1983). Trapping activity, as part of the seasonal round, is typically carried out in the winter (CSTC, 2006).

NWFN has indicated that its members trap throughout NWFN traditional territory, including lands and waters that are traversed by the transmission line ROW and the Kluskus FSR. A review of available information identified NWFN trapping in areas around the Sutherland River Valley (Coastal GasLink, 2014). Based on the Proponent's consultations with the NWFN to date, NWFN has not identified specific NWFN trapping areas.

In addition to general trapping activities undertaken throughout NWFN traditional territory, one NWFN member holds a provincially-registered trapline (TR0712T036) that overlaps the transmission line by 0.52%. The son (interview on 29 November 2012) and daughter (interview on

30 April 2013) of the trapline holder noted the trapline is dormant and not currently used (however the trapline may be in use by other NWFN members). At the time of writing, the Proponent had no current trapping information from NWFN within the Project vicinity. The NWFN advised the information collected by the Proponent with respect to TR0712T036 does not represent Nadleh use of their traditional territory for trapping purposes.

7.2.7.2.3.3.4 Fishing

Fishing is an important NWFN traditional activity (CSTC, 2006; Coastal GasLink, 2014). Fish are a primary traditional food staple for the Nadleh Whut'en people and this harvesting helps to sustain members over the winter (PTP ASEP Training Society, 2010; Hudson, 1983; Cranny, 1986). During a meeting held on 18 April 2013 with representatives of NWFN Chief and Council, it was noted that spring salmon are an important food fish.

A number of NWFN IRs are located at the sites of historical fish harvesting locations, including Canyon Lake IR #7, Ormonde Creek IR #8, Fraser Lake IR#2, Nautley IR#1, and Seaspunkut IR#4 correspond to historic fishing stations of the NWFN people (PTP, 2007).

Secondary data sources indicate the NWFN harvest salmon, steelhead trout, Dolly Varden trout, and rainbow trout in the Sutherland River. The Nautley River is identified as an important salmon fishing area for NWFN people (the river also contains trout, kokanee, and White Sturgeon), whereas the Nechako River (which bisects the proposed transmission line) is an important site for sockeye production. Secondary research demonstrates the NWFN are concerned about the existing population of white sturgeon in the Nechako River (CSTC, 2006).

7.2.7.2.3.3.5 Plant Gathering

NWFN members use their traditional territory to gather plants, primarily berries which help to sustain them over the winter (CSTC, 2006; PTP ASEP Training Society, 2010; Coastal GasLink, 2014; CSTC, 2006). Service berries are a mainstay but other plants are collected for their leaves, bulbs, and roots (Hudson, 1983).

Consultation efforts undertaken with NWFN to date have not identified specific NWFN plant gathering sites. A review of available information identified a number of NWFN plant gathering sites, but none are located within the RSA or LSA (Coastal GasLink, 2014; CSTC, 2006). However, traditionally harvested plants (including berries) are widespread in the RSA and LSA and therefore the NWFN may harvest plants in these areas.

7.2.7.2.3.3.6 Other Cultural and Traditional Uses of the Land

The Cheslatta Trail (or Tset'ladak t'seti in Carrier) crosses through NWFN traditional territory (refer to **Figure 7.2.7-4**). The Trail is an ancient land route from the Dakelh villages of Belhk'achek and Sdughachola on Cheslatta Lake to Nadleh Village on Fraser Lake. It was used by the Dakelh people as a major trade, travel and communication line, until the construction of the Alcan Kenney Dam in 1952 caused flooding of the Cheslatta River and Cheslatta Lake, forcing the Cheslatta people from their lakeside villages. From Nadleh, the trail would have passed through the modern

BLACKWATER GOLD PROJECT

APPLICATION FOR AN
ENVIRONMENTAL ASSESSMENT CERTIFICATE /
ENVIRONMENTAL IMPACT STATEMENT
ASSESSMENT OF POTENTIAL SOCIAL EFFECTS

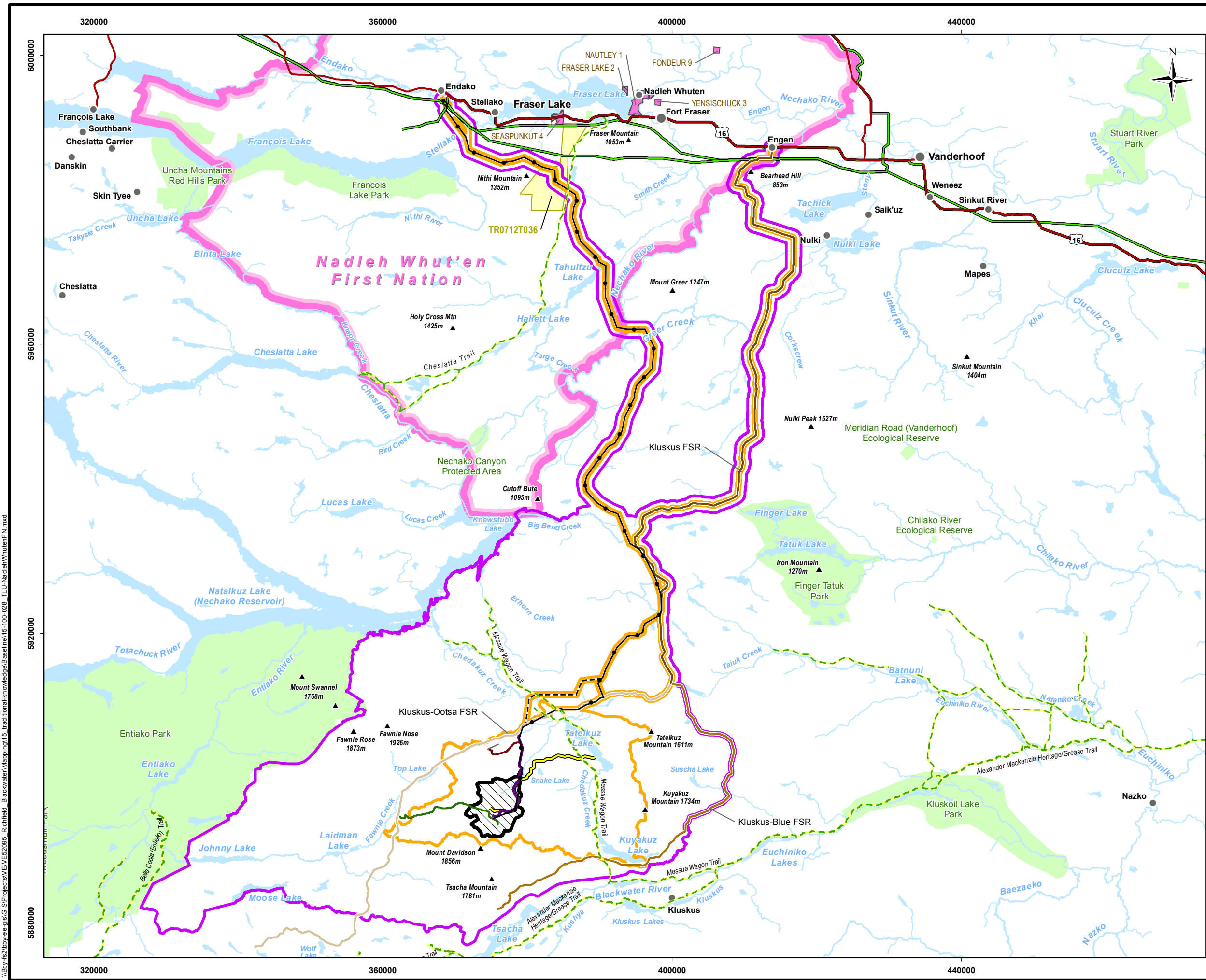


day Beaumont Provincial Park and across Highway 16, then south of Drywilliams Lake (Snipview, 2009).

Today, the Trail begins at km 7.5 on the Holy Cross Forest Road (6 km west of Beaumont Park on Highway 16). The trail then traverses 60 km of forest, passing Klez, Chowsunkut, Hallet, Bentzi, Targe, and Holy Cross lakes along the way. It ends at the site of Belhk'achek village, near the mouth of Knapp Creek on Cheslatta Lake (East 362435; 5951461 North). The Trail is protected under the *Heritage Conservation Act* (FISE-2 and variant FISE-15).

The proposed transmission line will cross the Trail at 385628 East; 5981361 North (refer to **Figure 7.2.7-4** and **Appendix 8.1A**, Section 1.7.2.3, Figure 1.7-6). The area of the Trail crossed by the proposed transmission line has been logged and is now an overgrown, rutted service road (**Appendix 8.1A**, Section 1.7.2.3, Photo 1.7-13).

At the time of writing, no cultural or traditional uses of the LSA or RSA were identified. The Proponent is committed to integrating relevant TLU information provided by NWFN into the Project design, execution, management plan development, permitting, and monitoring in subsequent stages of Project development.



Legend

- Populated Place
- 16 Highway
- Kluskus FSR
- Kluskus-Ootsa FSR
- Kluskus-Blue FSR
- Railway
- Existing Transmission Line
- Recreation Trails
- Stream
- Waterbody
- Parks & Protected Areas

Nadleh Whut'en First Nation

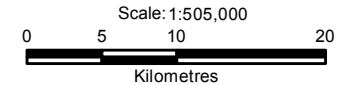
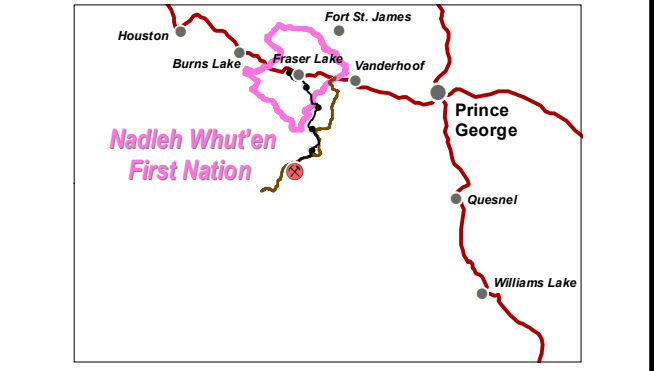
- NWFN Territory
- NWFN Reserves
- NWFN Traplines

Project Components

- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- Proposed Transmission Line Reroutes
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access Road
- Proposed Airstrip
- Proposed Mine Site

Current Land and Resource Use for Traditional Purposes

- Regional Study Area
- Local Study Area



Reference
Context layers:
 BC Government GeoBC Data Distribution
Traditional Territories:
 Aboriginal Affairs and Northern Development Canada
 Carrier Sekani Tribal Council - <http://www.carriersekani.ca/>
 - Nadleh Whut'en First Nation

CLIENT: 		
PROJECT: Blackwater Gold Project		
Nadleh Whut'en First Nation Traditional Territory and Study Areas		
DATE: March, 2015	ANALYST: WR	Figure 7.2.7-4
JOB No: VE52277	QA/QC: JB	
GIS FILE: 15-100-028_TLU-NadlehWhutenFN.mxd		PDF FILE: 15-100-028_TLU-NadlehWhutenFN.pdf
PROJECTION: UTM Zone 10	DATUM: NAD83	

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7.2.7.2.3.4 *Saik'uz First Nation*

7.2.7.2.3.4.1 *Context*

The SFN traditional territory covers approximately 982,510 ha, of which 0.06% (575 ha) overlap with Project components, while the LSA for CLURPT overlaps the SFN traditional territory by 1.3% (**Figure 7.2.7-5**). The main SFN community is located on Stony Creek IR #1, located 9 km southeast of Vanderhoof. SFN is a member of the CSTC) and has over 900 band members, including 21 elders living on reserve (PTP ASEP Training Society, 2012).

TLU and subsistence living (as it was referred to during interviews) is of great importance to SFN members residing in the area. Members participate in hunting, fishing, and gathering (SFN Chief and Council representatives pers. comm.; SFN member pers. comm.). Representatives noted that, for many people, participating in the traditional economy is necessary to their ability to sustain themselves.

A registered trapline and larger keyoh (approximately 77 square kilometres [km²] in size) is located near Big Ben Meadow and the Kenney Dam (Keyoh holder pers. comm.). The keyoh has been used for generations and holds special value for its owners, who refer to the keyoh as a “bank book” or a “store.” The keyoh owners consider themselves as stewards with a responsibility to take care of the keyoh in a sustainable way. The keyoh provides its owners with a connection to both culture and history.

Consultation efforts undertaken with SFN to date have not resulted in a complete understanding of SFN's current Aboriginal use within its traditional territory. The following information is indicative of some SFN use practices, as described by SFN interviewees, but is subject to verification and augmentation by SFN.

7.2.7.2.3.4.2 *Hunting*

SFN members hunt within their traditional territory. Moose, deer, black bear, and elk are frequently hunted. Grouse are also harvested. SFN members do not typically hunt grizzly bears. Caribou used to be harvested but they are no longer in the area (SFN Elder pers. comm.).

Many animals are harvested in the keyoh including moose and deer as well as smaller mammals such as squirrels. Saddle blankets are made from the moose hair.

The Stony Creek area (outside the RSA and LSA) is noted as a valuable moose hunting area (SFN member pers. comm.). Consultation efforts with NWFN to date have not identified specific hunting locations within the LSA or RSA.

Interviewees noted that the moose population is being affected by excessive hunting pressure from non-Aboriginal hunters. A SFN member noted that the hunting of calves has added additional pressure on populations.

7.2.7.2.3.4.3 Trapping

SFN indicated they use the traditional territory to trap. Different species are harvested depending on the season, including beaver, mink, lynx, marten, muskrat, wolverine, rabbit, and squirrel.

Animals trapped within the Joseph family keyoh include marten, squirrel, lynx, black bear, muskrat, rabbit, fisher, wolf, coyote, and weasels. It was noted that rabbit and weasel fur are used to make rugs.

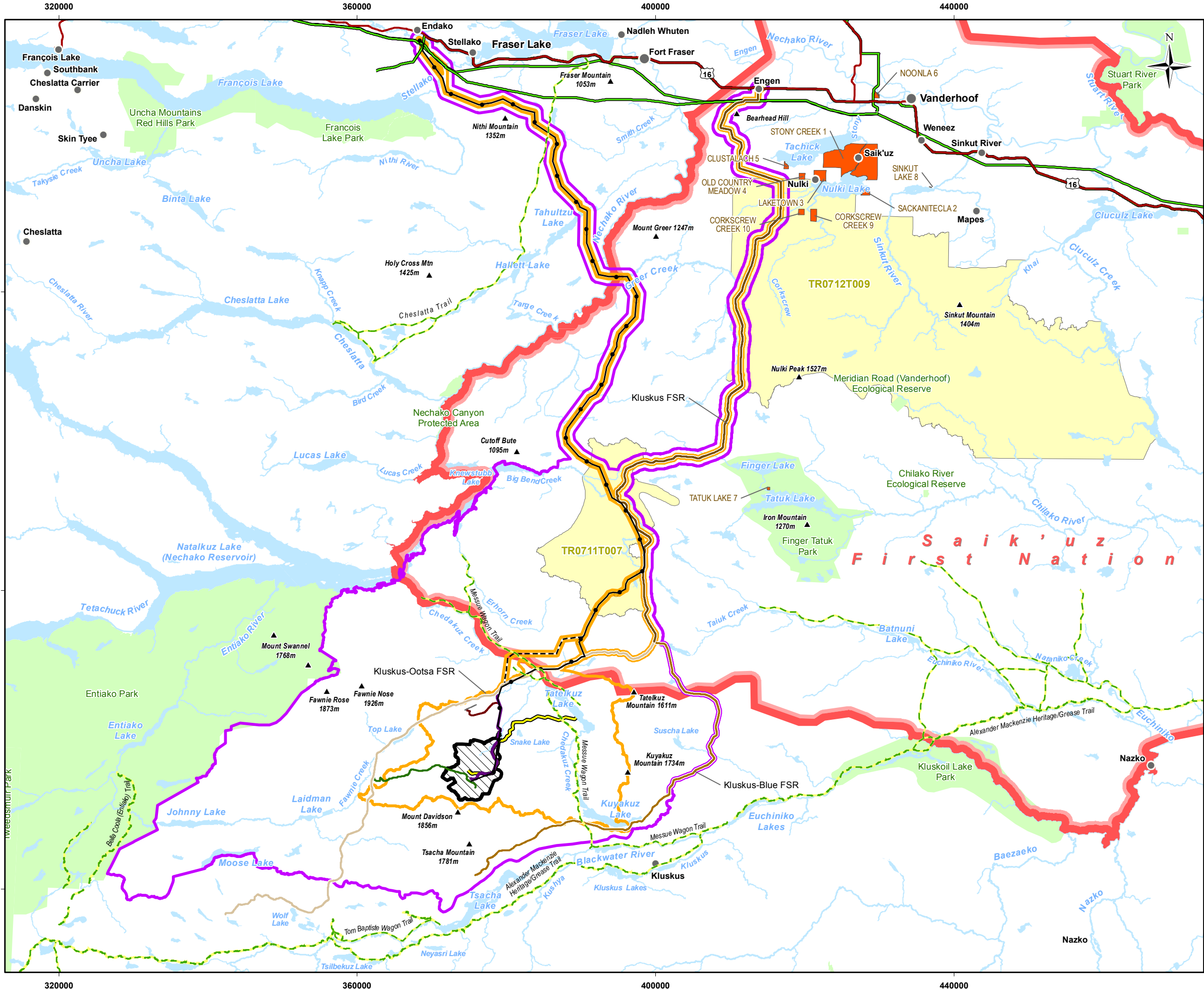
In addition to general trapping areas, two provincially-registered traplines held by SFN members overlap with the LSA, including TR0711T007 and TR0712T009.

The existing FSR traverses one additional SFN trapline. The holder of trapline TR0712T009 noted that the effects of clear-cut logging have greatly affected trapping, and that the area might only be ready to trap for his grandchildren (SFN Elders pers. comm.). However, he did note that trapping is an important part of the SFN culture, but that it is not economically feasible anymore; trapping activities follow fur prices and when prices are low, trapping is economically disadvantaged.

7.2.7.2.3.4.4 Fishing

During interviews, representatives noted that members fish throughout the region, and that fishing is an important traditional practice and dietary source. Members appear to have an intimate understanding of different fish species and where they can be found. This knowledge is used when deciding what, when, and where to fish. This knowledge is shared and taught to the community's youth.

Although salmon fishing has slowed down quite a bit due to poor salmon returns and regulatory limitations, it was communicated that sockeye salmon are a species of importance to the SFN (SFN Chief and Council representatives pers. comm.; SFN Elders pers. comm.). The Nechako River, which is crossed by the Project's proposed transmission line, is a popular river to catch spring and other types of salmon, while kokanee are fished in a variety of lakes. Some ice fishing occurs during the winter. Trout is the major species, and there are other types that are consumed as well.



Legend

- Populated Place
- 16 Highway
- Kluskus FSR
- Kluskus-Ootsa FSR
- Kluskus-Blue FSR
- Railway
- Existing Transmission Line
- Recreation Trails
- Stream
- Waterbody
- Parks & Protected Areas

Saik'uz First Nation

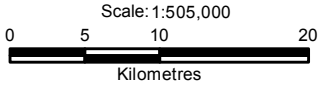
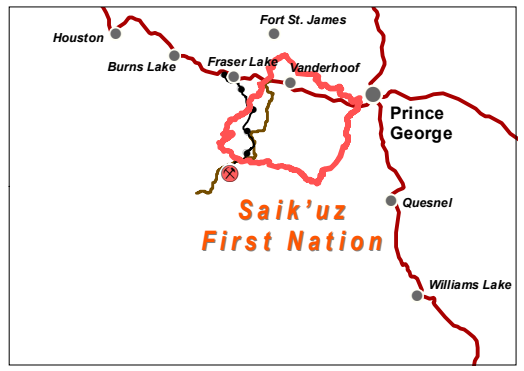
- SFN Territory
- SFN Reserves
- SFN Traplines

Project Components

- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- Proposed Transmission Line Reroutes
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access Road
- Proposed Airstrip
- Proposed Mine Site

Current Land and Resource Use for Traditional Purposes

- Regional Study Area
- Local Study Area



Reference
Context layers:
 BC Government GeoBC Data Distribution
Traditional Territories:
 Aboriginal Affairs and Northern Development Canada
 Carrier Sekani Tribal Council (<http://www.carriersekani.ca/>)
 - Saik'uz First Nation

CLIENT: **newgold**

PROJECT: **Blackwater Gold Project**

**Saik'uz First Nation
 Traditional Territory and Study Areas**

DATE: March, 2015	ANALYST: WR	Figure 7.2.7-5
JOB No: VE52277	QA/QC: JB	
GIS FILE: 15-100-025_TLU-SaikuzFN.mxd		amec
PROJECTION: UTM Zone 10	DATUM: NAD83	

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7.2.7.2.3.4.5 Plant Gathering

Some members also engage in plant gathering. In summer, berries are very important to SFN. Plants harvested include huckleberries, soapberries, strawberries, and medicinal plants such as elderberry. Indian tea is typically harvested in marshy areas, and Labrador tea is made by members. Labrador tea is used for medicinal purposes (SFN member pers. comm.).

Spruce, pine, and alder are harvested. However, these plants must be harvested from areas that are untouched, and a smudge ceremony must be held before these plants can be picked. Smudge ceremonies are used to cleanse areas of physical or spiritual negative energy, and typically involve the burning of certain herbs. The smoke is rubbed or brushed over the body and/or area to be cleansed.

Plant gathering is very important throughout the year, especially in the spring, when large amounts of greens are consumed for cleanses, including nettles and fiddleheads. During the winter, stinging nettles (which are high in iron) and fresh grasses are consumed.

Plant gathering in the keyoh containing trapline TR0711T007 include berry picking, with the most common berries gathered being huckleberries, soapberries, bear berries, strawberries, raspberries, and blueberries. Plankton grows in the wet areas of the keyoh, as well as wild onions and wild celery, which are eaten.

The keyoh holder associated with trapline TR0711T007 also gathers willow, balsam, spruce, pine, pitch, elderberry, kinnikinnick, juniper, and spruce roots (used to make baskets and to tan hides). Saskatoon bush is harvested, and can be used to make baby baskets. Black moss is used to make bannock. Poplar bark is gathered, and its ashes are used to tan hides. Medicines gathered in the keyoh include strawberry runners, which treat fevers, and soapberry bushes, used to make Labrador tea.

The keyoh holder associated with trapline TR0712T009 noted that the land had been devastated by clear-cut logging, noting that berry patches are no longer available. In addition, the region has been heavily impacted by the Mountain Pine Beetle (MPB), which has disturbed 73.8% of the LSA.

7.2.7.2.3.4.6 Other Cultural and Traditional Uses of the Land

Keyoh holders conduct a number of spiritual and cultural ceremonies. This includes smudging (in this case burning spruce or pine) one's body to remove negative energies before harvesting in the keyoh. In addition, deep holes are dug in the land to use as solitary prayer places or spaces to take traditional medicines. Sometimes the spaces become areas to "sweat," using lava rocks to heat the space. Sweat ceremonies are purification ceremonies that have been used for hundreds of years in Aboriginal cultures. The conditions involved heated spaces that are representative of the womb. The ceremonies described provide keyoh holders with balance and a sense of security and safety.

The holder of trapline TR0712T009 noted that the effects of clear-cut logging have removed all reference points and trails.

Consultation efforts undertaken with SFN to date have not provided site-specific information about cultural sites within the LSA or RSA.

7.2.7.2.3.5 *Stellat'en First Nation*

7.2.7.2.3.5.1 *Context*

The StFN traditional territory covers approximately 696,285 ha, of which .03% (219 ha) overlap the Project. The StFN community of Stellako is located 160 km to the west of Prince George. The territory is located within the Bulkely-Nechako Regional District and straddles the Skeena and Fraser River watersheds. In addition, the nearby Stellaquo River is a renowned and protected trout fishing location.

More than half of the population of 400 Stellat'en, which means "people of Stella," live in Stellako, located on the western shore of Nadleh Bun (Fraser Lake). Archaeological evidence suggests that the Stellat'en people have lived in this territory for at least 10,000 years (PTP ASEP Training Society, 2010).

Stellat'en members still practice their culture in a meaningful way, and follow a matrilineal structure, wherein the mother's clan designation is passed on to her children, carrying the clan system forward.

Traditionally, the economic mainstay in this area was fish, especially the several varieties of salmon, which were smoked and stored for the winter in large numbers. Hunting and trapping of deer, caribou, moose, elk, black bear, beaver, and rabbit provided meat, fur for clothing, and bones for tools (StFN, 2009)

Although many Stellat'en people participate in the non-traditional economy, fish, game, and berries still constitute a major portion of their diet.

The LSA overlaps 0.5% of the StFN traditional territory along the north section of the proposed transmission line from the Nechako River to the connection at Endako (**Figure 7.2.7-6**). The Proponent provided funding to StFN for the completion of a Land and Resource Use Study (LRUS) within the RSA and LSA, and the results of this study (i.e., Triton 2014) are included below.

7.2.7.2.3.5.2 *Hunting*

StFN members hunt throughout their traditional territory and hunting trips are used to both "optimally and opportunistically" harvest species (e.g., grouse or rabbit may be harvested on a moose hunting trip (Triton, 2014:46). There are many species currently targeted by the StFN hunters; some of the most important include moose, deer, and black bear (Triton, 2014). Despite arriving relatively recently to the area, "moose is predominant and is the most sought after animal" (Triton, 2014:46). Additionally, various species of birds – used for both subsistence and ceremonial purposes – are culturally valued and sought (Triton, 2014). Interview respondents noted that hunting has been adversely affected by forestry practices and other activities, such as the

development of roads (Triton, 2014). Some respondents were concerned that pipelines may negatively affect prime areas by destroying habitat or facilitating access (Triton, 2014).

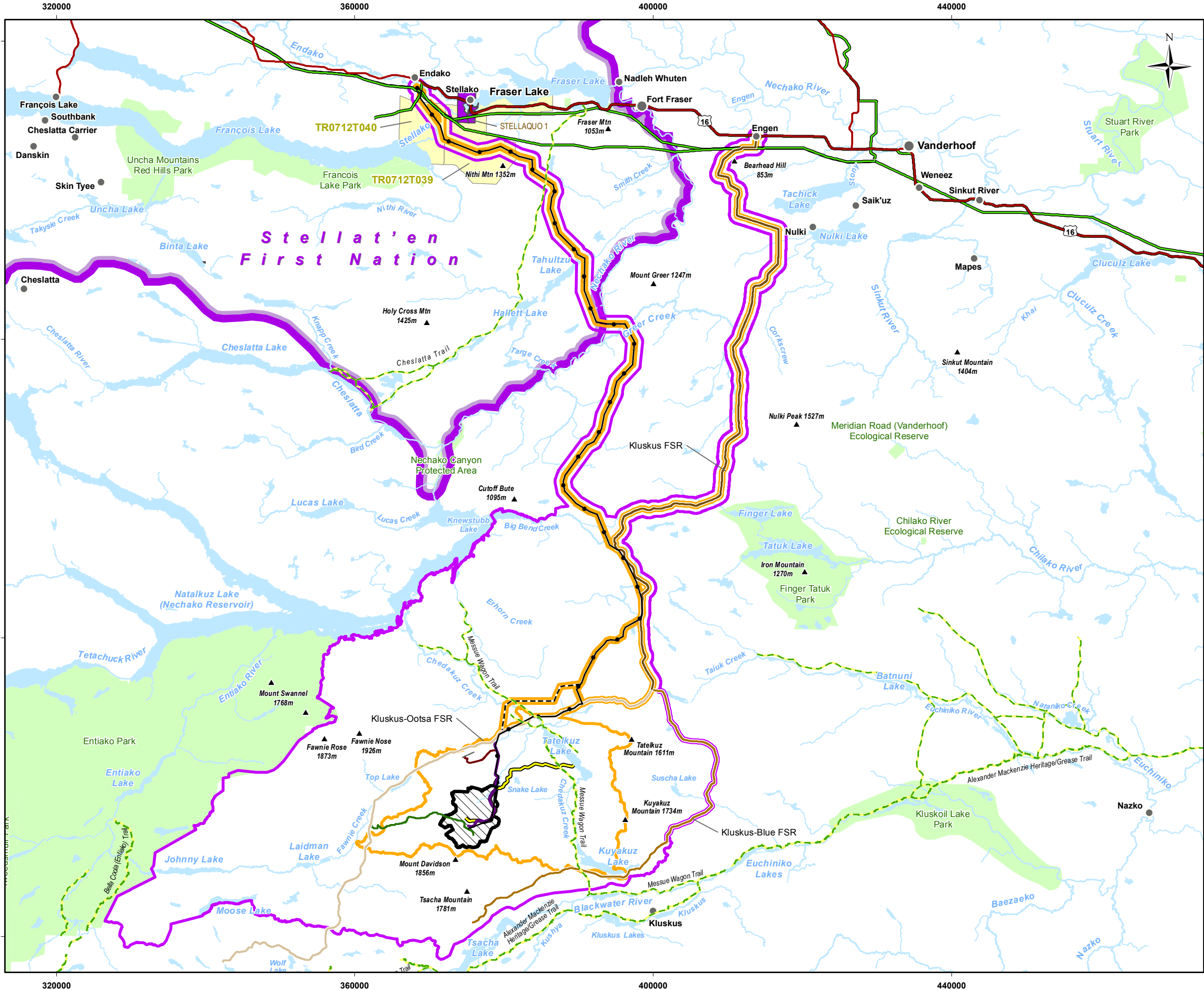
The StFN LRUS (Proponent Version; Triton 2014) does not identify specific hunting locations. The Proponent is consulting with StFN about its preferred methods to share information about hunting practices that may be affected by the Project and to develop methods to mitigate any potential adverse effects.

7.2.7.2.3.5.3 Trapping

Interviews conducted with the registered holder of trapline TR0712T039 (which overlaps with the LSA along the northern section of the proposed transmission line alignment) indicate that some Stelat'en members continue to trap. Economic benefits from trapping are low, but representatives noted that it provides opportunities to engage in traditional and cultural activities (Registered holders of trapline TR0712T039 pers. comm.). It is not known if any registered traplines align with the traditional Stelat'en trapping areas (Triton, 2014).

Beaver and muskrat were trapped in the marshy areas surrounding the Abuntl'at. These species were used for both food and fur. Additionally, wolverine is an important fur-bearing species (Triton, 2014).

The StFN LRUS (Proponent Version; Triton 2014) does not identify specific trapping locations. The Proponent is consulting with StFN about its preferred methods to share information about trapping practices that may be affected by the Project and to develop methods to mitigate any potential adverse effects.



Legend

- Populated Place
- 16 Highway
- Kluskus FSR
- Kluskus-Ootsa FSR
- Kluskus-Blue FSR
- Railway
- Existing Transmission Line
- - - Recreation Trails
- Stream
- Waterbody
- Parks & Protected Areas

Stellat'en First Nation

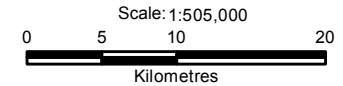
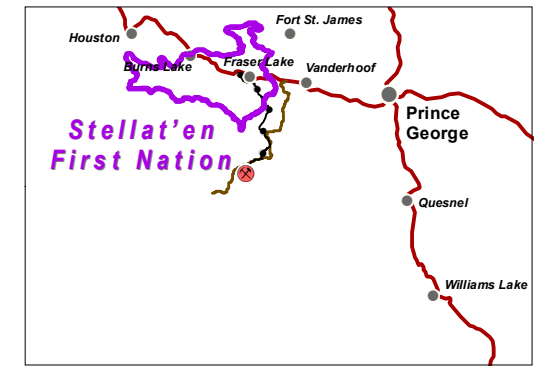
- StFN Territory
- StFN Reserves
- StFN Traplines

Project Components

- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- - - Proposed Transmission Line Reroutes
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access Road
- Proposed Airstrip
- Proposed Mine Site

Current Land and Resource Use for Traditional Purposes

- Regional Study Area
- Local Study Area



Reference
Context layers:
 BC Government GeoBC Data Distribution
Traditional Territories:
 Aboriginal Affairs and Northern Development Canada
 Carrier Sekani Tribal Council - <http://www.carriersekani.ca/>
 - Stellat'en First Nation

CLIENT: **newgold**

PROJECT: **Blackwater Gold Project**

**Stellat'en First Nation
 Traditional Territory and Study Areas**

DATE: March, 2015	ANALYST: WR	Figure 7.2.7-6
JOB No: VE52277	QA/QC: JB	
GIS FILE: 15-100-028_TLU-StellatenFN.mxd		amec
PROJECTION: UTM Zone 10	DATUM: NAD83	

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7.2.7.2.3.5.4 *Fishing*

Fishing remains important to the StFN. Triton (2014:47) noted “there were slightly more references to fishing than to hunting” during interviews. Fishing and fish processing are important subsistence activities, but also constitute important social practices as they are often associated with social gatherings and interactions (Triton, 2014). The importance of fishing and wealth of aquatic resources in the area make preservation of water quality a concern for the StFN (Triton, 2014).

StFN members use a variety of fishing practices (e.g., hook and line fishing, netting, traps, barricades). They harvest many different species. Salmon, char, whitefish and trout – with salmon being the most important – were most referenced during interviews in relation to subsistence fisheries. However, other species (e.g., suckers and minnows) are also harvested and used (e.g., for bait or food for domestic animals). StFN communities use rivers (e.g., the Endako and the Stellako Rivers) and lakes (e.g., Fraser and Francois Lakes) as important habitat to support their fishing practices (Triton, 2014).

The StFN LRUS (Proponent Version; Triton 2014) does not identify specific fishing locations. The Proponent is consulting with StFN about its preferred methods to share information about fishing practices that may be affected by the Project and to develop methods to mitigate any potential adverse effects.

7.2.7.2.3.5.5 *Plant Gathering*

Plants are an important cultural resource for the StFN and are used for both food and medicine (Triton 204). There are many important species of berries (e.g., soapberries, huckleberries, blueberries, raspberries, thimbleberries, blackberries, currants, gooseberries, saskatoon berries, and cranberries), bulbs and stems (e.g., various species of lily, water plantain, bulrush, cattail, and spring-beauty), and, historically, edible tree lichens (Triton 2014). These species provide many different nutrients to the StFN diet. Triton (2014:39) note “there are many areas of contemporary and intense use that lie within the proposed transmission line due to the proximity of the alignment to the Stellaquo reserve and the habitat quality it crosses.”

The StFN LRUS (Proponent Version; Triton 2014) does not identify specific plant gathering locations. The Proponent is consulting with StFN about its preferred methods to share information about gathering practices that may be affected by the Project and to develop methods to mitigate any potential adverse effects.

7.2.7.2.3.5.6 *Other Cultural and Traditional Uses of the Land*

There are a number of sacred sites in the StFN traditional territory listed on their website, including the following:

- Grandfather’s Trails (*Atsiyan Buhati*): these trails are networks around the Carrier (*Dakelh*) land that connect to the Grease Trails where the Carrier would meet coastal Aboriginal groups to trade for oolichan and coastal goods. Stelat’en people camped in places along the trails that were suitable for catching salmon, char, and whitefish.

Portions of these trails are believed to be in the LSA in the northernmost section of the transmission line corridor.

- Women's Song Place (Tse Koo Shun K'ut): this is a sacred site for women to use when attaining their spiritual powers. These sites are treated with great respect by Stellat'en people, and were used by Stellat'en ancestors to acquire spiritual powers for the betterment of the Stellat'en people and their environment. This site is believed to be near Fraser Lake, outside the RSA and LSA.
- Red Rock (*Tselkin K'ut*): near *Tse Koo Shun K'ut*, is an extinct volcano, complete with a lava cone. This is where Stellat'en men go to attain their spiritual powers to become shaman or dreamers. This site is believed to be near Fraser Lake, outside the RSA and LSA.
- Binta Lake: a part of the network of lakes and rivers Stellat'en people used to hunt and fish on their territory. Binta Lake is outside of the RSA and LSA (StFN, 2009).
- The StFN LRUS also identifies the following cultural uses:
 - Culturally modified trees (CMTs): Traditionally, the StFN harvested cambium as a food and nutrient source mostly from lodge pole pine. Their harvesting methods marked the tree but allowed it to continue growing. These trees and their marks remain visible today and constitute one form of CMT. There are many such trees – possibly tens of thousands – still present within StFN traditional territory (Triton, 2014).
 - Minerals: Minerals are an important part of StFN culture, and many different minerals were used for adornments, trade or ceremonial purposes (e.g., basalt, chert, chalcedony, red ochre, obsidian, copper and jade) (Triton, 2014).

The Cheslatta Trail (or Tset'ladak t'seti in Carrier) crosses through StFN traditional territory and the StFN LRUS indicates that the trail was an important travel, information and trade route (Proponent Version; Triton, 2014) (**Figure 7.2.7-6**). The Trail is an ancient land route from the Dakelh villages of Belhk'achek and Sdughachola on Cheslatta Lake to Nadleh Village on Fraser Lake. It was used by the Dakelh people as a major trade, travel and communication line, until the construction of the Alcan Kenney Dam in 1952 caused flooding of the Cheslatta River and Cheslatta Lake, forcing the Cheslatta people from their lakeside villages. From Nadleh, the trail would have passed through the modern day Beaumont Provincial Park and across Highway 16, then south of Drywilliams Lake (Snipview, 2009).

Today, the Trail begins at km 7.5 on the Holy Cross Forest Road (6 km west of Beaumont Park on Highway 16). The trail then traverses 60 km of forest, passing Klez, Chowsunkut, Hallet, Bentzi, Targe, and Holy Cross lakes along the way. It ends at the site of Belhk'achek village, near the mouth of Knapp Creek on Cheslatta Lake (East 362435; 5951461 North). The Trail is protected under the *Heritage Conservation Act* (FISe-2 and variant FISe-15).

The proposed transmission line will cross the Trail at 385628 East; 5981361 North (refer to **Figure 7.2.7-6** and **Appendix 8.1A**, Section 1.7.2.3, Figure 1.7 6). The area of the Trail crossed

by the proposed transmission line has been logged and is now an overgrown, rutted service road (**Appendix 8.1A**, Section 1.7.2.3, Photo 1.7-13).

The StFN LRUS (Proponent Version; Triton, 2014) does not identify specific cultural use locations. The Proponent is consulting with StFN about its preferred methods to share information about cultural uses that may be affected by the Project and to develop methods to mitigate any potential adverse effects.

7.2.7.2.3.6 *Ulkatcho First Nation*

7.2.7.2.3.6.1 *Context*

The UFN traditional territory covers approximately 3,030,687 ha, of which 0.11% (3,232 ha) overlap the Project. The UFN community and band office is located at Anahim Lake, which is approximately 350 km west of Williams Lake (Quesnel Museum). The majority of UFN members live on 28.9 km² at or near the southeast end of Anahim Lake, at the mouth of the Dean River (Andrew Leach & Associates, 2008).

The land is used to hunt caribou and moose, to fish, and to harvest local mushrooms and berries (UFN, 2012). Many members continue to supplement their incomes and feed their families through careful use of the food resources surrounding Anahim Lake. Extensive knowledge of plants used for food and medicinal purposes has been retained by the community and they have provided the common and traditional names of these species in their TLUS report. Specific locations where species are collected were not provided since the information is sensitive either cultural or economically. It is understood, that in the past, the UFN followed a seasonal round in pursuit of the resources used to sustain them. Species may have been collected in different locations from year to year so that any one resource was not depleted.

A recent study, the UFN Traditional Land Use and Ecological Knowledge of the Proposed New Gold Inc. Blackwater Project (TLUS) (DMCS, 2013), emphasizes the seasonal round with respect to resources and the focus on trade with Coastal peoples. While other Carrier First Nation members managed resources through a system of keyohs, these are not discussed in the TLUS. The TLUS discusses how the UFN traded extensively with the Nuxalk residing at Bella Coola on the coast in the period prior to contact. The Ulkatcho people adopted many coastal cultural influences from the Nuxalk, such as the potlatch system, bilateral descent kinship system, and crest groups. The UFN became organized around the *sadeku* or extended family who occupied semi-permanent winter villages. The *sadeku* is under the jurisdiction of the *detsa*, or headman, who manages the hunting territory and trapline.

The UFN have traditionally used the land in the RSA and surrounding areas for fishing, trapping, hunting, berry and mushroom picking, and plant gathering. The TLUS identified 66 TLU sites historically and currently used by the Ulkatcho within the Proponent's tenure area. The Proponent's tenure area includes a number of parcels of land, some designated for future exploration, that are not part of the Project's RSA or LSA. For the purposes of this effects assessment, resources identified within the RSA and LSA are considered.

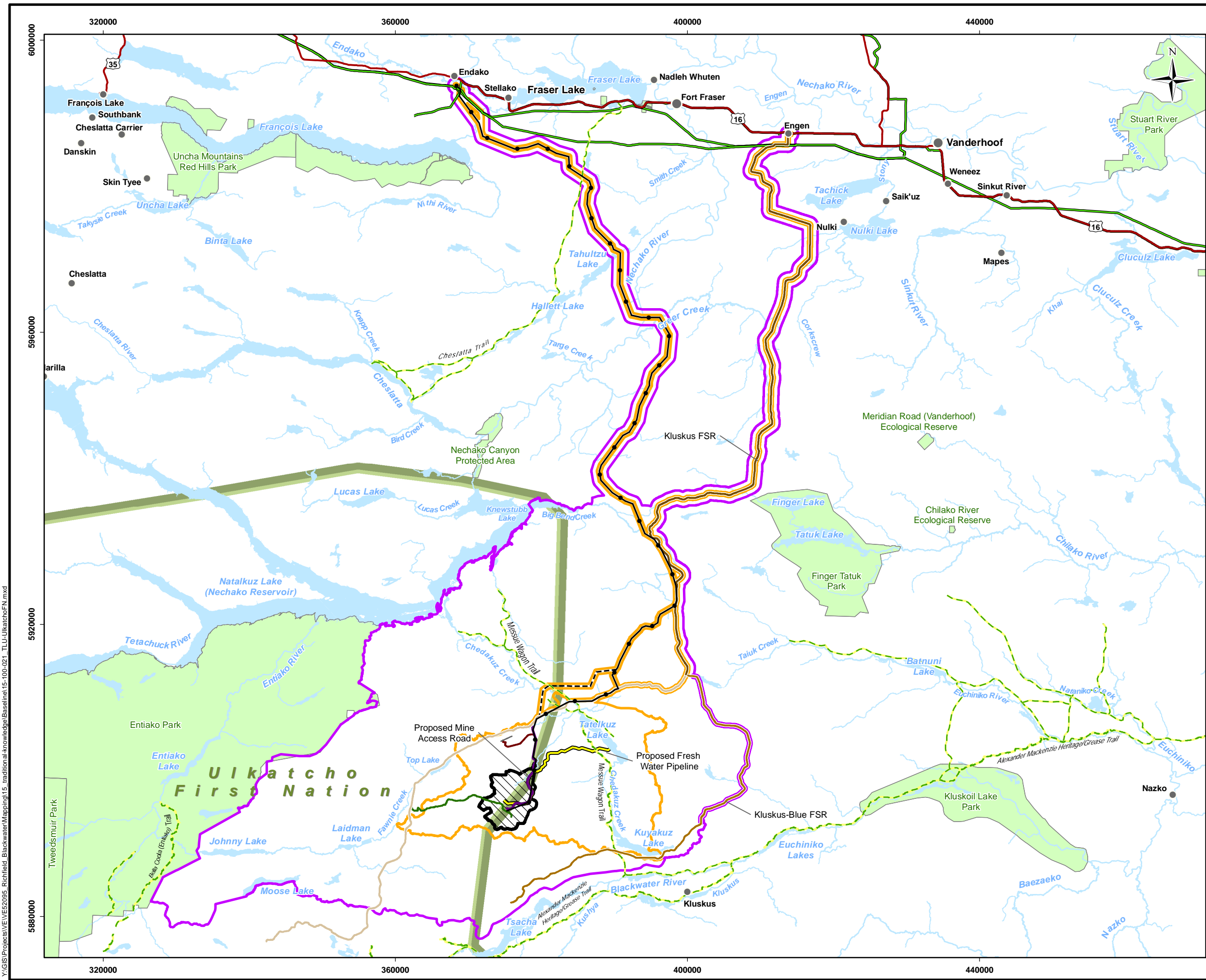
BLACKWATER GOLD PROJECT

APPLICATION FOR AN
ENVIRONMENTAL ASSESSMENT CERTIFICATE /
ENVIRONMENTAL IMPACT STATEMENT
ASSESSMENT OF POTENTIAL SOCIAL EFFECTS



Additionally, the UFN traditional territory boundary that appears on figures used to determine potential effects from the Project was developed from publicly available sources. A number of the activities identified in the TLUS occur in an area east of the UFN traditional territory boundary. The UFN traditional territory boundary currently bisects the proposed mine site and includes activities in the western portion of the RSA or LSA (**Figure 7.2.7-7**). Because the current UFN traditional territorial boundary has not been firmly established in the TLUS, an accurate area calculation for the effect that the Project will have on their traditional territory cannot be determined. However, based on the publicly available traditional territory boundary, the RSA includes 153,382 ha and the LSA includes 147,341 ha. The RSA area accounts for 5.1% of their traditional territory, while the LSA accounts for 0.6%. The UFN have indicated through discussions with the Proponent, and documented in their TLUS, that they have traditional lands and resources outside their traditional territory boundary and within the Project area. **Figure 7.2.7-8** shows the TLUS intensity of use and the RSA and LSA.

The elders interviewed for the TLUS emphasized the spiritual and cultural significance of the lands used within Proponent's tenure to the UFN people.

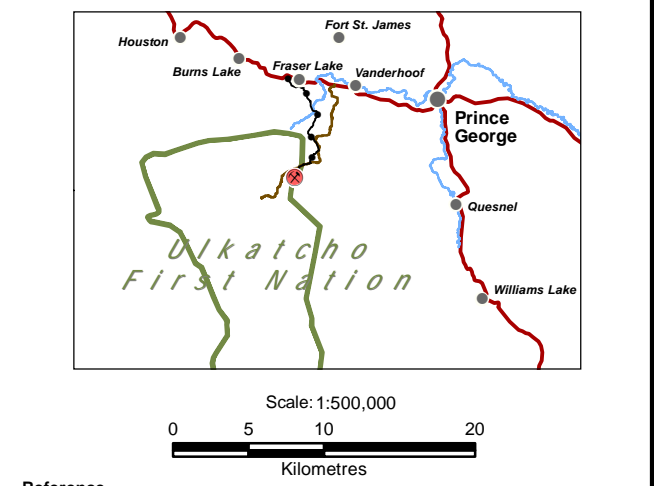


Legend

- Populated Place
- 16 Highway
- Kluskus FSR
- Kluskus-Ootsa FSR
- Kluskus-Blue FSR
- Railway
- Existing Transmission Line
- Stream
- Waterbody
- Parks & Protected Areas
- Ulkatcho First Nation Territory

Project Components

- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- - - Proposed Transmission Line Reroutes
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access Road
- Proposed Airstrip
- Proposed Mine Site
- Current Land and Resource Use for Traditional Purposes
- Regional Study Area
- Local Study Area



Reference
Context layers:
 BC Government GeoBC Data Distribution
Traditional Territories:
 Aboriginal Affairs and Northern Development Canada
 Carrier Chilcotin Tribal Council - <http://www.carrierchilcotin.org/>
 - Ulkatcho First Nation

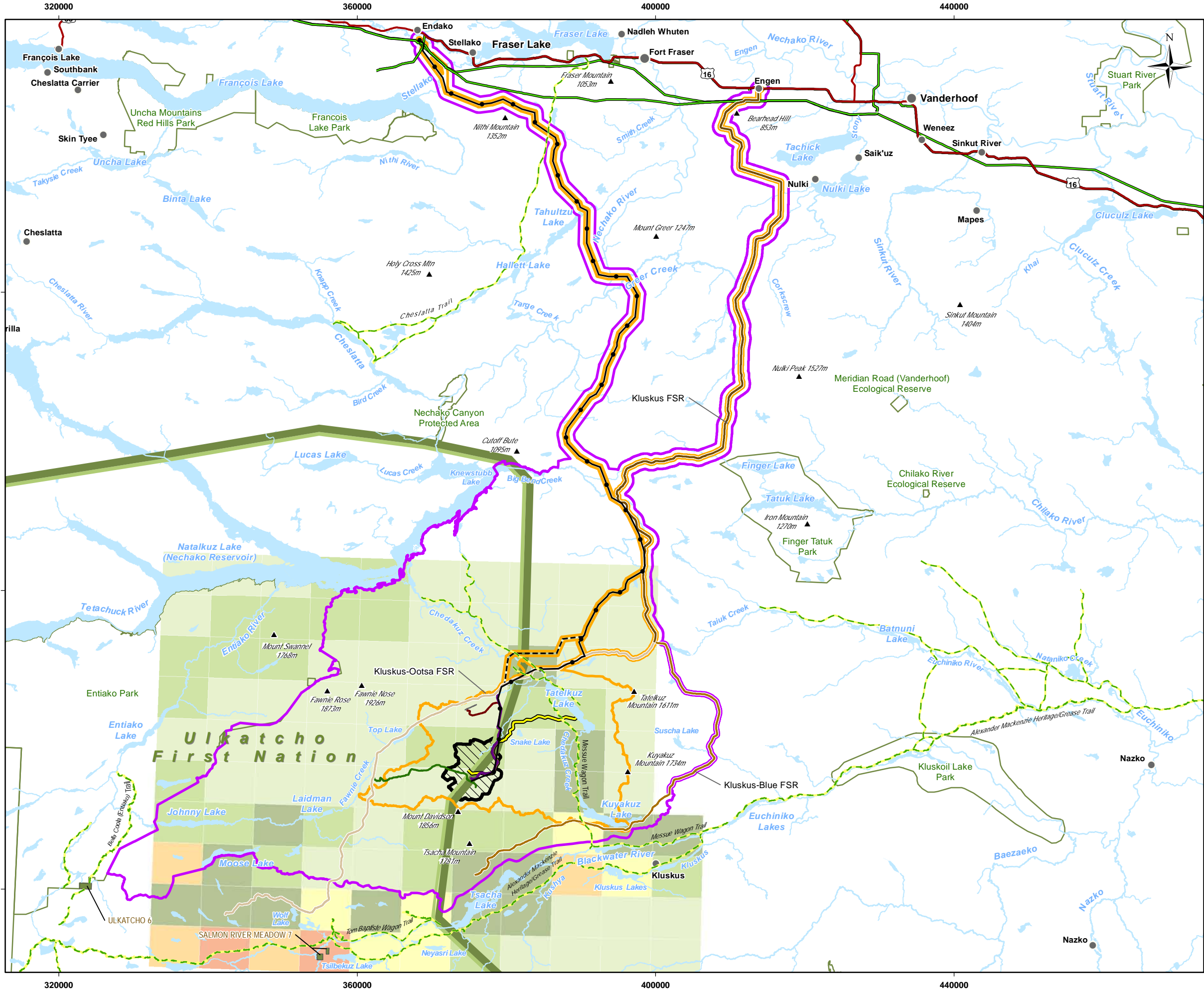
CLIENT: **newgold**

PROJECT: **Blackwater Gold Project**

**Ulkatcho First Nation
Traditional Territory and Study Areas**

DATE: March, 2014	ANALYST: WR	Figure 7.2.7-7
JOB No: VE52277	QA/QC: LR	
GIS FILE: 15-100-021_TLU-UlkatchoFN.mxd		amec
PROJECTION: UTM Zone 10	DATUM: NAD83	

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Legend

- Populated Place
- 16 Highway
- Existing Transmission Line
- Recreation Trails
- Parks & Protected Areas

Ulkatcho First Nation

- UFN Territory
- UFN Reserves

Project Components

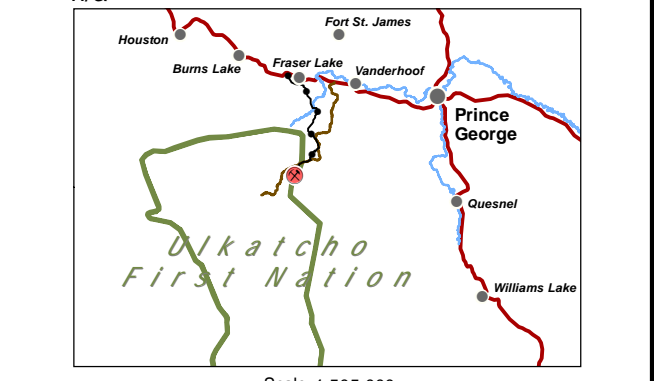
- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- Proposed Transmission Line Reroutes
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access Road
- Proposed Airstrip
- Proposed Mine Site

Current Land and Resource Use for Traditional Purposes

- Regional Study Area
- Local Study Area

Count of TUS Sites in 1: 10,000 Grid

- 26 - 29
- 21 - 25
- 16 - 20
- 11 - 15
- 6 - 10
- 1 - 5
- n/a



Reference

Context layers:
BC Government GeoBC Data Distribution

Traditional Territories:
Aboriginal Affairs and Northern Development Canada
Carrier Chilcotin Tribal Council - <http://www.carrierchilcotin.org/>
- Ulkatcho First Nation

Traditional Use Sites
Bolster Consulting & DM Cultural Services Ltd.

CLIENT: **newgold**

PROJECT: **Blackwater Gold Project**

**Ulkatcho First Nation
Traditional Land Use
Site Distribution within Study Area**

DATE: March, 2014	ANALYST: WR	Figure 7.2.7-8
JOB No: VE52277	QA/QC: MK	PDF FILE: 15-100-023_TLU-UlkatchoTUS.pdf
GIS FILE: 15-100-023_TLU-UlkatchoTUS.mxd		amec
PROJECTION: UTM Zone 10	DATUM: NAD83	

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7.2.7.2.3.6.2 *Hunting*

The UFN continue to hunt for moose, deer, and caribou and have identified the Proponent's tenure as an important area for this harvesting. They also continue to trap furbearing animals.

Hunting was identified in the TLUS as occurring with some intensity near Kuyakuz Lake, Mount Davidson, and near Moose Lake. Within the LSA, the UFN TLUS has identified lynx, squirrel, timber wolf, beaver, moose, caribou, and deer as mammals that are hunted. They also noted ducks and geese as waterfowl that are taken within the LSA.

In consultation with the Proponent, the UFN have expressed concern about caribou since they would like to continue to hunt them in the Project area. The Proponent has committed to support regional initiatives to better understand caribou population trends and mitigation measures to minimize potential impacts to caribou. The Proponent is further supporting UFN to participate in the Caribou Working Group.

7.2.7.2.3.6.3 *Trapping*

Trapping was identified in the TLUS as occurring with some intensity near Kuyakuz Lake, Mount Davidson, and near Moose Lake. Within the LSA, the UFN TLUS has identified lynx, squirrel, timber wolf, beaver, moose, caribou, and deer as mammals that are hunted and trapped. The UFN identify in the TLUS that they trap mammals, such as lynx, rabbit, beaver, and squirrel within the LSA.

The UFN report trapping in the area but as yet, no trapline registered to a UFN member has been identified in the RSA or LSA. Under the current *Wildlife Act*, First Nations may trap for food, social or ceremonial reasons on Crown land even though they may not be the registered holder of a trapline for an area and do not require a permit (MFLNRO, 2014).

7.2.7.2.3.6.4 *Fishing*

Fishing continues in many areas throughout the UFN traditional territory. The TLUS identified Kuyakuz Lake, Moose Lake, and Johnny Lake as areas of intensive use within the RSA. Species fished within the RSA and LSA include suckers, lingcod, salmon, and trout. Steelhead is also taken but this likely is in the Blackwater River, which is outside of the RSA, and the fish effects assessment (**Section 5.3.8**) indicates that this is the only water body nearby where Steelhead occur.

7.2.7.2.3.6.5 *Plant Gathering*

The Ulkatcho continue to pick berries, collect medicinal and food plants at Kuyakuz Lake (in the RSA), Moose Lake, and Johnny Lake (within the RSA). The UFN have specifically identified wild celery and blueberries as gathered within the RSA. In consultation with the UFN, they have identified mushroom picking as an activity of some importance. Impacts on mushroom harvesting areas are a concern identified in the TLUS, although no mushroom harvesting areas were specifically noted in the RSA and LSA.

7.2.7.2.3.6.6 *Other Cultural and Traditional Uses of the Land*

Areas within the Project tenure have been identified by the UFN as being culturally and spiritually important.

The UFN, in the period prior to the fur trade, followed a seasonal round in pursuit of resources. They had important trade routes that were used for the exchange of products between the interior and coastal people. The most important resource for which the UFN traded was an oil or “grease” derived from the oolichan fish that is found along the Pacific coast of North America. The trails used in this trade are referred to as grease trails, reflecting the importance of this resource. The important grease trail for the UFN spans 300 km between southern Carrier territory and the coastal villages of the Nuxalk (DMCS, 2013). Used for thousands of years, this trail remains important to the UFN as it connects homesteads, fishing camps, and hunting and trapping territories of the Carrier people (Furniss, 2004). The trail, known to the UFN as the Nuxalk-Carrier Grease Trail, is also identified as the Alexander Mackenzie Heritage Trail. This trail is south of the RSA. The Ulkatcho have requested a 5 km buffer along the length of the trail to prevent damage to cultural and spiritual sites (DMCS, 2013). The trail itself is considered a spiritual site to the UFN.

Mount Davidson has been named *Tillie* by the UFN. Purportedly, there are trails and campsites around Mount Davidson and the proposed mine site within the LSA, although specific locations of these features have not been identified. Trails, hay meadows, and campsites are present in the area, although again, locations are not specifically identified in the TLUS as the information is sensitive either cultural or economically.

7.2.7.2.3.7 *Nazko First Nation*

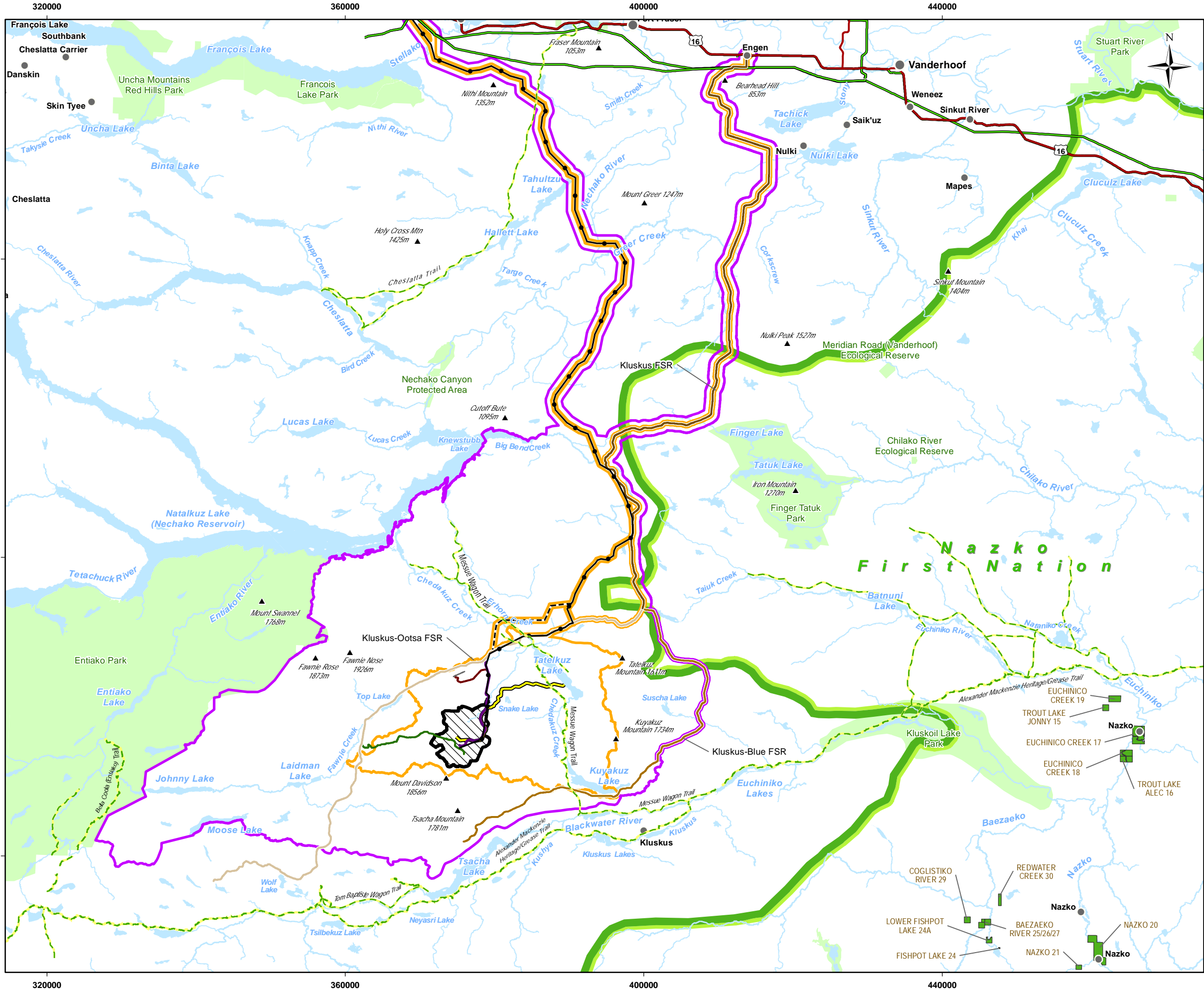
7.2.7.2.3.7.1 *Context*

The NFN traditional territory covers approximately 1,548,894 ha, of which 0.004% (57 ha) overlap the Project. The NFN are a Dakelh people of the north-central interior of BC. The NFN reserves are located around the community of Nazko, BC.

There are seven rivers and many productive, year-round fishing lakes within the NFN traditional territory; the lands are mainly covered in pine forests. No specific past, current, or anticipated land uses in NFN traditional territory have been identified as yet except in a general manner through letters submitted to the Proponent and the BC EAO.

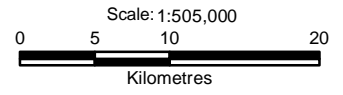
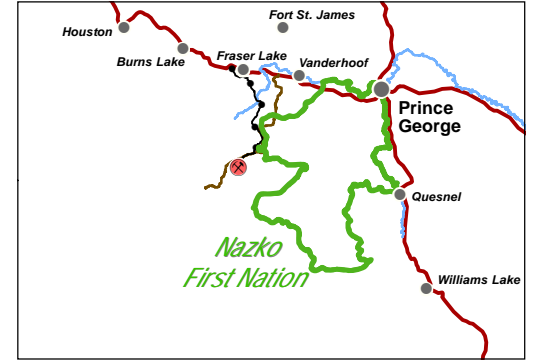
The Euchiniko and Blackwater watersheds (to the south and east of the RSA and LSA) are areas used by NFN people, as noted in a letter to the BC EAO in 2013 (NFN, 2013). The letter notes that Nazko people have a long-standing history of use in the northwest corner of their traditional territory.

The LSA overlaps 0.1% of the NFN traditional territory along a portion of the Kluskus FSR (**Figure 7.2.7-9**).



Legend

- Populated Place
- 16 Highway
- Kluskus FSR
- Kluskus-Ootsa FSR
- Kluskus-Blue FSR
- Railway
- Existing Transmission Line
- Recreation Trails
- Stream
- Waterbody
- Parks & Protected Areas
- Nazko First Nation**
- NFN Territory
- NFN Reserves
- Project Components**
- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- Proposed Transmission Line Reroutes
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access Road
- Proposed Airstrip
- Proposed Mine Site
- Current Land and Resource Use for Traditional Purposes
- Regional Study Area
- Local Study Area



Reference
Context layers:
 BC Government GeoBC Data Distribution
Traditional Territories:
 BC Treaty Commission - <http://www.bctreaty.net/>
 - Nazko First Nation

CLIENT: **newgold**

PROJECT: **Blackwater Gold Project**

**Nazko First Nation
 Traditional Territory and Study Areas**

DATE: March, 2014	ANALYST: WR	Figure 7.2.7-9
JOB No: VE52277	QA/QC: LR	
GIS FILE: 15-100-026_TLU-NazkoFN.mxd		amec
PROJECTION: UTM Zone 10	DATUM: NAD83	

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The Proponent is committed to working with NFN in understanding their TK/TLU information within the RSA and LSA. The Proponent is committed to integrating relevant information into Project design, execution, management plan development, permitting, and monitoring in subsequent stages of the Project development.

7.2.7.2.3.7.2 Hunting

NFN members actively hunt within their traditional territory. Members of NFN identified that moose were actively hunted but there has been a decline in their populations. Moose are present in the study areas and therefore the NFN could be hunting within the RSA or LSA.

7.2.7.2.3.7.3 Trapping

Trapping within the NFN traditional territory is conducted around Titetown Lake, which has NFN-held traplines (NFN, 2013). A number of traplines overlap with the RSA and LSA. It is not currently known if any of these traplines are held by NFN members. If this information becomes available, the Proponent will integrate relevant information into Project design, execution, management plans, permitting, and monitoring.

7.2.7.2.3.7.4 Fishing

NFN members actively fish within their traditional territory; members identified that kokanee is a sustenance resource. It is not currently known if the NFN fish in the lakes, rivers, or streams in the RSA and LSA. If information on fishing in any of the potentially affected water bodies becomes available, the Proponent will integrate relevant information into the Project design, execution, management plans, permitting, and monitoring.

7.2.7.2.3.7.5 Plant Gathering

Traditionally used plants are abundant throughout the RSA and LSA. It is not currently known if the NFN are engaged in plant gathering in the LSA and RSA. If information on plant gathering in the RSA and LSA becomes available, the Proponent will integrate relevant information into the Project design, execution, management plans, permitting, and monitoring.

7.2.7.2.3.7.6 Other Cultural and Traditional Uses of the Land

There are a number traditional uses of land in the northwest area of Nazko's traditional territory, including gathering areas, spiritual sites, and sites or features important to traditional ecological knowledge (such as place names). There is no information about the occurrence of these areas within the RSA or LSA.

The Nuxalk Carrier Grease Trail is also in the NFN Territory and to the south of the RSA. The NFN website notes that:

The Trail systems were used in a number of ways; economic – trading with neighbours, social – visiting friends and family, obtaining resources – hunting, trapping, berry picking,

and resource gathering, and occasionally to engage in warfare. The harsh climate and short growing season made it necessary for people to use a large area of land to obtain what they needed from the land (NFN, 2011).

7.2.7.2.3.8 Skin Tye Nation

7.2.7.2.3.8.1 Context

The STN traditional territory covers approximately 3,824,861 ha, of which 0.14% (5,167 ha) overlap the Project. The STN is located in BC's Central Interior near Francois Lake, west of Prince George.

Like many Aboriginal peoples, the STN have a special relationship to their surrounding environment, with the human relationship to the land and animals being governed by their spiritual beliefs. Traditional foods play a critical role in STN life as sources of food, medicine, and cultural practices (Enbridge, 2010).

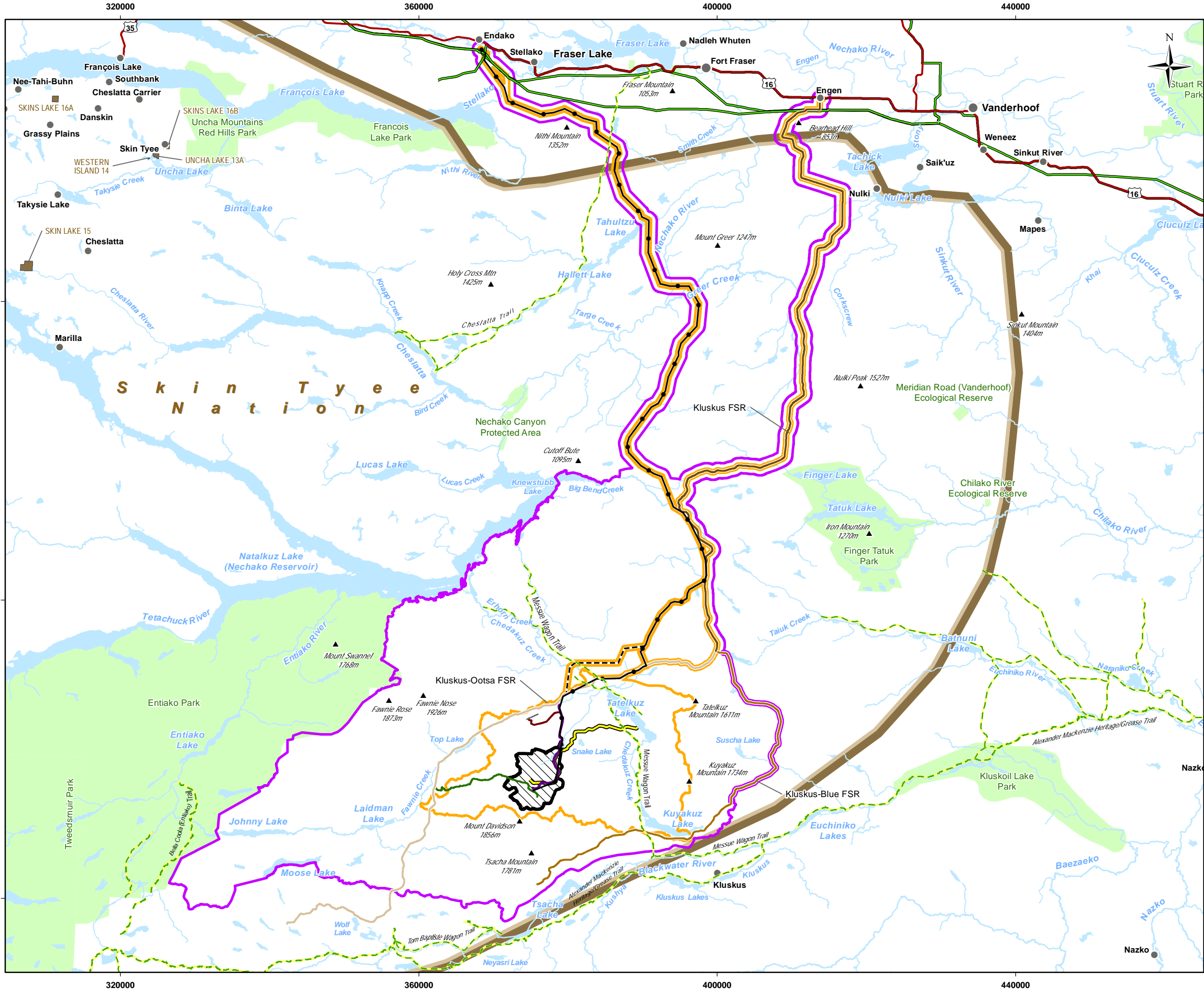
The LSA overlaps 1.6% of the STN traditional territory along almost the entire section of the proposed transmission line and access road (with the exception of northern portions) as well as the entire mine site area (**Figure 7.2.7-10**). The Proponent has provided funding to STN for the completion of a TK/TLU study within the RSA or LSA. The Proponent is committed to integrating relevant information when available into the Project design, execution, management plan development, permitting, and monitoring in subsequent stages of the Project development.

7.2.7.2.3.8.2 Hunting

Hunting is important to the STN. Typical animals harvested are moose and elk. There are people in the community that hunt and distribute the meat to members. STN representatives noted that, while fish are important, the STN "are more moose people than fish people" (STN representatives pers. comm.). Moose and elk are present in the region, but it is not known if the STN are hunting these species within the RSA or LSA. If this information becomes available, the Proponent is committed to integrating it into Project design, Project design, execution, management plans development, permitting, and monitoring.

7.2.7.2.3.8.3 Trapping

It has been noted that trapping is no longer a viable livelihood due to the decline of furbearers (Enbridge. 2010). Similarly, representatives noted that trapping was a traditional way of life, but that this activity has decreased substantially (Interviews with STN representatives pers. comm.).



Legend

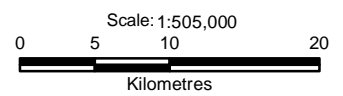
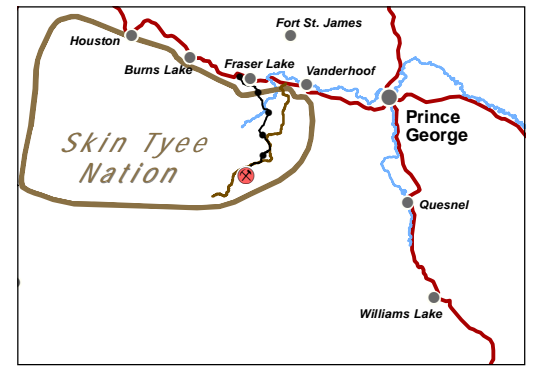
- Populated Place
- 16 Highway
- Kluskus FSR
- Kluskus-Ootsa FSR
- Kluskus-Blue FSR
- Railway
- Existing Transmission Line
- Recreation Trails
- Stream
- Waterbody
- Parks & Protected Areas

Skin Tye Nation

- STN Territory
- STN Reserves

Project Components

- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- - - Proposed Transmission Line Reroutes
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access Road
- Proposed Airstrip
- Proposed Mine Site
- Current Land and Resource Use for Traditional Purposes
- Regional Study Area
- Local Study Area



Reference

Context layers:
BC Government GeoBC Data Distribution

Traditional Territories:
Aboriginal Affairs and Northern Development Canada
Skin Tye Nation Forest and Range Agreement between the Skin Tye Nation and Her Majesty the Queen in Right of the Province of British Columbia

CLIENT: 		
PROJECT: Blackwater Gold Project		
Skin Tye Nation Traditional Territory and Study Areas		
DATE: March, 2014	ANALYST: WR	Figure 7.2.7-10
JOB No: VE52277	QA/QC: MK	PDF FILE: 15-100-027_TLU-SkinTyeFN.pdf
GIS FILE: 15-100-027_TLU-SkinTyeFN.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	

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7.2.7.2.3.8.4 Fishing

Fish are important to the culture and sustenance of the STN, and members use the Morice River and its tributaries for fishing (Enbridge, 2010), which is not within the RSA or LSA. STN representatives noted that spring salmon are often caught with nets, and that trout fishing is done with rods or nets. At Uncha Lake (not within the RSA or LSA), nets are also used to catch char (STN representatives pers. comm.). When fish are caught, they are typically preserved by drying, canning, or smoking.

Consultation efforts with STN to date have not identified STN fishing locations within the LSA or RSA.

7.2.7.2.3.8.5 Plant Gathering

Plant gathering is noted to be important to the STN, who rely on a wide variety of plants for traditional purposes. Commonly used food plants include soapberry, huckleberry, silkberry, blueberry, raspberry, strawberry, gooseberry, high bush cranberry, wild rice, wild onion, cow parsnip, black tree lichen, and rosehips (STN representatives pers. comm.; Enbridge. 2010). Plants used for medicine include birch, Labrador tea, juniper, kinnikinnick, chokecherries, devil's club, spruce gum/pitch, pine, bulrushes, Sitka alder, red alder or mountain alder, yarrow, bearberry or black twinberry, tamarack, fireweed, strawberry, spruce, moss, and Indian hellebore (Enbridge. 2010). Plants used for other cultural purposes include cottonwood, red willow, spruce, poplar, birch, and moss. While the locations of plant harvesting within the RSA or LSA is not known, these plants are widespread in the Fraser Plateau Ecoregion within which the majority of the RSA and LSA lies and within the portion of the STN territories that overlap with the Project infrastructure.

7.2.7.2.3.8.6 Other Cultural and Traditional Uses of the Land

The Proponent interviewed community members about their traditional activities during the socio-economic data collection. Traditional activities are important to the STN, as is consuming traditional foods and medicinal plants. Community members also use animal hides to create moccasins and other crafts. Given that employment rates are low in the STN, it is expected that these traditional resources will be important in economically sustaining the community into the future.

Consultation efforts with STN to date have not identified cultural use locations within the LSA or RSA.

7.2.7.2.3.9 Tsilhqot'in National Government

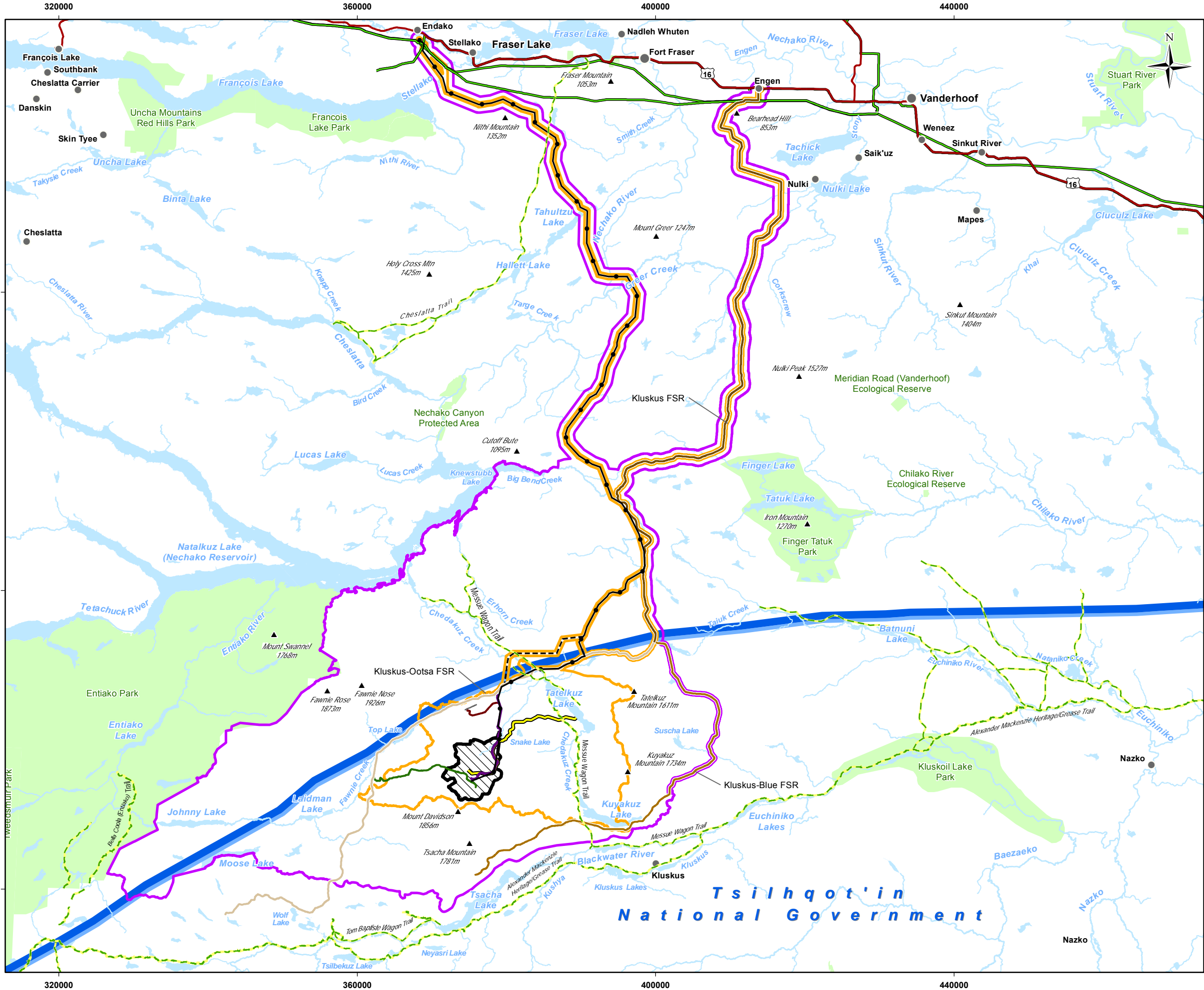
7.2.7.2.3.9.1 Historical Context

The TNG represents the Tsilhqot'in communities of Tl'etinqox (Anaham), ?Esdilagh (Alexandria), Yunesit'in (Stone), Tsi Deldel (Alexis Creek), Tl'esqox (Toosey) and Xení Gwet'in (Nemiah) (TNG, 2014). Tsilhqot'in traditional territory covers approximately 9,668,294 ha, of which 0.05% (4,595 ha) overlap the Project.

7.2.7.2.3.9.2 *Traditional Land Use Overview*

Important sources of Tsilhqot'in ethnography include Teit (1907), Farrand (1899, 1910), Ray (1942) and Lane (1953, 1981). Traditionally, the Tsilhqot'in people occupied and utilized lands and resources in the Chilcotin River drainage and the upper reaches of the Homalco, Klinaklini, and Dean Rivers (Lane, 1981). They engaged in hunting, trapping, fishing, and plant gathering for their subsistence. Elk, deer, caribou, mountain goats, and sheep were primarily hunted, though moose has replaced elk more recently in their territory. Trapped species include marmot, hare, beaver, muskrats and porcupine. They also harvested ducks, geese, ptarmigan, and grouse. Important fish include trout, whitefish, suckers, and salmon (kokanee and sockeye). The sockeye salmon run on the Chilcotin River occurred in mid-July, when Tsilhqot'in people gathered at fishing sites along the Chilcotin and Chilko rivers. Plant foods were important diet supplements, and berries and roots were gathered in sufficient quantities for winter storage. A number of Tsilhqot'in still practice, to varying degrees, their traditional subsistence lifestyle based on hunting, fishing, and gathering. Small-scale horse and cattle ranching is also common (Terralingua, 2015).

To date there is no publically available evidence of Tsilhqot'in use of lands and resources in the RSA. Current use of lands and resources in the Xenigwet'in (Nemiah) area was outlined during the *Tsilhqot'in v. British Columbia (2014)* litigation. Use of the Fish Lake area was characterized in the Prosperity Mine EA Application (Taseko Mines Limited, 2009). If CLRUTP information becomes available, the Proponent will integrate it into Project design, execution, management plan development, permitting, and monitoring in subsequent stages of Project development.



Legend

- Populated Place
- 16 Highway
- Kluskus FSR
- Kluskus-Ootsa FSR
- Kluskus-Blue FSR
- Railway
- Existing Transmission Line
- Recreation Trails
- Stream
- Waterbody
- Parks & Protected Areas

Tsilhqot'in National Government

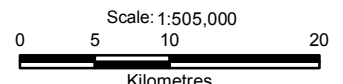
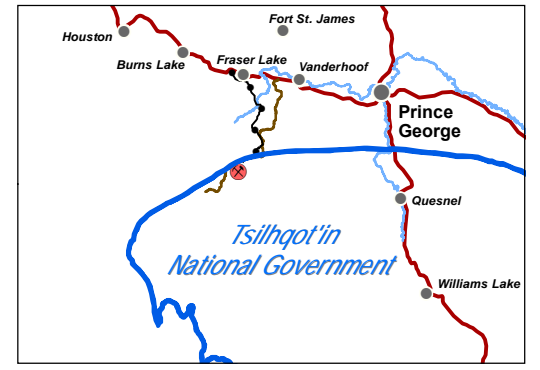
- TNG Territory

Project Components

- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- Proposed Transmission Line Reroutes
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access Road
- Proposed Airstrip
- ▨ Proposed Mine Site

Current Land and Resource Use for Traditional Purposes

- Regional Study Area
- Local Study Area



Reference

Context layers:
 BC Government GeoBC Data Distribution

Traditional Territories:
 Tsilhqot'in Framework Agreement, 2011
 - Tsilhqot'in National Government Amended Agreement Among the Province of British Columbia, the Tsilhqot'in Nation and the Tsilhqot'in National Government.

CLIENT: 		
PROJECT: Blackwater Gold Project		
Tsilhqot'in Traditional Territory and Study Areas		
DATE: March, 2014	ANALYST: WR	Figure 7.2.7-11
JOB No: VE52277	QA/QC: LR	PDF FILE: 15-100-024_TLU-TsilhqotinNG.pdf
GIS FILE: 15-100-024_TLU-TsilhqotinNG.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	

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7.2.7.2.3.10 Métis Nation British Columbia

7.2.7.2.3.10.1 Context

The MNBC report that the Métis have had a presence in parts of BC since the earliest explorers arrived in the 1800s (MNBC, 2014). The Métis in BC are connected to the historic Métis families who migrated from the east with the fur trade and to the mixed Aboriginal communities that resulted from the intermarriage of Europeans and First Nations during the colonial era.

Three Métis communities have been identified that may access the RSA to continue traditional harvesting. There are community associations affiliated with the MNBC in Prince George and Quesnel. The Prince George Métis Elders Society website identifies a number of traditional plants that may be available in the Project area (Prince George Métis Elders Society, 2014). However, no information is provided on where they harvest these resources.

There is also a population of Métis near the town of Fort St. James. Fort St. James is an historic fur trade fort originally established in 1806 by Simon Fraser for the North West Company, which was later purchased by the Hudson's Bay Company. The fort traded with the Dakelh people at the Stuart Lake village of Nak'azdli. Parks Canada currently operates the Fort St. James National Historic Site that includes the restored version of the fur trade post. The Métis community has recently developed more of a presence at the historic site and they hold a Métis Day to celebrate their contributions to the Métis.

The Métis people involvement in the fur trade industry went beyond trapping. Other Métis activities associated with the fur trade included berry picking, making pemmican, and canoe manufacturing. Métis people from northern BC harvest deer, elk, moose, fish, medicinal plants, berries, small game, timber, and firewood, as well as bear, birds, bison caribou, and sheep (BC Hydro, 2013).

The MNBC also submitted a letter to BC EAO on 8 November 2013 providing general information about their use of Northern BC. Discussions with the MNBC are taking place to identify hunting, trapping, and plant gathering rights that may be affected by the Project.

7.2.7.2.3.10.2 Hunting

Game such as deer, elk, moose and small game are present in the RSA and LSA. If Métis citizens are hunting in the area, their practices could be affected by the Project. Consultation efforts with MNBC to date have not identified specific Métis hunting locations in the LSA or RSA.

7.2.7.2.3.10.3 Trapping

Métis citizens hold Aboriginal rights to trap for food and domestic use. Consultation efforts with MNBC to date have not identified Métis trapping locations in the LSA or RSA. If information on effects to trapping becomes available, the Proponent will integrate it into Project design, execution, management plan development, permitting, and monitoring in subsequent stages of Project development.

7.2.7.2.3.10.4 Fishing

There are many lakes, rivers and streams suitable for fishing in the RSA and LSA. It is not known if the Métis are fishing in any of the lakes, rivers, and streams; if information on fishing becomes available, the Proponent will integrate it into Project design, execution, management plan development, permitting, and monitoring in subsequent stages of Project development.

7.2.7.2.3.10.5 Plant Gathering

Métis plant harvesting locations within the RSA and LSA are not known. If information on Métis plant harvesting becomes available, the Proponent will integrate it into Project design, execution, management plan development, permitting, and monitoring in subsequent stages of Project development.

7.2.7.2.3.10.6 Other Cultural and Traditional Uses of the Land

There is no information about current practices related to other land and resources by Métis citizens in the RSA or LSA. If this information is provided the Proponent is committed to integrating relevant information into Project design, execution, management plan development, permitting, and monitoring in subsequent stages of Project development.

7.2.7.3 Potential Effects of the Proposed Project and Proposed Mitigation

This subsection identifies and analyzes the potential effects resulting from the Project (construction, operations, closure, and post-closure phases). It also describes potential effects from other known past, present, certain, and reasonably foreseeable future project or activities in the Project area; and describes measures to mitigate the potential adverse effects.

7.2.7.3.1 Identification and Analysis of Potential Project Effects and Mitigation

The following discussion summarizes how CLRUTP identified in the LSA could potentially be affected by the Project in each of its phases (construction, operations, closure, and post-closure). The discussion is organized by Aboriginal group and potential effects to each VC indicator are described. As appropriate, the assessment includes information from relevant effects assessments such as fish (**Section 5.3.8**), fish habitat (**Section 5.3.9**), Ecosystem composition (**Section 5.4.5**), moose (**Section 5.4.10**), caribou (**Section 5.4.11**), and furbearers (**Section 5.4.13**).

Based on a review of the traditional territories for each First Nation, the interactions between the Project and potential or known CLRUTP were assessed based on the overlap of the LSA with these territories. The practice of CLRUTP outside of the traditional territory was also included in the assessment as information was available. This includes where the LSA overlaps:

- LDN traditional territory in the mine site area, and southern portions of the proposed transmission line and the Kluskus FSR;

- NWFN traditional territory along the proposed transmission line from the Nechako River north to the substation connection point at Endako and small portion of the existing Kluskus FSR;
- SFN traditional territory along portions of the Kluskus FSR access road and portions of the proposed transmission line;
- StFN traditional territory along the north section of the proposed transmission line from the Nechako River to the connection at Endako;
- UFN traditional territory in the mine site area, small portion of the proposed transmission line corridor, small portion of the Kluskus FSR and activities in the western portion of the LSA;
- NFN traditional territory along a portion of the Kluskus FSR;
- STN traditional territory along almost the entire section of the proposed transmission line and access road (with the exception of northern portions) as well as the entire mine site area;
- The LSA and the proposed mine site area overlaps the TNG traditional territory (Engagement Zone A). On 22 February 2013, the Proponent met with TNG representatives who advised that its main interest related to the Project is employment and training; and
- MNBC identified that their members actively use land for traditional purposes throughout the province and as such for an assessment of potential effects, it is assumed that their members could conduct CLRUTP throughout the LSA.

If additional CLRUTP information becomes available, the Proponent is committed to integrating it into Project design, execution, management plan development, permitting, and monitoring in subsequent stages of Project development, including the Application review phase, the permitting phase, and the Project construction, operations, closure, and post-closure phases.

7.2.7.3.2 Past, Present, And Future Project or Activities

There following past, present and reasonably foreseeable future projects and/or activities have the potential to affect the VC:

- Mining and mineral exploration;
- The Nulki Hills Wind Project;
- Forestry-related activities (cut blocks, woodlots);
- Agriculture and grazing;
- Transportation and access;
- Non-traditional hunting, fishing, trapping and guide outfitting; and
- Other recreational activities.

Mineral exploration activities, forestry activities, agriculture, and grazing, transportation and access, non-traditional hunting, trapping, guide outfitting and other recreation uses contribute to cumulative activities and land disturbance that negatively affect vegetation and wildlife abundance and distribution and therefore hunting and trapping success in the RSA. These activities also affect the quality of fish habitat and the abundance of plants used for traditional purposes.

The majority of the disturbance within the overall RSA is caused by forestry activities accounting for approximately 94% of the total disturbance in the RSA.

The Cumulative Effects Assessment (CEA) for CLRUTP is presented in **Section 7.2.7.5**.

7.2.7.3.3 Project Interactions

The Project Component and Activity Interaction Matrix in **Table 4.3-2** in **Section 4** presents the interactions between the VCs and Project activities and components. The key interactions occur between the VC and Project components and activities at the mine site during the construction and operations phases because the mine site overlaps with areas used for hunting, trapping, and other current uses, and sensorial disturbances affect wildlife species that are hunted or trapped. Fish habitat within the mine site will also be affected. The mine site will remain largely unavailable for traditional use during construction, operations, and closure. Once closure activities are completed and the revegetation and restoration activities achieve the goals of re-establishment of vegetation communities and wildlife habitat, a portion of mine site will become available for traditional uses but some components of it, such as the pit lake, will remain unavailable. The interaction during the post-closure phase is considered moderate.

For the linear components, the interactions during the construction, operations, and closure phases are moderate because of traffic, potential increased access, and sensorial disturbances of wildlife. There will be removal of vegetation along the linear components, but the vegetation that is not removed along the linear components will remain available for traditional use. During the closure phase, reclamation and restoration activities will return the linear corridors to a condition similar to baseline. No interactions are expected between linear components and the VC during the post-closure phase.

During the post-closure phase interactions between the Project components and the VC are predicted to be negligible. There will be a few Project staff on-site on a continuous basis monitoring flows and taking water samples until the pumping system from Tatelkuz Lake is decommissioned. It is anticipated that no Proponent employees will remain at the site after the lake pumping station is shut down. Disturbed areas will be revegetated with traditional use plants and in a manner consistent with end land use objectives.

A detailed discussion about the potential effects on hunting, trapping, fishing, plant gathering, and other cultural and traditional uses of the land during the different Project phases are described in the following sub-sections.

7.2.7.3.4 Potential Effects on Hunting

The Project has the potential to affect the CLRUTP of hunting during the Project phases, due to overlap of Project components or activities with Aboriginal traditional territories.

7.2.7.3.4.1 *Mine Site, Mine Site Access Road, Airstrip and Freshwater Supply System*

During construction and operation of the mine site—including ore processing plant, on-site roads, work camp, waste rock area, Tailings Storage Facility (TSF), borrow sites, airstrip, and freshwater supply system (FSS)—the clearing of the area and the import of equipment, materials, and personnel will result in potential overlaps with areas used for hunting.

Sensory disturbances associated with the Project (potential increases to noise, artificial light and dust) could affect the quality and distribution of wildlife. The Project also has the potential to affect the accessibility to areas for hunting. The effects on aquatics and wildlife are presented in **Section 5.3** and **Section 5.4**, respectively. There are potential changes that could occur to the availability of resources for harvesting due to loss and disturbance of wildlife habitat. Without mitigation these changes could result in an effect to the abundance and distribution of wildlife that could affect hunting success rates. It should be noted that wildlife habitat is currently impacted (denuded) by the MPB (58% of the mine site portion of the LSA) and hunting in mining leases is not permitted.

During the closure phase, the mine site components will be dismantled and removed, and the mine site will be graded and revegetated. There will be accelerated flooding of the mine pit by pumping water from the TSF and Tatelkuz Lake. A rock safety berm will be built around the mine pit, and this area will remain inaccessible for safety reasons. Wetlands will be established in the saturated areas of the TSF, and exposed beaches will be covered with overburden. Similarly, waste rock areas will be graded, covered with overburden, and vegetated with plants that are traditionally harvested and to re-establish wildlife habitat. With the exception of roads required to provide access to the mine site or to infrastructure required during the closure phase, on-site roads will be scarified and allowed to revegetate naturally. Once the pit lake has been filled, the operation of the water management system will cease (ending power requirements at the mine site). Over time, the re-establishment of vegetation and habitat will occur. The potential effects experienced in the construction and operations phases will begin to diminish, as the mine site is reclaimed and revegetated. Reclamation prescriptions will include revegetation of the mine site with traditional use plant species habitat and setting reclamation goals to re-establish later winter habitat (**Section 2.6**). Parts of the mine site will remain inaccessible and hunting will not be permitted.

During the post-closure phase, ongoing maintenance and environmental monitoring activities will occasionally bring personnel to the mine site.

7.2.7.3.4.2 *Project Access Road (Kluskus and Kluskus-Ootsa FSR)*

During the construction phase, the Kluskus and Kluskus-Ootsa FSRs will be used to transport materials, equipment, and personnel to the mine site for construction activities. A section of the Kluskus-Ootsa FSR will be upgraded for safety reasons and a new mine access road will be

constructed from the FSR into the mine area. Prior to application of mitigation measures the potential effects associated with this phase include increased traffic along the access roads, as well as associated emission increases (noise, artificial light, and dust). Increased traffic could increase the potential for wildlife mortality due to vehicular strikes. If left unmitigated, these changes could result in an effect to the abundance and distribution of wildlife that could affect hunting success rates during construction.

During the operations phase, traffic will decline from the construction phase levels but there will continue to be an increase over baseline conditions. The potential effects associated with emissions and wildlife mortality will continue in this phase.

Without mitigation measures in place, potential effects in the active decommissioning/closure phase could be similar to those potential effects in the construction and operations phases since equipment, materials and personnel will be transported to and from the site.

In post-closure, potential effects associated with the access roads will diminish as the traffic decreases to baseline conditions and roads on the mine site will be reclaimed. The existing FSR, as well as the FSR upgrade and the mine access road, will remain in place to provide ongoing access for maintenance and environmental monitoring, as well as for hunting. This could be a positive effect for Aboriginal hunters since it provides continued access (with the exception of on the mine site where access will remain constrained), or a negative effect, since it also provides continued access to non-Aboriginal hunters, thereby increasing competition for wildlife resources. However, in the context of the many logging roads in the area, this additional access increasing competition for wildlife is expected to be negligible. Post-closure, the habitat loss associated with the mine access road will continue; however, sensory disruptions associated with traffic will be negligible.

7.2.7.3.4.3 Transmission Line

The construction of the transmission line generally involves short-term effects, with development of approximately 2.5 km per week (a total of 133 km in 12 months). During construction of the transmission line, the clearing of the ROW, placement of poles and lines will result in an increase in noise (from equipment, traffic, workers). There is also the potential for increased access for hunting along the transmission line corridor to interior areas that were not previously accessible, or where there was limited accessibility. There is also the potential for a change to wildlife habitat through the loss and disturbance of habitat and siltation of water bodies (such as the Nechako River and Stellako River). If left unmitigated, these changes could result in an effect to the abundance and distribution of wildlife that could affect hunting success rates during construction activities.

During operations, there will be ongoing maintenance of the transmission line ROW, which will include brushing where necessary. These activities will result in an occasional increase in noise affecting wildlife sensitive to disturbance. The potential effects associated with wildlife habitat loss could continue. There is also the potential for increased access for hunting along the transmission

line corridor to interior areas that were not previously accessible, or where there was limited accessibility.

In the closure phase, the transmission line and ROW will be removed and revegetated once power requirements at the mine site are eliminated. Over time, the re-establishment of vegetation and habitat will occur. The potential effects experienced in the construction and operations phases will begin to diminish as the transmission line and ROW return to their baseline conditions.

There are no anticipated Project effects in post-closure. The potential Project effects on hunting are summarized in **Table 7.2.7-4**.

7.2.7.3.4.4 Mitigation- Hunting

The Proponent will continue to discuss potential Project effects on traditional hunting with affected Aboriginal communities throughout the life the Project. Should additional information regarding an Aboriginal community's CLRUTP (such as a TK/TLU study) become available, the Proponent will review and assess any potential effects and necessary mitigation measures.

The Project has been designed to minimize the entire footprint through effective Project design. Measures to mitigate the potential affects to CLRUTP hunting include the following:

- Establishing a group including affected Aboriginal group representatives to discuss access management for the transmission line corridor and mine site area;
- Prohibiting mine employees from hunting on mine site property as per applicable laws;
- Redesigning the TSF and mine access road to avoid Ungulate Winter Range (UWR);
- Developing mitigation and avoidance strategies through ongoing discussions with the Caribou Sub-Working Group;
- Setting reclamation goals to re-establish later winter habitat;
- Disposing of wastes generated on site to limit the attraction of wildlife to the mine site (Environmental Management Plans [EMPs] addressing industrial and domestic waste management, **Section 12.2.1.18.4.11**);
- Participating in regional wildlife and resource management initiatives (specifically for ungulates);
- Implementing design and operational procedures to limit risks associated with malfunctions and accidents (**Section 10**);
- Implementing the respective EMP presented in **Section 12.2.1**, addressing air quality and emissions management, transportation and access management, landscape, soils and vegetation management and restoration, wildlife management, and visual resources and aesthetics management;
- Implementing a Country Food Monitoring Program around the mine site (**Appendix 9.2.2.B**); and

- Establishing a TK/TLU Committee with participation of Aboriginal groups on which territory the Project is located to monitor Project development to ensure that the commitments made by the Proponent in regards to TK/TLU are being complied with.

7.2.7.3.5 Potential Effects on Trapping for Traditional Purposes

The Project has the potential to affect the CLRUTP of trapping during the Project phases, due to overlap of Project components or activities with Aboriginal traditional territories.

7.2.7.3.5.1 *Mine Site, Mine Site Access Road, Airstrip, and Freshwater Supply System*

During construction and operation of the mine site (including ore processing plant, on-site roads, work camp, waste rock area, TSF, borrow sites, airstrip and FSS), the clearing of the area, import of equipment, materials and personnel, will result in potential overlaps with areas used for trapping, an increase in emissions (noise, artificial light and dust) that could affect the quality and abundance of furbearers, and change access to trapping areas. There is the potential for a change to aquatic and furbearer habitat through habitat loss/disturbance/fragmentation and siltation of water bodies. The Project may also create sensory disruptions for furbearing animals. Without mitigation measures in place, these changes could result in an effect to the abundance and distribution of furbearing animals that could affect trapping success during construction activities.

Other potential effects on trapping activities include damage to or encroachment on trail systems, staging areas, trapping sites (including traps and snares), parking sites, or cabins. As well, trapping in areas that overlap with the mine site could result in inconvenience, and require relocating traplines, consequently affecting trapping effort and success.

Similar to those potential effects experienced on hunting during the decommissioning/closure phase, the potential effects experienced on trapping will begin to diminish, as mine site, airstrip, and water supply are decommissioned, reclaimed, and revegetated.

During the post-closure phase, ongoing maintenance and environmental monitoring activities will occasionally bring personnel to the mine site. There should be no potential effects associated with the post-closure phase, as habitat and sensory disturbances will be eliminated.

7.2.7.3.5.2 *Project Access Road (Kluskus and Kluskus-Ootsa FSR)*

During the construction and operation phases, the Kluskus and Kluskus-Ootsa FSRs will be used to transport materials, equipment and personnel to the mine site. A section of the Kluskus-Ootsa FSR will be upgraded for safety reasons, and a new mine access road will be constructed from the FSR into the mine area. The potential effects associated with these phases include increased traffic along the access roads as well as associated emissions (noise and dust) that could affect quality and distribution of furbearers. Associated with the increase in traffic is the potential for an increase in wildlife mortality due to vehicular strikes. These changes could result in an effect to the abundance and distribution of furbearers that could affect trapping success during these phases.

It is anticipated that potential effects in the closure phase will be similar to those experienced in the construction and operations phases since equipment, materials and personnel will be transported to and from the site for closure activities.

Post-closure, the potential effects associated with access roads will diminish as the traffic decreases to baseline conditions. The existing FSR, as well as the FSR upgrade and the mine access road will remain in place to provide ongoing access for maintenance and environmental monitoring. Post-closure, the habitat loss associated with the mine access road will continue; however, sensory disruptions associated with traffic will be negligible.

7.2.7.3.5.3 Transmission Line

During construction of the transmission line, the clearing of the ROW, and the placement of poles and lines will result in an increase in noise (from equipment, traffic, workers) and limit trapping in active construction areas. There is also the potential for a change to aquatic and furbearer habitat through habitat loss/disturbance/fragmentation and siltation at stream crossings. These changes could result in an effect to the abundance and distribution of furbearers that could affect trapping success rates during construction activities.

During operations, there will be ongoing maintenance of the transmission line and ROW following applicable EMPs, which will include brushing where necessary. These activities will result in an occasional increase in noise from these maintenance activities that could result in temporary disruption on furbearers while the maintenance activities are occurring. There is also the potential for increased access along the transmission line corridor to interior areas that were not previously accessible or where there was limited access.

If left unmitigated, other potential effects to trapping activities include damage to or encroachment on trail systems, staging areas, trapping sites (including traps and snares), parking sites, or cabins.

The transmission line and ROW will be decommissioned and revegetated during the closure phase once power requirements at the mine site are eliminated. Over time, the re-establishment of vegetation and habitat will occur. The potential effects experienced in the construction and operations phases will begin to diminish as the transmission line and ROW return to their baseline conditions.

There are no anticipated Project effects in post-closure. The potential Project effects on trapping are summarized in **Table 7.2.7-4**.

7.2.7.3.5.4 Mitigation- Trapping

The Proponent will continue to discuss potential Project effects on trapping with affected Aboriginal communities throughout the life the Project. Should additional information regarding an Aboriginal community's CLRUTP (such as a TK/TLU study) become available, the Proponent will review and assess any potential effects, and develop and implement necessary mitigation measures.

The Project has been designed to minimize the entire footprint through effective Project design. Measures to mitigate the potential affects to CLRUTP trapping include the following:

- Establish a group including affected Aboriginal group representatives to discuss access management for the transmission line corridor and mine site area;
- Prohibiting mine employees from hunting on mine site property;
- Informing holders of affected trapline areas of Project activities, schedules, and locations;
- Compensating affected trapline holders in accordance with industry and provincial protocols with associated proof of lost revenue;
- Locating and maintaining breaks in the rollback along the transmission line corridor to facilitate access to trapping trails during clearing;
- Disposing of wastes generated on site to limit the attraction of wildlife to the mine site (EMPs addressing industrial and domestic waste management, **Section 12.2.1.18.4.11**);
- Implementing design and operational procedures to limit risks associated with malfunctions and accidents (**Section 10**);
- Implementing the respective EMP (**Section 12.2.1**), addressing air quality and emissions management, transportation and access management landscape, soils and vegetation management and restoration, wildlife management and visual resources and aesthetics management;
- Implementing a Country Food Monitoring Program around the mine site (**Appendix 9.2.2.B**); and
- Establishing a TK/TLU Committee with participation of Aboriginal groups on which territory the Project is located to monitor Project development to ensure that the commitments made by the Proponent in regards to TK/TLU are being complied with.

7.2.7.3.6 Potential Effects on Fishing for Traditional Purposes

7.2.7.3.6.1 *Mine Site, Mine Site Access Road, Airstrip, and Freshwater Supply System*

During construction and operations, current fishing for traditional purposes may be affected by the mine site, mine site access road, airstrip, and FSS by:

- Construction and operation of Project infrastructure (such as the TSF) that alter or disturb water bodies (such as the upper reaches of Davidson Creek) leaving them unusable or inaccessible for fishing;
- Implementation of mine site access controls that change access to water bodies currently used for fishing;
- Increased particulate matter generation (i.e. sediments due to run-off) that could change aquatic habitat and water quality that could affect the abundance or health of fish in water bodies currently used for fishing;

- Construction and operation of the water intake at Tatelkuz Lake that could change aquatic habitat and water quality in the Lake, and affect the abundance or health of fish in the Lake; and
- Introduction of workers to the area who may fish and therefore decrease abundance of fish in regional water bodies.

Reclamation activities will be carried out concurrently with mine operations wherever possible, and final closure and reclamation measures will be implemented at the time of mine closure as per the Reclamation and Closure Plan (RCP) (**Section 2.6**). During the closure phase, activities will include mine overburden hauling and re-sloping, processing plant decommissioning, and removal of onsite buildings and equipment. The closure phase will end when the open pit is flooded and water begins to discharge to the TSF. At that point, pumping water from Tatelkuz Lake will no longer be necessary, and decommissioning of the FSS and transmission line will occur.

During the first years of active closure and decommissioning, fishing for traditional purposes will continue to be affected as it was during the construction and operations phases.

During the closure phase, there will be a few Project staff on site on a continuous basis monitoring flows and taking water samples until the pumping system from Tatelkuz Lake is decommissioned. After the lake pumping station is shut down, there will be no Proponent employees on site. Once it has been established that mine access or internal mine roads are no longer needed, they will be decommissioned and reclaimed. Where the roads can be reclaimed, culverts will be removed, stream crossings re-graded, and surfaces scarified to encourage vegetation growth. In post-closure, the mine site will be off limits for fishing, including Lake 1682LNRS (headwater lake for Davidson Creek), Lake 1538UEUT (headwater lake to Creek 705), and Davidson Creek upstream of the mine access road.

Fishing for traditional purposes in Tatelkuz Lake, Kuyakuz Lake, the middle and lower reaches of Davidson Creek, and Chedakuz Creek will not be affected by the Project.

7.2.7.3.6.2 Project Access Road (Kluskus and Kluskus-Ootsa FSR)

During construction, operations, and closure phases, current fishing for traditional purposes, if left unmitigated may be affected by increased air emissions (from traffic creating road dust), or potential spills into waterbodies of hazardous materials from transporting them to site that change aquatic habitat and water quality, that in turn could affect the abundance or health of fish in water bodies currently used for fishing. In post-closure, traffic on the FSR will decrease and there are no Project-related emissions that will affect aquatic habitat or water quality.

7.2.7.3.6.3 Transmission Line

During construction, operation, and closure phases, current fishing for traditional purposes may be affected by construction and maintenance of the transmission line ROW where it crosses water bodies (Nechako and Stellako Rivers), which, if left unmitigated could change aquatic habitat and water quality (siltation), and which could affect the abundance or health of fish in water bodies

currently used for fishing. Increased access via the transmission line ROW may also increase access to water bodies for fishing by non-Aboriginal people, and thereby increase competition for fish. In post-closure the transmission line and ROW will be revegetated and will not result in effects on fish, fish habitat, or fishing for traditional purposes.

The potential Project effects on fishing are summarized in **Table 7.2.7-4**.

7.2.7.3.6.4 Mitigation- Fishing

Effects on fish and fish habitat will be mitigated as noted in **Section 5.3.8** and **Section 5.3.9** and will include measures such as:

- Fisheries Mitigation and Offsetting Plan (FMOP) (**Appendix 5.1.2.6C**) will be implemented during the construction phase to compensate for losses fish habitat occurring at the mine site;
- Establish a group including affected Aboriginal group representatives to discuss access management for the transmission line corridor and mine site area;
- Ongoing surface and groundwater monitoring for the life of the Project;
- Results of all water quality sampling will continue to be posted for working group and Aboriginal groups review;
- Surface water and sediment quality will meet applicable provincial and federal standards downstream of the proposed mine site to avoid effects on fish, furbearers, or animals that use those waters;
- The proposed mine site will aim to operate as a zero discharge facility during operations and closure;
- Implementing design and operational procedures to limit risks associated with malfunctions and accidents (**Section 10**);
- Implementing erosion and sediment control measures, including erosion control matting, rip rap, and hydro seeding, to protect erodible soils from entering water bodies;
- Implementing a Country Food Monitoring Program around the mine site (**Appendix 9.2.2.B**); and
- Establishing a TK/TLU Committee with participation of Aboriginal groups on which territory the Project is located to monitor Project development to ensure that the commitments made by the Proponent in regards to TK/TLU are being complied with.

Many of these measures are outlined in the EMPs in **Section 12.2.1** that address the following topics:

- Mine water management;
- Water quality and liquid discharges management;

- Transportation and access management;
- Emergency and spill preparedness and response;
- Landscape, soils and vegetation management and restoration;
- Erosion and sediment control;
- Aquatic resources management; and
- Wetlands management.

Mitigation measures are also presented in the fisheries mitigation and offsetting plan (**Section 5.3.9**).

Mitigation for the introduction of workers to the region who may compete for fish resources, include the implementation of a no fishing policy for workers while they are resident at the work site.

Mitigation for access to fishing areas is not required as there are no changes to access to areas known to be used for fishing for traditional purposes.

7.2.7.3.7 Potential Effects on Plant Gathering for Traditional Purposes

7.2.7.3.7.1 *Mine Site, Mine Site Access Road, Airstrip and Freshwater Supply System*

During construction and operations, current plant gathering for traditional purposes may be affected by the mine site, mine site access road, airstrip, and FSS by:

- Construction and operation of Project infrastructure that disturbs or removes areas used for harvesting plants, leaving them unusable or inaccessible;
- Implementation of mine site access controls that change access to areas used for harvesting plants; and
- Increased air emissions (from vehicles and processing plant emissions at the mine site) that change the quality and/or abundance of plants currently gathered for traditional purposes (food, medicines).

Reclamation activities will be carried out concurrently with mine operations wherever possible, and final closure and reclamation measures will be implemented at the time of mine closure. During the decommissioning and closure phase, activities will include mine overburden hauling and re-sloping, processing plant decommissioning, and removal of onsite buildings and equipment. The closure phase will end when the open pit is flooded and water begins to discharge to the TSF. At that point, pumping water from Tatelkuz Lake will no longer be necessary and decommissioning of the FSS and transmission line will occur.

If left unmitigated, during the first years of active closure and decommissioning, plant gathering for traditional purposes could continue to be affected, as it was during the construction and operations phases.

During the post-closure phase, there will be a few Project staff on site on a continuous basis monitoring flows and taking water samples until the pumping system from Tatelkuz Lake is decommissioned. It is anticipated that no Proponent's employees will remain at site after the lake pumping station is shut down. Disturbed areas will be revegetated using plants used for traditional harvesting in a manner consistent with end land use objectives. Once it has been established that mine access or internal mine roads are no longer needed, they will be decommissioned and reclaimed. Where the roads can be reclaimed, culverts will be removed, stream crossings re-graded, and surfaces scarified to encourage vegetation growth. Until the mine site is reclaimed, the mine site will be off limits for plant gathering.

There will be no effects on plant gathering in the post-closure phase.

7.2.7.3.7.2 Project Access Road (Kluskus and Kluskus-Ootsa FSR)

During construction, operations, and closure/decommissioning phases, current plant gathering for traditional purposes may be affected by increased air emissions (from traffic creating road dust) that change the quality and/or abundance of plants gathered for traditional purposes (e.g., food, medicines, building materials). In post-closure, traffic on the FSR will decrease, and there are no Project-related emissions that will affect the quality or abundance of plants gathered for traditional purposes. Reclamation of the on-site access roads will use native plants, including species with value for traditional use.

7.2.7.3.7.3 Transmission Line

During construction, operation and closure/decommissioning phases, plants or current plant gathering sites may be affected by construction and maintenance of the transmission line ROW. Access for the public could be increased via the transmission line ROW to areas used for plant harvesting and thereby decrease abundance in the region. In post-closure, the transmission line and ROW will be revegetated and will not result in effects on plant gathering or gathering sites for traditional purposes.

7.2.7.3.7.4 Mitigation- Plant Gathering

The following measures will be implemented to minimize or avoid effects on plants and plant gathering for traditional purposes:

- Establish a group including affected Aboriginal group representatives to discuss access management for the transmission line corridor and mine site area;
- Implement re-vegetation of areas disturbed by the Project during the closure phase using native plants (including traditional plants) to revegetate (**Section 2.6**);
- Minimizing the Project footprint;
- Implementing EMPs to reduce dust deposition, nitrogen deposition, and invasive species proliferation (**Section 12.2.1**);

- Including traditional use plant species habitat in reclamation prescriptions;
- Implementing design and operational procedures to limit risks associated with malfunctions and accidents (**Section 10**);
- Implementing a no plant harvesting policy for all workers while resident at the work site;
- Implementing a Country Food Monitoring Program around the mine site (**Appendix 9.2.2.B**); and
- Establishing a TK/TLU Committee with participation of Aboriginal groups on which territory the Project is located to monitor Project development to ensure that the commitments made by the Proponent in regards to TK/TLU are being complied with.

7.2.7.3.8 Potential Effects on Other Cultural and Traditional Uses of the Land

7.2.7.3.8.1 *Mine Site, Mine Site Access Road, Airstrip, and Freshwater Supply System*

During construction and operation, other current traditional land and resource uses, such as (but not limited to) sites used for spiritual or cultural purposes, trails, cabins and campsites, may be affected by:

- Clearing and land-altering activities, including construction (including excavating and grading) of site infrastructure;
- Construction of the FSS, airstrip and airstrip access road, and on-site access roads;
- Implementation of access restrictions to the mine site that could change access to cultural sites that are currently used;
- Introduction of workers to the area who may use trails or other areas used for cultural practices, and interfere with traditional use activities; and
- Increased noise, dust, and air emissions from construction and on-site operations (processing plant, on-site traffic), and changes to the viewscape that may affect the aesthetic qualities of cultural sites.

Reclamation activities will be carried out concurrently with mine operations wherever possible, and final closure and reclamation measures will be implemented at the time of mine closure as per the RCP. During the closure phase, activities will include mine overburden hauling and re-sloping, processing plant decommissioning, and removal of on-site buildings and equipment. The closure phase will end when the open pit is flooded and water begins to discharge to the TSF. At that point, pumping water from Tatelkuz Lake will no longer be necessary and decommissioning of the FSS and transmission line will occur.

If left unmitigated, during the first years of active closure and decommissioning, current traditional land and resource uses could continue to be affected as they were during the construction and operations phases.

During the post-closure phase, there will be a few Project staff on site on a continuous basis monitoring flows and taking water samples until the pumping system from Tatelkuz Lake is decommissioned. Disturbed areas will be revegetated with traditional use plants and in a manner consistent with end land use objectives. Once it has been established that mine access or internal mine roads are no longer needed, they will be decommissioned and reclaimed. Where the roads can be reclaimed, culverts will be removed, stream crossings regraded, and surfaces scarified to encourage vegetation growth. Therefore, adverse effects on other traditional land and resource use activities are not expected in the post closure phase.

7.2.7.3.8.2 Project Access Road (Kluskus FSR)

During construction, operation, and closure/decommissioning phases, other current traditional land and resource uses, such as (but not limited to) sites used for spiritual or cultural purposes, trails, cabins, and campsites, may be affected by increased noise, dust, and air emissions from traffic using the FSR, which may affect the aesthetic qualities of cultural sites. In post-closure, Project-related traffic will cease, and effects to other current traditional land and resource uses will also cease.

7.2.7.3.8.3 Transmission Line

During the construction and operation phases, other current traditional land and resource uses, such as (but not limited to) sites used for spiritual or cultural purposes, trails, cabins, and campsites, may be affected by:

- Clearing and land altering activities for constructing the transmission line and ROW;
- Increased access to cultural sites via the transmission line ROW; and
- Changes to the viewscape that may affect the aesthetic qualities of cultural sites.

If left unmitigated, during the first years of active closure and decommissioning, current traditional land and resource uses could continue to be affected as they were during the construction and operations phases.

During the post-closure phase, the transmission line and ROW will be revegetated, and not affect other current traditional land and resource uses.

7.2.7.3.8.4 Mitigation- Other Cultural and Traditional Uses of the Land

The following measures will be implemented to minimize or avoid effects on other traditional land and resources:

- Physical remains of cultural sites, such as cabins, archaeological sites, culturally modified trees, and trails identified through Heritage Effects Assessments, will be recorded, analyzed, and mitigated. The EMPs (**Section 12.2.1.18.4.7**) addressing archaeological and heritage resource management will provide further opportunities to address cultural sites that may be identified;

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- Informing workers of sensitive cultural areas, and implementing a policy of reporting and respectful use;
- Implementing the respective EMPs, addressing air quality and emissions management (**Section 12.2.1.18.4.9**), transportation and access management (**Section 12.2.1.18.4.14**), and visual resources and aesthetics management (**Section 12.2.1.18.4.8**) to address potential noise, emissions, and effects on visual resources;
- Developing alternative access plans with Aboriginal groups, where access to or use of specific cultural sites needs to be altered or is impeded; and
- Establishing a TK/TLU Committee with participation of Aboriginal groups on which territory the Project is located to monitor Project development to ensure that the commitments made by the Proponent in regards to TK/TLU are being complied with.

Potential Project effects on CLRUTP and proposed mitigation measures to minimize or avoid those potential effects are summarized in **Table 7.2.7-4**.

Table 7.2.7-4: Summary of Potential Project Effects by Project Phase and Mitigation Measures

Project Component/Activity	Project Phase	Aboriginal Group Potentially Affected	Potential Project Effect	Likelihood of Occurrence Before Mitigation	Key Mitigation/Enhancement Measures
Construction, operation, closure, and post-closure activities at the mine site (ore processing plant, on-site roads, work camp, waste rock area, TSF, borrow sites, airstrip, and FSS).	C, O, CL and PC	LDN UFN STN MNBC	<ul style="list-style-type: none"> Change in availability of harvested resources due to change in area for traditional land and resource uses (hunting, trapping, fishing and plant harvesting) Change in access to areas used for traditional uses (hunting, trapping, fishing and plant harvesting) Change in availability of harvested resources due to changes in wildlife and aquatic habitat Change in experience of using lands and resources due to change in visual aesthetics (Kuyakuz Mountain) Change in availability and quality of harvested resources due to emissions (noise, artificial light and dust) 	High	<p>General mitigation:</p> <ul style="list-style-type: none"> Proponent will continue to discuss potential Project effects on affected traditional land users throughout the life of the Project. Project site design that minimizes total footprint area. Establish a group including affected Aboriginal group representatives to discuss access management for the transmission line corridor and mine site area. Implementing design and operational procedures to limit risks associated with malfunctions and accidents (Section 10). Establishing a TK/TLU Committee with participation of Aboriginal groups on which territory the Project is located to monitor Project development to ensure that the commitments made by the Proponent in regards to TK/TLU are being complied with. Implementing a Country Food Monitoring Program around the mine site (Appendix 9.2.2.B). <p>Hunting mitigation:</p> <ul style="list-style-type: none"> Prohibiting mine employees from hunting on mine site property. Redesigning the TSF and mine access road to avoid UWR. Developing mitigation and avoidance strategies through ongoing discussions with the Caribou Sub-Working Group. Setting reclamation goals to re-establish later winter habitat (Section 2.6). Disposing of wastes generated on site to limit the attraction of wildlife to the mine site (industrial and domestic waste management, Section 12). Participating in regional wildlife and resource management initiatives (specifically for ungulates). Implementing the respective EMPs (Section 12), addressing air quality and emissions management, transportation and access management, landscape, soils and vegetation management and restoration, wildlife management, visual resources and aesthetics management. <p>Trapping mitigation:</p> <ul style="list-style-type: none"> Prohibiting mine employees from trapping on mine site property. Informing holders of affected trapline areas of Project activities, schedules, and locations. Compensating affected trapline holders in accordance with industry and provincial protocols with associated proof of lost revenue. Disposing of wastes generated on site to limit the attraction of wildlife to the mine site (industrial and domestic waste management, Section 12). Implementing the respective EMPs (Section 12), addressing air quality and emissions management, transportation and access management, landscape, soils and vegetation management and restoration, wildlife management, visual resources and aesthetics management. <p>Fishing mitigation:</p> <ul style="list-style-type: none"> Ongoing surface and groundwater monitoring for the life of the Project. Results of all water quality sampling will continue to be posted for working group and Aboriginal groups review. Surface water and sediment quality will meet applicable provincial and federal standards downstream of the proposed mine site, to avoid effects on fish, furbearers, or animals that use those waters. The proposed mine site will aim to operate as a zero discharge facility during operations and closure. Implement erosion and sediment control measures, including erosion control matting, rip rap, and hydro seeding, which will protect erodible soils from entering water bodies. Many of these measures are outlined in the EMPs (Section 12), addressing mine water management, water quality and liquid discharges management, transportation and access management, emergency and spill preparedness and response, landscape, soils and vegetation management and restoration, erosion and sediment control, aquatic resources management, wetlands management. Mitigation measures are also presented in the fisheries mitigation and offsetting plan (Section 5.3.9). Mitigation for the introduction of workers to the region who may compete for fish resources include the implementation of a no fishing policy for workers while they are resident at the work site. <p>Plant gathering mitigation:</p> <ul style="list-style-type: none"> Implement EMPs (Section 12) to reduce dust deposition, nitrogen deposition, and invasive species proliferation. Include traditional use plant species habitat in reclamation prescriptions (Section 2.6). Implementing a no plant harvesting policy for all workers while resident at the work site.

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Project Component/Activity	Project Phase	Aboriginal Group Potentially Affected	Potential Project Effect	Likelihood of Occurrence Before Mitigation	Key Mitigation/Enhancement Measures
					<p>Other traditional land and resource use mitigation:</p> <ul style="list-style-type: none"> Physical remains of cultural sites, such as cabins, archaeological sites, culturally modified trees, and trails identified through Heritage Effects Assessments, will be recorded, analyzed, and mitigated. Environmental Management Plans addressing archaeological and heritage resource management (Section 12) will provide further opportunities to address cultural sites that may be identified. Informing workers of sensitive cultural areas, and implementing a policy of reporting and respectful use. Implementing the respective EMPs (Section 12), addressing air quality and emissions management, transportation and access management, visual resources and aesthetics management. Developing alternative access plans with Aboriginal groups, where access to or use of specific cultural sites needs to be altered or is impeded.
<p>Construction, operation, closure, and post-closure activities associated with the Project access road (including, upgrade to a portion of Kluskus-Ootsa FSR and use of the Kluskus and Kluskus-Ootsa FSR for construction purposes).</p>	<p>C, O, CL, PC</p>	<p>LDN UFN SFN NFN NWFN STN MNBC</p>	<ul style="list-style-type: none"> Change in availability of harvested resources due to increase in construction traffic Change in availability and quality of harvested resources due to potential for increased emissions (noise and dust) Change in availability of harvested resources due to potential for increased wildlife mortality from vehicle strikes 	<p>High</p>	<p>General mitigation:</p> <ul style="list-style-type: none"> Proponent will continue to discuss potential Project effects on affected traditional land users throughout the life of the Project. Project site design that minimizes total footprint area. Establish a group including affected Aboriginal group representatives to discuss access management for the transmission line corridor and mine site area. Implementing design and operational procedures to limit risks associated with malfunctions and accidents (Section 10). Establishing a TK/TLU Committee with participation of Aboriginal groups on which territory the Project is located to monitor Project development to ensure that the commitments made by the Proponent in regards to TK/TLU are being complied with. <p>Hunting mitigation:</p> <ul style="list-style-type: none"> Developing mitigation and avoidance strategies through ongoing discussions with the Caribou Sub-Working Group. Disposing of wastes generated on site to limit the attraction of wildlife to the mine site (industrial and domestic waste management, Section 12). Participating in regional wildlife and resource management initiatives (specifically for ungulates). Implementing the respective EMPs (Section 12), addressing air quality and emissions management, transportation and access management, landscape, soils and vegetation management and restoration, wildlife management, and visual resources and aesthetics management. <p>Trapping mitigation:</p> <ul style="list-style-type: none"> Informing holders of affected trapline areas of Project activities, schedules, and locations. Compensating affected trapline holders in accordance with industry and provincial protocols with associated proof of lost revenue. Locating and maintaining breaks in the rollback along the transmission line corridor to facilitate access to trapping trails during clearing. Disposing of wastes generated on site to limit the attraction of wildlife to the mine site (industrial and domestic waste management, Section 12). Implementing the respective EMPs (Section 12), addressing air quality and emissions management, transportation and access management, landscape, soils and vegetation management and restoration, wildlife management, visual resources and aesthetics management. <p>Fishing mitigation:</p> <ul style="list-style-type: none"> Ongoing surface and groundwater monitoring for the life of the Project. Results of all water quality sampling will continue to be posted for working group and Aboriginal groups review. Surface water and sediment quality will meet applicable provincial and federal standards downstream of the proposed mine site to avoid effects on fish, furbearers, or animals that use those waters. The proposed mine site will aim to operate as a zero discharge facility during operations and closure. Implement erosion and sediment control measures, including erosion control matting, rip rap, and hydro seeding, will be used to protect erodible soils from entering water bodies. Many of these measures are outlined in the EMPs (Section 12), addressing mine water management, water quality and liquid discharges management, transportation and access management, emergency and spill preparedness and response, landscape, soils and vegetation management and restoration, erosion and sediment control, aquatic resources management, wetlands management. Mitigation measures are also presented in the fisheries mitigation and offsetting plan (Section 5.3.9). <p>Plant gathering mitigation:</p> <ul style="list-style-type: none"> Implement EMPs (Section 12) to reduce dust deposition, nitrogen deposition, and invasive species proliferation. Include traditional use plant species habitat in reclamation prescriptions (Section 2.6). Implementing a no plant harvesting policy for all workers while resident at the work site.

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Project Component/Activity	Project Phase	Aboriginal Group Potentially Affected	Potential Project Effect	Likelihood of Occurrence Before Mitigation	Key Mitigation/Enhancement Measures
Construction of the transmission line and ROW clearing	C	LDN UFN SFN StFN NWFN STN MNBC	<ul style="list-style-type: none"> Change in availability of harvested resources due to change in traffic Change in availability and quality of harvested resources due to emissions (noise and dust) Change in availability of harvested resources due to loss of area for traditional uses (hunting, trapping, fishing, plant harvesting) Change in access to traditional use sites Change in availability of harvested resources due to change in aquatic and wildlife habitat Change in quality of harvested resources due to negative effect on water quality (siltation) from ROW clearing at Nechako and Stellako rivers Change in availability of harvested resources due to increased wildlife mortality from vehicle strikes Change in availability of harvested resources due to increased access along the corridor to interior areas that were not previously accessible for hunting 	High	<p>General mitigation:</p> <ul style="list-style-type: none"> Proponent will continue to discuss potential Project effects on affected traditional land users throughout the life of the Project. Project site design that minimizes total footprint area. Establish a group including affected Aboriginal group representatives to discuss access management for the transmission line corridor and mine site area. Implementing design and operational procedures to limit risks associated with malfunctions and accidents (Section 10). Establishing a TK/TLU Committee with participation of Aboriginal groups on which territory the Project is located to monitor Project development to ensure that the commitments made by the Proponent in regards to TK/TLU are being complied with. <p>Hunting mitigation:</p> <ul style="list-style-type: none"> Participating in regional wildlife and resource management initiatives (specifically for ungulates). Implementing the respective EMPs (Section 12), addressing air quality and emissions management transportation and access management, landscape, soils and vegetation management and restoration wildlife management, visual resources and aesthetics management. <p>Trapping mitigation:</p> <ul style="list-style-type: none"> Informing holders of affected trapline areas of Project activities, schedules, and locations. Locating and maintaining breaks in the rollback along the transmission line corridor to facilitate access to trapping trails during clearing. Compensating affected trapline holders in accordance with industry and provincial protocols with associated proof of lost revenue. Implementing the respective EMPs (Section 12), addressing air quality and emissions management transportation and access management, landscape, soils and vegetation management and restoration wildlife management, visual resources and aesthetics management. <p>Fishing mitigation:</p> <ul style="list-style-type: none"> Ongoing surface and groundwater monitoring for the life of the Project. Results of all water quality sampling will continue to be posted for working group and Aboriginal groups review. Surface water and sediment quality will meet applicable provincial and federal standards downstream of the proposed mine site to avoid effects on fish, furbearers, or animals that use those waters. Implement erosion and sediment control measures, including erosion control matting, rip rap, and hydro seeding, will be used to protect erodible soils from entering water bodies. Many of these measures are outlined in the EMPs (Section 12), addressing mine water management, water quality and liquid discharges management, transportation and access management, emergency and spill preparedness and response, landscape, soils and vegetation management and restoration, erosion and sediment control, aquatic resources management, wetlands management. Mitigation measures are also presented in the fisheries mitigation and offsetting plan (Section 5.3.9). <p>Plant gathering mitigation:</p> <ul style="list-style-type: none"> Implement EMPs (Section 12) to reduce dust deposition, nitrogen deposition, and invasive species proliferation. <p>Other traditional land and resource use mitigation.</p> <ul style="list-style-type: none"> Physical remains of cultural sites, such as cabins, archaeological sites, culturally modified trees, and trails identified through Heritage Effects Assessments, will be recorded, analyzed, and mitigated. Environmental Management Plans addressing archaeological and heritage resource management (Section 12) will provide further opportunities to address cultural sites that may be identified. Informing workers of sensitive cultural areas, and implementing a policy of reporting and respectful use. Implementing the respective EMPs, including Air Quality and Emissions Management Plan (Section 12), Transportation and Access Management Plan (Section 12), and Visual Resources and Aesthetics Management Plan (Section 12) to address potential noise, emissions, and effects on visual resources. Developing alternative access plans with Aboriginal groups, where access to or use of specific cultural sites needs to be altered or is impeded.
Maintenance of transmission line ROW and infrastructure	O	LDN UFN SFN StFN NWFN STN	<ul style="list-style-type: none"> Change in availability and quality of harvested resources due to potential for increased emissions (noise, artificial light, and dust) related to brushing and other maintenance activities Change in availability of harvested resources due to loss of area for traditional 	High	See mitigation measures for construction on transmission line and ROW.

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		MNBC	<p>uses (hunting, trapping, fishing, plant harvesting)</p> <ul style="list-style-type: none"> • Change in access to traditional use sites • Change in availability of harvested resources due to change in aquatic and wildlife habitat • Change in quality of harvested resources due to negative effect on water quality (siltation) from ROW clearing Nechako and Stellako River • Increased access along the corridor to interior areas that were not previously accessible for hunting 		
Removal of transmission line and revegetation of ROW.	CL	LDN UFN SFN StFN NWFN STN MNBC	<ul style="list-style-type: none"> • Change in availability of harvested resources due to noise • Change in quality of harvested resources due to potential for increased emissions (noise, artificial light, and dust) from decommissioning/closure activities • Change in availability of harvested resources due to potential for increased traffic from decommissioning/closure activities • Change in availability of harvested resources due to change in area for traditional uses (hunting, trapping, fishing, plant harvesting) • Change in access to traditional use sites. • Change in availability of harvested resources due to change in aquatic and wildlife habitat • Change in quality of harvested resources due to negative effect on water quality (siltation) from ROW clearing Nechako and Stellako rivers • Change in availability of harvested resources due to potential for increased wildlife mortality from vehicle strikes 	High	<p>General mitigation:</p> <ul style="list-style-type: none"> • The Proponent will continue to discuss potential Project effects on affected traditional land users throughout the life of the Project. • Establish a group including affected Aboriginal group representatives to discuss access management for the transmission line corridor and mine site area. • Implementing design and operational procedures to limit risks associated with malfunctions and accidents (Section 10) • Establishing a TK/TLU Committee with participation of Aboriginal groups on which territory the Project is located to monitor Project development to ensure that the commitments made by the Proponent in regards to TK/TLU are being complied with. <p>Hunting mitigation:</p> <ul style="list-style-type: none"> • Implementing the respective EMPs (Section 12), addressing transportation and access management and landscape, soils and vegetation management and restoration. <p>Trapping mitigation:</p> <ul style="list-style-type: none"> • Informing holders of affected trapline areas of Project activities, schedules, and locations. • Compensating affected trapline holders in accordance with industry and provincial protocols with associated proof of lost revenue. • Implementing the respective EMPs (Section 12), addressing transportation and access management, landscape, soils and vegetation management and restoration. <p>Fishing mitigation:</p> <ul style="list-style-type: none"> • Ongoing surface and groundwater monitoring for the life of the Project. • Results of all water quality sampling will continue to be posted for working group and Aboriginal groups review. • Surface water and sediment quality will meet applicable provincial and federal standards downstream of the proposed mine site to avoid effects on fish, furbearers, or animals that use those waters. • Implement erosion and sediment control measures, including erosion control matting, rip rap, and hydro seeding, will be used to protect erodible soils from entering water bodies. • Many of these measures are outlined in the EMPs (Section 12), addressing transportation and access management; emergency and spill preparedness and response; landscape, soils and vegetation management and restoration, erosion and sediment control plan. <p>Plant gathering mitigation:</p> <ul style="list-style-type: none"> • Implement EMPs (Section 12) to reduce dust deposition, nitrogen deposition, and invasive species proliferation. • Include traditional use plant species habitat in reclamation prescriptions (Section 2.6).

Note: C = construction; O = operations; CL = closure; PC = post-closure

7.2.7.3.9 Effectiveness of Mitigation

Mitigation proposed to address the potential effects on CLRUTP consists of a combination of measures designed to:

- Mitigate effects on resources harvested by Aboriginal Groups (i.e., fish, wildlife and plants);
- Mitigate effects arising from increased access harvesting areas;
- Minimize sensorial disturbances (i.e., noise and visual changes) that affect the experiences of harvest resources;
- Prevent changes to resources that could compromise the health of Aboriginal peoples; and
- Avoid areas of cultural or spiritual importance for Aboriginal peoples.

The effectiveness of the mitigation measures proposed above varies between moderate and high and is discussed in detail under the biophysical and socio-economic VCs (**Sections 5 to 9**).

7.2.7.4 Residual Effects and their Significance

This subsection:

- Identifies and describes any residual effects after mitigation;
- Where residual effects have been identified, provide an assessment of the significance of those residual effects considering, magnitude, geographic extent, duration, reversibility, frequency;
- Assesses the likelihood of the effect;
- Assesses the significance of the residual effects; and
- Assesses/discusses the level of confidence and risk in the determination of significance and likelihood of the residual effect.

The context for all assessments of this VC is high in recognition of the currently limited ability of Aboriginal peoples to carry out CLRUTP in comparison with pre-contact conditions.

7.2.7.4.1 Residual Effects on Hunting

This section provides a brief overview of the anticipated residual effects on hunting for the LSA and RSA. A more detailed discussion of residual effects to current use of lands and resources by each Aboriginal group is presented in the following section.

A number of related effects assessments provide insight into how hunting may potentially be affected including **Section 7.2.6** (non-traditional land and resource use [NTLRU] effects assessment) and **Section 5.4** (wildlife and wildlife habitat effects assessment). The results of

these assessments are used to provide an overall description of residual effects to hunting as the effects predictions in these sections provide insight into the effects predictions for CLRUTP.

The wildlife effects assessment (**Section 5.4**) identifies that residual effects to caribou will be not significant (moderate), and will likely be related to direct mortality from collisions or poaching, and indirectly related to mortality due to increases in prey density, and/or wolves. Effects on caribou will be not significant (minor), and related to loss of lichen and preventing movement through the area. These regional effects are related to a regional issue, with herds declining, and not specific to the mine (i.e., mine does not significantly contribute to the regional effect).

The wildlife effects assessment identified that there would be residual effects to moose but that these residual effects would be not significant (minor) related to the direct mortality of moose and displacement from sensory disturbance. The unavoidable loss or degradation of the habitat is rated as not significant (negligible). It is anticipated that potential effects on deer would be similar to moose.

Section 7.2.6 (NTRLRU) assesses effects on recreational hunters and trappers (trapline include those held by Aboriginal community members). The assessment finds some residual effects on hunting (by game outfitters and recreational hunting) related to sensory disturbance to wildlife and disturbance to the land base. This may affect hunting efforts and success rates for Aboriginal groups as well. However, the land base lost for hunting in the traditional territories of affected Aboriginal groups will be low, and there are alternative hunting locations to choose from within the respective territories, as discussed for each Aboriginal group below.

Section 7.2.6 predicts Project-specific residual effects on recreational hunting effort and success of the outfitters to be adverse, of low magnitude, local, long-term, and reversible. Overall, the Project is predicted to have a low adverse effect on hunting activities. Residual effects are expected to be of low magnitude, local, short term, of continuous frequency, and reversible. The context is rated as low because trapping and hunting activities are existent in the area and will continue in the future. The likelihood of the residual effect occurring is high. This residual effect is not significant (minor), and is predicted with moderate confidence.

7.2.7.4.1.1 Lhoosk'uz Dene Nation

The potential effects for LDN current hunting practices will result from changes related to the mine site area, mine access road, and FSS (which overlap the LDN traditional territory), as well as the lower sections of the Kluskus FSR and transmission line corridor (which also overlaps with LDN traditional territory by 44.4 km and 51.6 km, respectively).

LDN has identified that hunting occurs throughout its traditional territory. The sides of mountains, such as the south side and summit of Mount Davidson (within the LSA) and other mountain ranges, were historically used for hunting, and these areas may still be preferred places for hunting large game. LDN harvests a range of species, including moose, deer, beaver, ducks, and grouse. In the spring and fall, harvesting includes muskrat, beaver, and duck. LDN members may not harvest caribou as much as they did the past due to the low abundance of caribou in the area. Overall,

hunting is an important cultural practice for LDN members. Based on discussion with LDN, the following species are noted to be important for hunting activities and will be discussed in this section: caribou, moose, and beaver.

7.2.7.4.1.1.1 Changes in the Availability of Harvested Resources

The potential changes in the availability of harvested resources for LDN is quantified through spatial analysis of habitat losses in the LDN traditional territory. Additionally, the effect of noise on wildlife, which can affect the availability of resources, is assessed. Potential effects on species harvested by LDN are described in **Table 7.2.7-5**. The wildlife study areas (unique for caribou and moose/beaver) were used to describe losses of habitat for those portions that overlap with LDN's traditional territory.

Table 7.2.7-5: Potential Changes in the Availability of Harvested Resources for LDN

Species	Changes in the Availability of Wildlife Habitat
Caribou	Very little (3%) of moderate to high caribou habitat is being lost in the caribou RSA portion that overlaps LDN's traditional territory both for summer/fall habitat and winter habitat
Moose	Very little (2%) of moderate to high moose habitat is being lost in the wildlife RSA portion that overlaps LDN's traditional territory both for winter and growing habitat
Beaver	Almost no (0%, about 7 ha) beaver habitat will be lost in the wildlife RSA portion that overlaps LDN's traditional territory

Noise from Project construction, operations, and the temporary camp may displace wildlife (caribou and moose) from using habitats up to 250 metres (m) of these features. However, habituation to routine disturbances over the length of the Project may reduce these Project effects. The only areas identified for hunting within proximity of the Project include the south side and summit of Mount Davidson which is not affected by the mine footprint. However, LDN may hunt in other areas. Wildlife such as caribou and moose may also be sensitive to aircraft related noise disturbances. Noise modelling was conducted for aircraft, but the results are overly conservative as the scenario modelled was for a Boeing 737 – and the aircraft that will actually be used is a Dash 8. Aircraft noise may be perceived by animals and residents during take-off and landing, but the frequency of flights is very low (two flights a week during construction) and discontinued during operations (unless there is an emergency).

The development of the mine access road may indirectly increase outside competition for resources with non-LDN hunters due to greater accessibility. To mitigate these effects in LDN traditional territory, the Proponent is establishing an access management working group (of which LDN representatives will be invited to participate in) to discuss access management issues. Ongoing consultation with LDN will occur with respect to design and implementation of the final Transportation and Access Management Plan (TAMP). One access management strategy (further details provided in **Section 12.2.1.18.4.14**) includes installation of a security station and gate to prevent public use of the mine access road.

Risks associated with the increased ease of access to wildlife habitat by predators will most likely occur along the mine access road and transmission line. Linear corridors through habitat that was previously difficult to travel through may allow wolves and other predators to access areas that previously had low predation rates for moose. Wolves frequently use linear corridors to facilitate travel instead of forested areas. In addition, recreational users (e.g., all-terrain-vehicle or snowmobile users) may create access with machines that further create pathways through these areas and an increasing ease of travel for predators. Effects have the potential to occur from the start of construction to the end of post-closure. To mitigate these effects, the Wildlife Management Plan proposes the use of vegetation and Coarse Woody Debris (CWD) to form visual barriers on cutlines, trails or other linear features to reduce predator access and efficiency.

Wildlife mortality also has the potential to affect changes in the availability of harvested resources for LDN hunters. To mitigate these effects, the Proponent is enforcing speed limits along the mine access road and will implement best management practices for road maintenance to reduce potential wildlife collisions. The TAMP (further details provided in **Section 12.2.1.18.4.14**) identifies strategies such as providing wildlife the ROW along all roads associated with the mine; reporting wildlife sightings to supervisory personnel as soon as possible; and reporting wildlife incidents (e.g., traffic accidents) to supervisory personnel immediately.

With mitigation, residual effects to direct mortality for wildlife are not anticipated to affect current hunting practices in the LDN traditional territory.

7.2.7.4.1.1.2 Changes in Access to Land and Resources

Hunting on the south side and summit of Mount Davidson were identified as preferred locations for hunting for some LDN members. Project related activities will not reduce accessibility or use of the south side and summit of Mount Davidson. The Project design avoids any overlap with the caribou ungulate winter range on the south side of Mount Davidson to minimize effects to caribou. As a result, LDN members will continue to have access to these areas for hunting. The Messue Wagon Trail, the Alexander Mackenzie Trail, and the Kluskus-Ootsa FSR (all three of which can be used to access the south side of Mount Davidson) will not be impeded by the Project footprint. However, foot access from the Tatelkus Lake Indian Reserve (IR) #28, crossing over Mount Davidson from the north side, will be impeded by the Project footprint. To date, no consultation activities indicate this is a preferred route for accessing hunting areas on the south side or summit of Mount Davidson.

7.2.7.4.1.1.3 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases of the Project may produce a change in the experience of using lands and resources for hunting purposes. Noticeable changes to baseline daytime and night time noise levels are expected to occur around the mine site. Noise modelling did not predict daytime (55 dBA) or nighttime (45 dBA) noise exceedence at any human receptor locations in the area including, Tatelkus Lake IR# 28, which is located approximately 15 km from the mine site. The mine site operational noise will be attenuated to the background level of 31 dBA at approximately 4 km to the east and west, and 6 km to the north and south.

From the hunting areas around the summit of Mount Davidson, the mine site will likely be visible for the construction, operations and closure phases.

7.2.7.4.1.1.4 Changes to the Quality of Resources

LDN representatives expressed concern about potential changes to the quality of resources- in this case, contamination of wildlife for human consumption. The Project will generate air and liquid effluent emissions. However, the surface water quality assessment has indicated that the water quality in receiving streams (after mixing) downstream of the TSF is expected to meet BC Freshwater Guidelines or site-specific water quality objectives. Therefore, this is not expected to result in harmful accumulation and release of metals from downstream surface water which could be consumed by wildlife. As a result, the remaining significant source for the release of Contaminants of Potential Concern (COPCs) is through air emissions.

A Human Health and Ecological Risk Assessment (HHERA) was conducted to assess the effects of exposures to COPC on the health of people living in the vicinity of the Project. The HHERA model used worst-case conservative exposure scenarios, including for those Aboriginal peoples residing in the area (Tatalkus Lake IR #28) and practicing traditional harvesting of country foods (i.e. hunting and fishing). The HHERA also considered all possible exposure pathways at the different phases of the Project from construction to post-closure. Based on the HHERA results, the residual health effects were determined to be not significant (negligible) during all phases of the Project.

Given that the potential contamination of country foods has been raised as a serious concern by LDN, the Proponent has committed to engaging LDN in ongoing environmental monitoring, and this includes the Country Foods Monitoring Program.

7.2.7.4.1.1.5 Characterization of Residual Effects on LDN

The residual effect on hunting for the LDN is adverse, medium magnitude, since the LSA overlaps with areas that are used for hunting (Mount Davidson), but does not limit the ability to practice this activity within the traditional territory or within the identified hunting areas. The geographic extent of the effect is local (with the LSA) and long-term. The effect is reversible at closure and occurs continuously throughout the life of the Project. The effect is considered likely (high) and not significant (moderate) primarily due to the local geographic extent of the effect. Confidence in this rating is moderate, since hunting practices are not well understood specific to LDN use, but mitigations for managing effects on wildlife species is well understood and effective.

7.2.7.4.1.2 Nadleh Whut'en First Nation

The potential Project effects for NWFN current hunting practices result from changes related to the Kluskus FSR upgrade and in the northern portion of the transmission line, where 47.90 km of the transmission line overlaps the NWFN traditional territory. To date, no TK/TLU information or information on current hunting activity in the Project area has been shared with the Proponent. At the time of writing, discussions with NWFN were underway regarding this information and once it

is provided it will be considered in the Project design, execution, management plans, permitting and monitoring. Negligible Project effects may be experienced along the north end of the existing Kluskus FSR, where 8.47 km of the existing road overlaps NWFN traditional territory. Therefore, the potential effects for NWFN current hunting practices will be specific to the transmission line and Kluskus FSR upgrade.

NWFN members currently hunt moose (as well as other ungulates such as deer) and these are preferred species for harvesting. Specific sites for harvesting moose were not identified. Secondary data sources indicate that bear is also harvested by NWFN people (Carrier Sekani Tribal Council, 2006).

The Proponent is engaged in ongoing dialogue with NWFN regarding completion of a TK/TLU study that would identify hunting sites of concern. Given the lack of specific harvesting locations, the section below aims to provide a general discussion of how the Project may affect current hunting activities in NWFN traditional territory, recognizing that it is limited due to a lack of specific use data.

7.2.7.4.1.2.1 Changes in the Availability of Harvested Resources

The potential changes in the availability of harvested resources (caribou, moose and bear) for NWFN is quantified through spatial analysis of moderate to high rated habitat losses in the NWFN traditional territory. Additionally, the effect of noise on wildlife, which can affect the availability of resources, is assessed. Potential effects on species harvested by NWFN are described in **Table 7.2.7-6**. The wildlife study areas (unique to caribou and to moose) were used to describe losses of habitat for those portions that overlap with NWFN's traditional territory. The habitat suitability modeling results obtained for moose and grizzly bear can be used as surrogates for deer and black bear species respectively in order to estimate habitat losses affecting deer and black bear. The majority of any predicted effects to NWFN are in relation to the portion of the transmission line that intersects with NWFN traditional territory.

Table 7.2.7-6: Potential Changes in the Availability of Harvested Resources for NWFN

Species	Changes in the Availability of Wildlife Habitat
Caribou	No moderate to high caribou habitat is found in the portions of the transmission line and Kluskus FSR that overlaps NWFN traditional territory
Moose	Very little (2%) of moderate to high moose habitat is being lost in the wildlife RSA portion that overlaps NWFN's traditional territory both for winter and growing habitat.
Bear	Very little (2%) of moderate to high grizzly bear summer habitat is being lost in the wildlife RSA portion that overlaps NWFN's traditional territory

Where possible, the transmission line ROW follows areas of existing disturbance (i.e., forestry roads) to avoid effects. Loss or alteration of habitat as a result of the transmission line will occur during the construction phase but will be evident during the operations and closure phases.

To reduce effects on moose and bear habitat, the Landscape, Soils and Vegetation Management and Restoration Plan (LSVMRP) (**Section 12.2.1.18.4.4**) proposes reclamation of preferred moose and bear habitat through silviculture methods to promote restoration to pre-disturbance condition along the transmission line ROW. In addition, clearing of berry growing areas and riparian stands along the transmission line ROW will be avoided, where possible. The Proponent will aim to maintain mature and old growth coniferous forest with high canopy closure and vegetation, where ever possible.

Other measures to reduce effects on bears and moose include a strict no hunting policy for Project workers.

Noise from transmission line construction may affect wildlife along the transmission line ROW, but this disturbance will be limited to the construction phase (apart from any necessary maintenance during operations). The construction phase is expected to last 12 months, construction work at any particular location should be temporary (i.e. weeks) as the construction crews will advance at a speed of approximately 2.5 km per week. The Proponent will follow wildlife timing windows to avoid disturbing wildlife during sensitive periods. The sensitive periods for wildlife and fish are presented in **Section 12.2-** Construction and Operations Management Plan. The Proponent provided a draft Wildlife Management Plan to NWFN and looks forward to further input from NWFN.

The development of the transmission line may indirectly increase outside competition for resources with non-NWFN hunters due to greater accessibility. To mitigate these effects in NWFN traditional territory, the Proponent is establishing an access management working group (of which NWFN representatives will be invited to participate in) to discuss access management issues. Ongoing consultation with First Nations will also occur with respect to design and implementation of the final TAMP.

Risks associated with the increased ease of access to moose habitat by predators may occur along the transmission line ROW. Linear corridors through habitat that was previously difficult to travel through may allow wolves and other predators to access areas that previously had low predation rates for moose. Wolves frequently use linear corridors to facilitate travel instead of forested areas. In addition, recreational users (e.g., all-terrain-vehicle or snowmobile users) may create access with machines that further create pathways through these areas and an increasing ease of travel for predators. Effects have the potential to occur from the start of construction to the end of post-closure. To mitigate these effects, the Wildlife Management Plan proposes the use of vegetation and CWD to form visual barriers on cutlines, trails or other linear features to reduce predator access and efficiency.

Wildlife mortality also has the potential to affect changes in the availability of harvested resources for NWFN hunters. To mitigate these effects, the Proponent is enforcing speed limits along the mine access road and will implement best management practices for road maintenance to reduce potential wildlife collisions. The TAMP (further details provided in **Section 12.2.1.18.4.14**) identifies strategies such as providing wildlife the ROW along all roads associated with the mine;

reporting wildlife sightings to supervisory personnel as soon as possible; and reporting wildlife incidents (e.g., traffic accidents) to supervisory personnel immediately.

With mitigation, residual effects to direct mortality for wildlife are not anticipated to affect current hunting practices in the NWFN traditional territory.

7.2.7.4.1.2.2 Changes in Access to Land and Resources

As discussed, the Proponent is establishing an access management working group to discuss these issues with NWFN and obtain input into the TAMP.

7.2.7.4.1.2.3 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases associated with the transmission line ROW may produce a change in the visual experience of using lands and resources for hunting purposes. The construction of the transmission line ROW will last approximately 12 months and disturbance at a certain location will be temporary (i.e., weeks). The additional traffic generated by the Project along the FSR will be generated during the construction and operations phase of the project, but noise and air quality disturbances will be confined to areas immediately adjacent to the FSR,.

To reduce visual changes, grass and brush will be allowed to colonize the ROW where possible. Ongoing communication with NWFN on this issue is anticipated. The transmission line alignment has been designed to take advantage of existing rights-of-way, existing shared access, and other infrastructure to the extent feasible to avoid additional surface disturbance. Approximately 70% of the transmission line follows existing disturbance.

7.2.7.4.1.2.4 Changes to the Quality of Resources

The construction and operation of the transmission line, the upgrades proposed for the Kluskus FSR and the transportation of workers and materials along the Kluskus FSR to the mine site, do not have the potential to generate COPCs in quantities that could affect the health of hunted animals that would be in the NWFN traditional territory.

The risk of accidents along the Kluskus FSR that could generate contamination (i.e., spills of chemicals or fuels) will be mitigated through traffic control described in the TAMP (e.g., speed limits) and health and safety measures as described in the Accidents and Malfunctions **Section 10** of the Application.

Given the lack of site specific hunting information for NWFN, it is difficult to assess the effects to current hunting practices. The Proponent looks forward to ongoing dialogue with NWFN to better understand how the Project may interact with NWFN current hunting practices. When related TK/TLU information is received, the Proponent will consider it in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.1.3 *Saik'uz First Nation*

Potential Project effects could be experienced along 112.03 km of the existing Kluskus FSR and 71.98 km of the transmission line where these Project components overlap with SFN traditional territory. The SFN are in the process of completing a TK/TLU study in relation to the Project; however, at the time of writing, this information was unavailable. When this information is shared with the Proponent, it will be considered in Project design, execution, management plans, permitting, and monitoring.

Subsistence living, including hunting, is very important to SFN people (interview with SFN Chief and Council, 2013). During interviews with Chief and Council and interviews with a trapline/keyoh holder in 2013, a number of preferred species for hunting were mentioned including bear, deer and moose. Specific sites for harvesting species around the Kluskus FSR and transmission line were not identified, although the keyoh holder did note that good moose hunting is available around the Stony Creek reserve. Secondary data sources indicate that SFN people currently harvest bears and some sites where this occurs include Finmoore Road (not near the Project footprint) and along the Nechako River (CSTC, 2006) – although this is not an exhaustive list of harvesting locations.

Given the lack of specific harvesting data, the section below aims to provide a general discussion of how the Project may interact with current hunting activities in SFN traditional territory, recognizing that it is limited due to a lack of site-specific information.

7.2.7.4.1.3.1 *Changes in the Availability of Harvested Resources*

The potential changes in the availability of harvested resources (moose and bear) for SFN is quantified through spatial analysis of moderate to high rated habitat losses in the SFN traditional territory. Additionally, the effect of noise on wildlife, which can affect the availability of resources, is assessed. Potential habitat losses for species harvested by SFN are described in **Figure 7.2.7-7**. The wildlife study areas were used to describe losses of habitat for those portions that overlap with SFN's traditional territory. The habitat suitability modeling results obtained for moose and grizzly bear can be used as surrogates for deer and black bear species respectively in order to estimate habitat losses affecting deer and black bear. Although caribou was not mentioned as a species currently harvested by SFN members, it is included in the table below for illustrative purposes.

Table 7.2.7-7: Potential Changes in the Availability of Harvested Resources for SFN

Species	Changes in the Availability of Wildlife Habitat
Caribou	No moderate to high caribou summer, fall, or winter habitat is found in the portions of the transmission line and Kluskus FSR that overlaps SFN traditional territory
Moose	No (less than .001%) moderate to high moose habitat is found in the portions of the transmission line and Kluskus FSR that overlaps SFN traditional territory for both winter and growing habitat
Bear	No (less than .001%) moderate to high bear habitat (summer habitat) is found in the portions of the transmission line and Kluskus FSR that overlaps SFN traditional territory

As indicated, no moderate to high rated habitat for caribou, moose or bear is found within the portions of the Kluskus FSR and the transmission line ROW that overlap with SFN traditional territory.

To reduce any potential effects on moose and bear habitat, the LSVMRP (**Section 12.2.1.18.4.4**) proposes reclamation of preferred moose and bear habitat through silviculture methods to promote restoration to pre-disturbance condition along the transmission line ROW. In addition, clearing of berry growing areas and riparian stands along the transmission line ROW will be avoided, where possible. The Proponent will aim to maintain mature and old growth coniferous forest with high canopy closure and vegetation, where ever possible.

Noise from transmission line construction may affect wildlife along the transmission line ROW, but will be largely limited to the construction phase (apart from any necessary maintenance during operations) of the transmission line is short term and during operations The construction phase is expected to last 12 months, construction work at any particular location should be temporary (i.e. weeks) as the construction crews will advance at a speed of approximately 2.5 km per week. The Proponent will follow wildlife timing windows to avoid disturbing wildlife during sensitive periods (**Section 12.2.1** Construction and Operations Management Plan). The Proponent provided a draft Wildlife Management Plan to SFN and looks forward to further discussion.

The development of the transmission line may indirectly increase outside competition for resources with non-SFN hunters due to greater accessibility. This was raised as a concern by trapline/keyoh holders with traplines that intersect with Project components. To mitigate these effects in both SFN traditional territory and for the traplines, the Proponent is establishing an access management working group (of which SFN representatives will be invited to participate in) to discuss access management issues. Ongoing consultation with First Nations will occur with respect to design and implementation of the final TAMP.

Risks associated with the increased ease of access to moose habitat by predators may occur along the transmission line ROW. Linear corridors through habitat that was previously difficult to travel through may allow wolves and other predators to access areas that previously had low predation rates for moose. Wolves frequently use linear corridors to facilitate travel instead of forested areas. In addition, recreational users (e.g., all-terrain-vehicle or snowmobile users) may create access with machines that further create pathways through these areas and an increasing ease of travel for predators. Effects have the potential to occur from the start of construction to the

end of post-closure. The Wildlife Management Plan proposes the use of vegetation and CWD to form visual barriers on cutlines, trails or other linear features to reduce predator access and efficiency.

Although the Kluskus FSR is an existing forestry road and permanent feature on the landscape; increases to traffic will occur as a result of the Project. During the peak of Project-related traffic (construction phase) there are estimated to be a total of two additional large trucks per hour, with a total of 22 round trips per day during the Kluskus FSR. To reduce effects related to increased traffic on the Kluskus FSR, the Proponent will implement a no hunting policy during work hours for New Gold employees and will enforce speed limits for trucks (those trucks related to the Project) along the FSR, as described in the TAMP (**Section 12.2.1.18.4.14**). Wildlife mortality also has the potential to affect changes in the availability of harvested resources for SFN hunters. To mitigate these effects, the Proponent is enforcing speed limits and will implement best management practices for road maintenance to reduce potential wildlife collisions. The TAMP (further details provided in **Section 12.2.1.18.4.14**) identifies strategies such as providing wildlife the ROW along all roads associated with the mine; reporting wildlife sightings to supervisory personnel as soon as possible; and reporting wildlife incidents (e.g., traffic accidents) to supervisory personnel immediately. With mitigation, residual effects to direct mortality for wildlife are not anticipated to affect current hunting practices in the SFN traditional territory.

7.2.7.4.1.3.2 Changes in Access to Land and Resources

The only known hunting locations at the time of writing occur within the two SFN traplines within the Project footprint. The Kluskus FSR runs along the west boundary of Trapline TRO712T009 (0.05%) while Trapline TR711T007 (0.53%) is traversed by the transmission line ROW and the Kluskus FSR. The Proponent has held a number of meetings with each trapline holder to understand how the Project may interact with activities practiced in the trapline.

It is not expected that the Project activities will affect users in accessing Trapline TR711T007 or Trapline TRO712T009. The Proponent will work with the trapline holders to reduce any disruption, as required so that they can continue to practice hunting. The Proponent will also facilitate access to trails during clearing, as appropriate.

Increased access to the trapline from non-Aboriginal hunters has been raised as a concern with respect to these traplines. The construction of the transmission line ROW may facilitate access by other users to this area. To mitigate these effects, the Proponent is establishing an access management working group (of which SFN representatives will be invited to participate in) to discuss access management issues. Ongoing consultation with First Nations will occur with respect to design and implementation of the final TAMP. There will be a security station and gate to prevent public use of the mine access road.

7.2.7.4.1.3.3 Changes in the Experience of Using Lands and Resources

However, the construction, operations and closure phases associated with the transmission line ROW may produce a change in the visual experience of using lands and resources for hunting

purposes. To reduce visual changes, grass and brush will be allowed to colonize the ROW where possible. Ongoing communication with SFN on this issue is anticipated. The transmission line alignment has been designed to take advantage of existing ROW, existing shared access, and other infrastructure to the extent feasible to avoid additional surface disturbance. Approximately 70% of the transmission line follows existing disturbance.

The Proponent will notify each trapline holder before entering the trapline to construct the transmission line. Trapline holders will be compensated in accordance with industry standards.

7.2.7.4.1.3.4 Changes to the Quality of Resources

The construction and operation of the transmission line, the upgrades proposed for the Kluskus FSR and the transportation of workers and materials along the Kluskus FSR to the mine site, do not have the potential to generate COPCs in quantities that could affect the health of hunted animals that would be in the SFN traditional territory.

The construction of the transmission line ROW will last approximately 12 months and disturbance at a certain location will be temporary (i.e., weeks). The additional traffic generated by the Project along the FSR will be generated during the construction and operations phase of the project, but noise and air quality disturbances will be confined to areas immediately adjacent to the FSR, where no human receptors have been identified.

The risk of accidents along the Kluskus FSR that could generate contamination (i.e., spills of chemicals or fuels) will be mitigated through traffic control (e.g., speed limits) and health and safety measures as described in the Accidents and Malfunctions, **Section 10** of the Application.

Given the lack of site specific hunting information for SFN, it is difficult to assess the Project related effects to current hunting practices. The Proponent looks forward to ongoing dialogue with SFN to better understand how the Project may interact with SFN current hunting practices. When related TK/TLU information is received, the Proponent will consider it in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.1.4 Stelat'en First Nation

Potential Project effects could be experienced in the northern portion of the transmission line where 47.69 km of the transmission line overlaps the StFN traditional territory. There are many species currently targeted by the StFN hunters; some of the most important include moose, deer, and black bear (Triton, 2014). Moose is currently found throughout the area and is one of the most pursued species (Triton, 2014). Additionally, various species of birds – used for both subsistence and ceremonial purposes – are culturally valued and sought (Triton, 2014).

The StFN LRUS (Proponent Version; Triton, 2014) does not identify specific hunting locations. The Proponent is consulting with StFN about its preferred methods to share information about hunting practices that may be affected by the Project and to develop methods to mitigate any potential adverse effects. Given the lack of specific harvesting locations, the section below aims

to provide a general discussion of how the Project may affect current hunting activities in StFN traditional territory.

7.2.7.4.1.4.1 Changes in the Availability of Harvested Resources

The potential changes in the availability of harvested resources (caribou, moose, and bear) for StFN is quantified through spatial analysis of moderate to high rated habitat losses in the StFN traditional territory. Additionally, the effect of noise on wildlife, which can affect the availability of resources, is assessed. Potential effects on species harvested by StFN are described in **Table 7.2.7-8**. The wildlife study areas were used to describe losses of habitat for those portions that overlap with StFN's traditional territory. The habitat suitability modeling results obtained for moose and grizzly bear can be used as surrogates for deer and black bear species respectively in order to estimate habitat losses affecting deer and black bear. The majority of any predicted effects to StFN are in relation to the portion of the transmission line that intersects with StFN traditional territory.

Table 7.2.7-8: Potential Changes in the Availability of Harvested Resources for StFN

Species	Changes in the Availability of Wildlife Habitat
Caribou	No moderate to high caribou habitat is found in the portions of the transmission line that overlaps StFN traditional territory
Moose	Very little (2%) of moderate to high moose habitat is being lost in the wildlife RSA portion that overlaps StFN's traditional territory both for winter and growing habitat
Bear	Very little (2%) of moderate to high grizzly bear summer habitat is being lost in the wildlife RSA portion that overlaps StFN's traditional territory

Where possible, the transmission line ROW follows areas of existing disturbance (i.e., forestry roads) to avoid effects. Loss or alteration of habitat as a result of the transmission line will occur during the construction phase but will be evident during the operations and closure phases.

To reduce effects on moose and bear habitat, the LSVMRP (**Section 12.2.1.18.4.4**) proposes reclamation of preferred moose and bear habitat through silviculture methods to promote restoration to pre-disturbance condition along the transmission line ROW. In addition, clearing of berry growing areas and riparian stands along the transmission line ROW will be avoided, where possible. The Proponent will aim to maintain mature and old growth coniferous forest with high canopy closure and vegetation, where ever possible. Measures to reduce effects on bears and moose include a strict no hunting policy for Project workers.

Noise from transmission line construction may affect wildlife along the transmission line ROW, but this disturbance will be limited to the construction phase (apart from any necessary maintenance during operations). The construction phase is expected to last 12 months, construction work at any particular location should be temporary (i.e., weeks) as the construction crews will advance at a speed of approximately 2.5 km per week.

The development of the transmission line may indirectly increase outside competition for resources with non-StFN hunters due to greater accessibility. To mitigate these effects in StFN traditional territory, the Proponent is establishing an access management working group (of which StFN representatives will be invited to participate in) to discuss access management issues. Ongoing consultation with First Nations will occur with respect to design and implementation of the final TAMP.

Risks associated with the increased ease of access to moose habitat by predators may occur along the transmission line ROW. Linear corridors through habitat that was previously difficult to travel through may allow wolves and other predators to access areas that previously had low predation rates for moose. Wolves frequently use linear corridors to facilitate travel instead of forested areas. In addition, recreational users (e.g., all-terrain-vehicle or snowmobile users) may create access with machines that further create pathways through these areas and an increasing ease of travel for predators. Effects have the potential to occur from the start of construction to the end of post-closure. To mitigate these effects, the Wildlife Management Plan proposes the use of vegetation and CWD to form visual barriers on cutlines, trails or other linear features to reduce predator access and efficiency.

Wildlife mortality also has the potential to affect changes in the availability of harvested resources for StFN hunters. To mitigate these effects, the Proponent is enforcing speed limits for all trucks related to the Project and will implement best management practices for road maintenance to reduce potential wildlife collisions. The TAMP (further details provided in **Section 12.2.1.18.4.14**) identifies strategies such as providing wildlife the ROW along all roads associated with the mine; reporting wildlife sightings to supervisory personnel as soon as possible; and reporting wildlife incidents (e.g., traffic accidents) to supervisory personnel immediately.

With mitigation, residual effects to direct mortality for wildlife are not anticipated to affect current hunting practices in the StFN traditional territory.

7.2.7.4.1.4.2 Changes in Access to Land and Resources

No specific hunting sites along the transmission line ROW were identified for StFN by the time of writing but the Proponent will work with StFN to facilitate access to desired hunting areas, as appropriate. The construction of the transmission line ROW may facilitate access by other users to this area. To mitigate these effects, the Proponent is establishing an access management working group (of which StFN representatives will be invited to participate in) to discuss access management issues.

7.2.7.4.1.4.3 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases associated with the transmission line ROW may produce a change in the visual experience of using lands and resources for hunting purposes. To reduce visual changes, grass and brush will be allowed to colonize the ROW where possible. Ongoing communication with StFN on this issue is anticipated. The transmission line alignment has been designed to take advantage of existing ROW, existing shared access, and other

infrastructure to the extent feasible to avoid additional surface disturbance. Approximately 70% of the transmission line follows existing disturbance.

7.2.7.4.1.4.4 Changes to the Quality of Resources

The construction and operation of the transmission line, the upgrades proposed for the Kluskus FSR and the transportation of workers and materials along the Kluskus FSR to the mine site, do not have the potential to generate COPCs in quantities that could affect the health of hunted animals that would be in the StFN traditional territory.

The construction of the transmission line ROW will last approximately 12 months and disturbance at a certain location will be temporary (i.e., weeks). The additional traffic generated by the Project along the FSR will be generated during the construction and operations phase of the project, but noise and air quality disturbances will be confined to areas immediately adjacent to the FSR, where no human receptors have been identified.

The risk of accidents along the Kluskus FSR that could generate contamination (i.e., spills of chemicals or fuels) will be mitigated through traffic control (e.g., speed limits) and health and safety measures as described in the Accidents and Malfunctions section 10 of the Application.

Given the lack of site specific hunting information for StFN, it is difficult to assess the effects to current hunting practices. The Proponent looks forward to ongoing dialogue with StFN to better understand how the Project may interact with StFN current hunting practices. When related TK/TLU information is received, the Proponent will consider it in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.1.5 Ulkatcho First Nation

The potential effects for UFN current hunting practices will result from changes related to the mine site area and mine access road as well as the 4.45 km of the Kluskus FSR and 14.02 km of the transmission line (which overlap with its traditional territory). Specific information on hunting practices has not been provided for these areas in the TLUS, but the UFN indicate that some form of traditional land and resource use occurs in these areas, and this may include hunting.

UFN continue to hunt caribou, moose, deer, lynx, and timber wolf within the LSA. The UFN identify hunting as an activity in the mine site area, although they do not specify the species that they are hunting at this location. The TLUS identifies hunting along the transmission line ROW and the Mills Ranch Re-route, near Tatelkuz Lake, along Chedakuz Creek, and Kuyakuz Lake, including the species listed above. Geese and ducks are hunted along Chedakuz Creek and near Kuyakuz Lake.

Hunting areas in the mine site will be unavailable to the UFN during construction and operations. Habitat changes may cause changes in wildlife habitat and populations. Clearing and construction of the transmission line may result in temporary loss of habitat and access to hunting areas. Road construction and use during operations may result in loss of areas for hunting, and changes in wildlife habitat and abundance through mortality from vehicles.

7.2.7.4.1.5.1 Changes in the Availability of Harvested Resources

The potential changes in the availability of harvested resources for UFN is quantified through spatial analysis of habitat losses in the UFN traditional territory. Additionally, the effect of noise on wildlife, which can affect the availability of resources, is assessed. Potential effects on species harvested by UFN are described in **Table 7.2.7-9**. The wildlife study areas were used to describe losses of habitat for those portions that overlap with UFN’s traditional territory.

Table 7.2.7-9: Potential Changes in the Availability of Harvested Resources for UFN

Species	Changes in the Availability of Wildlife Habitat
Caribou	Very little (3%) of moderate to high caribou habitat is being lost in the caribou RSA portion that overlaps UFN’s traditional territory both for summer/fall habitat and winter habitat
Moose	Very little (2%) of moderate to high moose habitat is being lost in the wildlife RSA portion that overlaps UFN’s traditional territory both for winter and growing habitat
Bear	Very little (3%) grizzly bear summer habitat will be lost in the wildlife RSA portion that overlaps UFN’s traditional territory
Beaver	Almost no (0%, about 6 ha) beaver habitat will be lost in the wildlife RSA portion that overlaps UFN’s traditional territory

Noise from Project construction, operations, and the temporary camp may displace wildlife (caribou and moose) from using habitats up to 250 m of these features. However, habituation to routine disturbances (particularly for caribou) over the length of the Project may reduce these Project effects. Wildlife such as caribou and moose, may also be sensitive to aircraft related noise disturbances. Noise modelling was conducted for aircraft, but the results are overly conservative as the scenario modelled was for a Boeing 737 – and the aircraft that will be used is a Dash 8. Aircraft noise may be perceived by animals and residents during take-off and landing, but the frequency of flights is very low (two flights a week during construction) and discontinued during operations (unless there is an emergency).

The development of the mine access road may indirectly increase outside competition for resources with non-UFN hunters due to greater accessibility. To mitigate these effects in UFN traditional territory, the Proponent is establishing an access management working group (of which UFN representatives will be invited to participate in) to discuss access management issues. Ongoing consultation with First Nations will occur with respect to design and implementation of the final TAMP. There will be a security station and gate to prevent public use of the mine access road.

Risks associated with the increased ease of access to wildlife habitat by predators will most likely occur along the mine access road and transmission line. Linear corridors through habitat that was previously difficult to travel through may allow wolves and other predators to access areas that previously had low predation rates for moose. Wolves frequently use linear corridors to facilitate travel instead of forested areas. In addition, recreational users (e.g., all-terrain-vehicle or snowmobile users) may create access with machines that further create pathways through these areas and an increasing ease of travel for predators. Effects have the potential to occur from the

start of construction to the end of post-closure. To mitigate these effects, the Wildlife Management Plan proposes the use of vegetation and CWD to form visual barriers on cutlines, trails or other linear features to reduce predator access and efficiency.

Wildlife mortality also has the potential to affect changes in the availability of harvested resources for UFN hunters. To mitigate these effects, the Proponent is enforcing speed limits along the mine access road and will implement best management practices for road maintenance to reduce potential wildlife collisions. The TAMP (further details provided in **Section 12.2.1.18.4.14**) identifies strategies such as providing wildlife the ROW along all roads associated with the mine; reporting wildlife sightings to supervisory personnel as soon as possible; and reporting wildlife incidents (e.g., traffic accidents) to supervisory personnel immediately.

With mitigation, residual effects to direct mortality for wildlife are not anticipated to affect current hunting practices in the UFN traditional territory.

7.2.7.4.1.5.2 Changes in Access to Land and Resources

The areas used for hunting in the mine footprint will result in a minor loss of hunting areas for UFN. The traditional territory for UFN is over 3,000,000 ha, of which less than 0.11% (less than 3,000 ha) overlaps with portions of the mine site. Given the nature of Project activities and likely disturbances generated by the construction and operation phases, it is assumed that UFN will no longer be able to hunt in the mine site footprint. This loss of land represents a small proportion of UFN traditional territory. It is worth noting, the UFN TLUS study identifies a range of hunting activities occurring to the south west of the Project near Johnny Lake and Moose Lake. These areas are identified as having a much higher number of TLU and harvesting sites.

7.2.7.4.1.5.3 Changes in the Experience of Using Lands and Resources

The construction, operations, and closure phases of the Project may produce a change in the experience of using lands and resources for hunting purposes. Noticeable changes to baseline daytime and night time noise levels are expected to occur around the mine site. Noise modelling did not predict daytime (55 dBA) or nighttime (45 dBA) noise exceedance at any human receptor locations in the area including, Laidman Lake Lodge, which is located approximately 23 km from the mine site. No identified UFN receptors live close enough to the Project for inclusion in the noise modelling assessment. At 4 km to the east and west of the mine and 6 km to the north and south, noise from the mine will not be perceived and will be attenuated to background levels.

7.2.7.4.1.5.4 Changes to the Quality of Resources

UFN representatives have expressed concern about potential changes to the quality of resources- in this case, contamination of wildlife for human consumption. The Project will generate air and liquid effluent emissions. However, the surface water quality assessment has indicated that the water quality in receiving streams (after mixing) downstream of the TSF is expected to meet BC Freshwater Guidelines or site-specific water quality objectives. Therefore, this is not expected to result in harmful accumulation and release of metals from downstream surface water which

would be consumed by wildlife. As a result, the remaining significant source for the release of COPCs is through air emissions.

A HHERA was conducted to assess the effects of exposures to COPC on the health of people living in the vicinity of the Project. The HHERA model used worst-case conservative exposure scenarios, including for those Aboriginal peoples residing in the area and practicing traditional harvesting of country foods (i.e., hunting and fishing). The HHERA also considered all possible exposure pathways at the different phases of the Project from construction to post-closure. Based on the HHERA results, the residual health effects were determined to be not significant (negligible) during all phases of the Project.

Given that the potential contamination of country foods has been raised as a serious concern by UFN, the Proponent has committed to engaging UFN in ongoing environmental monitoring, and this includes the Country Foods Monitoring Program.

7.2.7.4.1.5.5 Characterization of Residual Effects on UFN

The residual effect on hunting for the UFN is adverse, medium magnitude since the LSA overlaps with and limits access to areas that are used for hunting (portions of the mine site), but does not severely limit the ability to practice this activity within their traditional territory. The geographic extent of the effect is local (with the LSA) and long-term. The effect is reversible at closure, and occurs continuously throughout the life of the Project. The effect is considered likely (high) and not significant (moderate), primarily due to the local geographic extent of the effect. Confidence in this rating is moderate since information provided on current hunting practices in the TLUS within the Project area are not always detailed enough to identify specific effects, but mitigations for managing effects on wildlife species are well understood and effective.

7.2.7.4.1.6 Nazko First Nation

Potential Project effects could be experienced along two portions of the existing FSR, where a total of 27.72 km overlaps their traditional territory. The potential Project effects could affect NFN's CLRUTP hunting. When TK/TLU information is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting, and monitoring. Given that there are no significant effects of the Project on hunted game species, and their traditional territory overlaps with relatively short sections of the existing FSR, there is no expected residual adverse effect on hunting for the NFN.

7.2.7.4.1.7 Skin Tyee Nation

Potential Project effects could be experienced throughout almost the entire LSA, where 118.29 km of the existing FSR, 112.32 km of the transmission line and the entire mine site and mine site access road overlap their traditional territory. When TK/TLU information is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting, and monitoring. Given that there are no significant effects of the Project on hunted

game species, there is no expected residual adverse effect on availability of resources for the STN.

7.2.7.4.1.8 *Tsilhqot'in National Government*

Potential Project effects could be experienced along 25.92 km of the existing FSR and 28.36 km of the transmission line where these Project components overlap TNG traditional territory². To date, the TNG has not identified CLRUTP concerns that may be affected by the Project, however the Proponent looks forward to ongoing dialogue with TNG. If a use that could interact with the Project is identified, information will be considered in the Project design, execution, management plans, permitting, and monitoring.

7.2.7.4.1.9 *Métis Nation British Columbia*

There is no specific information on hunting activities by Métis citizens within the Project area. If a use that could result in an effect is documented, information will be considered in the Project design, execution, management plans, permitting, and monitoring.

7.2.7.4.2 Residual Effects on Trapping

This section provides a brief overview of the anticipated residual effects on trapping for the LSA and RSA. A more detailed discussion of residual effects on current use of lands and resources by each Aboriginal group is presented in the following subsections.

A number of related effects assessments provide insight into how trapping may potentially be affected including **Section 7.2.6** (NTRLU effects assessment which assesses effects to First Nation traplines) and **Section 5.4** (wildlife effects assessment). The results of these assessments are used to provide an overall description of residual effects to trapping as the effects predictions in these sections provide insight into the effects predictions for CLRTUP.

The wildlife effects assessment for furbearers (**Section 5.4.13**) identifies that the residual effects of habitat loss and alteration, sensory, and change in furbearer population dynamics will be not significant (minor) to not significant (negligible) for the unavoidable loss of habitat, displacement due to sensory disturbance, or direct mortality. The wildlife effects assessment also identifies that there will be no residual effects on furbearing animals (that are hunted rather than trapped) or migratory birds.

The NTRLU effects assessment (**Section 7.2.6**) identifies that residual effects on trapping will include sensory disturbance to wildlife and disturbance to the land base, which may affect trapping efforts and success rates. Following mitigation related to access and trapping disruption, and

² BC and TNG have signed a Tsilhqot'in Framework Agreement (TFA) to streamline the referral process on natural resource applications within the traditional territories of TNG member communities (TFA 2011). The proposed Project falls within Engagement Zone A, as defined in the TFA. Activities in this area have none or low perceived impacts on TN members' aboriginal rights.

appropriate compensation as required, the overall residual effect on affected trappers is considered to be negative, of low magnitude, local, short-term, and reversible, and therefore not significant. Overall, the Project will have a low effect on trapping activities. Wildlife species are expected to return to the area after Project activities cease. The context is rated as low because trapping activities are extant in the area, and will continue in the future. The likelihood of the residual effect occurring is high. This residual effect is not significant, and is predicted with high confidence.

7.2.7.4.2.1 Lhoosk'uz Dene Nation

The potential effects for LDN trapping will result from changes related to the mine site area, mine access road, and FSR upgrade, as well as the lower sections of the FSR and transmission line corridor that overlap their traditional territory. Information regarding LDN's trapping outside of provincially registered traplines was not available at the time of writing and have not been assessed, there are two known provincially-registered traplines held by members of the LDN in that overlap with the Project. The mine site overlaps these two traplines, TR0512T014 and TR0512T027, by 0.01% and 9.4% respectively. The keyoh boundaries associated with trapline TR0512T014 were also compared with the overlap of mine components and the overlap was estimated at approximately 1.0%.

Trapline TR0512T014 is currently used for trapping as described by the registered trapline holder, although he did note that he has not used the trapline in a couple of years due to the low prices received for pelts. Since 2012, the Proponent and the trapline holder have met a number of times to determine how the trapline is being used, what species are trapped, to identify any Project related concerns or interests, and obtain input into mitigation to avoid effects. No cabins exist in the trapline and tents are typically used when trapping. The trapline is available for use to the entire Jimmie family (as would be expected due to its relationship to the keyoh).

Trapline TR0512T027 has not been used for 20 years, therefore there are no expected residual effects to the *current* use of this trapline. **Section 15** presents a discussion of potential effects to Aboriginal rights and includes a discussion about mitigation for affected trapline holders.

The Proponent will continue to discuss potential Project effects on trapping affected Aboriginal trappers throughout the life the Project.

7.2.7.4.2.1.1 Changes in the Availability of Harvested Resources

The potential changes in the availability of trapping resources for LDN is quantified through spatial analysis of habitat losses in the LDN traditional territory. Additionally, the effect of noise on furbearers, which can affect the availability of resources, is described. Potential effects on furbearers harvested by LDN are described in **Table 7.2.7-10**. The wildlife study areas were used to describe losses of habitat for those portions that overlap with LDN's traditional territory. Trapline Holder TR0512T014 indicated that he harvests a range of species including marten and grizzly bear. These are included below as is beaver (a species of importance mentioned by LDN leadership in 2103).

Table 7.2.7-10: Potential Changes in the Availability of Trapping Resources for LDN

Species	Changes in the Availability of Habitat for Furbearers
Bear	Very little (2%) of moderate to high grizzly bear summer habitat is being lost in the wildlife RSA portion that overlaps LDN's traditional territory
Marten	Very little (2%) of moderate to high marten habitat is being lost in the wildlife RSA portion that overlaps LDN's traditional territory
Beaver	Almost no (0%, about 7 ha) beaver habitat will be lost in the wildlife RSA portion that overlaps LDN's traditional territory

Noise from Project construction, operations, and the temporary camp may displace furbearers from using habitats up to 250 m of these features. However, none of the traplines are within 250 m of the mine site.

7.2.7.4.2.1.2 Changes in Access to Land and Resources

It is not expected that the Project activities will affect users in accessing Trapline TR0512T014 or other trapping areas as no road access will be impeded. The Messue Wagon Trail, the Alexander Mackenzie Trail, and the Kluskus Ootsa FSR (all three of which could be used to access the south side of Mount Davidson nearby the trapline) will not be impeded by the Project footprint. Foot access from the Tatelkus Lake Indian Reserve #28, crossing over Mount Davidson from the north side, will be impeded by the Project footprint. It was noted that family members historically accessed the trapline from the north but was not clear whether this occurs currently. The Proponent will work with the trapline holder to reduce any disruption, as required. The Proponent will also facilitate access to trapping trails during clearing, as appropriate.

7.2.7.4.2.1.3 Changes in the Experience of Using Lands and Resources

The construction, operations, and closure phases of the Project may produce a change in the experience of using lands and resources for hunting purposes. Noticeable changes to baseline daytime and night time noise levels are expected to occur around the mine site and will be detected within the northern portion of Trapline TR0512T014. From sunset to dawn, lights from the mine site will be noticeable from Trapline TR0512T014 and will likely affect the experience of trapping in this area. As required, the Proponent will notify affected trapline holders of Project activities, schedules, and locations to reduce changes to the experience of using the lands for trapping. Other LDN trapping locations were not known at the time of writing and therefore have not been assessed.

7.2.7.4.2.1.4 Changes to the Quality of Resources

LDN representatives have expressed concern about potential changes to the quality of resources- in this case, contamination of furbearers for human consumption. A HHERA was conducted to assess the effects of exposures to COPC on the health of people living in the vicinity of the Project. The HHERA model used worst-case conservative exposure scenarios, including for those Aboriginal peoples residing in the area (Tatelkus Lake Indian Reserve #28) and practicing

traditional harvesting of country foods (i.e., hunting and fishing). The HHERA also considered all possible exposure pathways at the different phases of the Project from construction to post-closure. Based on the HHERA results, the residual health effects were determined to be not significant (negligible) during all phases of the Project.

Given that the potential contamination of country foods has been raised as a serious concern by LDN, the Proponent has committed to engaging LDN in ongoing environmental monitoring, and this includes the Country Foods Monitoring Program.

The Proponent will compensate affected trapline holder TR0512T014 in accordance with industry and provincial protocols. These discussions are ongoing.

7.2.7.4.2.1.5 Characterization of Residual Effects on LDN

After mitigation, the residual effect to LDN trapping is considered adverse, low to medium magnitude, since the Project overlaps with a very small portion of the trapline and keyoh (<1%), but will not impede the activity. The geographic extent is site specific within the footprint of the mine site. The effect occurs over the life of the Project (long-term), continuously, but is reversible. The effect is likely (high) and is not significant (minor), primarily due to the low magnitude of the effect and site specific geographic extent. The confidence is high in this rating, since the information is based on an in-depth interview with the registered trapline holder.

7.2.7.4.2.2 Nadleh Whut'en First Nation

Information regarding NWFN's trapping activity was not available at the time of writing and has not been assessed. One provincially-registered trapline (TR0712T036) believed to be specific to NWFN is overlapped by the transmission line by 0.52%.

At the time of writing, the Proponent had been advised by the registered trapline holder that the trapline was currently not in use by the registered owners (however other NWFN members may trap in the area).

Very little habitat for furbearers is predicted to be lost near the trapline as a result of the Project. It is expected that Project activities will not affect users in accessing this trapline as no road access will be impeded. No residual effects are anticipated for the trapline.

7.2.7.4.2.3 Saik'uz First Nation

The potential effects for SFN trapping will result from changes related to the Kluskus FSR and transmission line corridor that overlaps the SFN traditional territory. Information regarding SFN's trapping outside of provincially registered traplines was not available at the time of writing and have not been assessed. Two provincially-registered traplines (TR711T007 and TR0712T009) are known to be overlapped by portions of the Project and both traplines belong to SFN members. The existing Kluskus FSR overlaps these traplines by 0.53% and 0.05% respectively. The Proponent held a number of meetings with each trapline holder to understand how the Project may interact with the trapping activities.

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Trapline TR0712T009 has been greatly affected by clear-cut logging. The trapline holder noted that the area might only be ready to trap for his grandchildren and that trapping is not economically feasible anymore. However, he did note that trapping is an important part of the SFN culture. Although the trapline is no longer used for trapping, it is used for hunting and gathering.

Trapline TR711T007 is currently used for trapping. Species harvested include bear, marten, lynx, rabbit, squirrel, wolf, coyote, fisher and weasel. The trapline is used extensively by the entire family and the trapline corresponds to a larger keyoh boundary.

7.2.7.4.2.3.1 Changes in the Availability of Harvested Resources

The potential changes in the availability of trapping resources for SFN is quantified through spatial analysis of habitat losses in the SFN traditional territory. Additionally, the effect of noise on furbearers, which can affect the availability of resources, is described. Potential effects on furbearers harvested by SFN are described in **Table 7.2.7-11**. The wildlife study areas were used to describe losses of habitat for those portions that overlap with SFN's traditional territory.

Table 7.2.7-11: Potential Changes in the Availability of Trapping Resources for SFN

Species	Changes in the Availability of Habitat for Furbearers
Bear	Almost no (0%, about 160 ha) moderate to high grizzly bear summer habitat is being lost in the wildlife RSA portion that overlaps SFN's traditional territory
Marten	Very little (1%) of moderate to high marten habitat is being lost in the wildlife RSA portion that overlaps SFN's traditional territory
Beaver	Almost no (0%, about 7 ha) beaver habitat will be lost in the wildlife RSA portion that overlaps SFN's traditional territory

Noise from the transmission line construction may displace furbearers from using habitats up to 250 m of these features. The effects from noise to furbearers near the transmission line ROW are expected to be short term and negligible.

7.2.7.4.2.3.2 Changes in Access to Land and Resources

It is not expected that the Project activities will affect users in accessing the provincially-registered traplines. The Proponent will work with the trapline holders to reduce any disruption, as required. The Proponent will also facilitate access to trapping trails during clearing, as appropriate. As required, the Proponent will notify affected trapline holders of Project activities, schedules, and locations to reduce changes to the experience of using the lands for trapping.

Increased access to Trapline TR711T007 from non-Aboriginal users has been raised as a concern by the registered trapline holder. Concerns relate to additional hunting pressure as well as use of the area for ATVing and other recreational activities. The construction of the transmission line ROW may facilitate access by other users to this area. To mitigate these effects, the Proponent is establishing an access management working group (of which SFN representatives will be invited to participate in) to discuss access management issues. Ongoing consultation with First Nations will occur with respect to design and implementation of the final TAMP. There will be a security station and gate to prevent public use of the mine access road.

The construction, operations and closure phases of the Project and transmission line may produce a change in the experience of using lands and resources for trapping purposes. No noticeable changes to baseline daytime and night time noise levels are expected to occur around the transmission line, apart from the short-term construction time.

From the trapping areas, the transmission line will likely be visible from some vantage points for the construction, operations and closure phases.

7.2.7.4.2.3.3 Changes to the Quality of Resources

The construction and operation of the transmission line, the upgrades proposed for the Kluskus FSR and the transportation of workers and materials along the Kluskus FSR to the mine site, do not have the potential to generate COPCs in quantities that could affect the health of harvested furbearers within the vicinity of this trapline. The construction of the transmission line ROW will

last approximately 12 months and disturbance at a certain location will be temporary (i.e. weeks). Therefore, no changes to the quality of resources for trapping purposes are anticipated in this location.

In summary, Trapline TR0711T007 is overlapped by the Project by 0.53% or 116 ha. Approximately half of this overlap is a result of the existing Kluskus FSR and the transmission line is adjacent to the Kluskus FSR for about half of the overlap within the trapline.

7.2.7.4.2.3.4 Characterization of Residual Effects on SFN

The Project is not expected to impede trapping activity in the trapline. The residual effect to this trapline is considered adverse, low magnitude, since the Project overlaps with a very small portion (0.53%) of the trapline and will not impede the trapping activity. The geographic extent is site specific within the footprint of the transmission line. The effect occurs over the life of the Project (long-term), continuously, but is reversible. The likelihood of the effect is high and is not significant (negligible), primarily due to the low magnitude of the effect and site specific geographic extent. The confidence is low in this rating, since the information is based on two interviews with one of the key holders.

7.2.7.4.2.4 Stelat'en First Nation

StFN traditionally trapped beaver and muskrat in the marshy areas surrounding the Abuntl'at. These species were used for both food and fur. Additionally, wolverine is an important fur-bearing species (Triton, 2014). The StFN LRUS (Proponent Version; Triton 2014) does not identify specific trapping locations. The Proponent is consulting with StFN about its preferred methods to share information about trapping practices that may be affected by the Project and to develop methods to mitigate any potential adverse effects.

Two provincially-registered traplines (TR712T039 and TR0712T040) are believed to be held by StFN members. It is not known if any registered traplines align with the traditional Stelat'en trapping areas (Triton, 2014).

The transmission line overlaps these traplines by 0.4% and 0.9%. The current use of these traplines is unknown at the time of writing. When TK/TLU information about trapping is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting, and monitoring. As discussed, the Proponent remains committed to working with Aboriginal trappers to mitigate Project effects. Examples of mitigation include:

- The Proponent will continue to discuss potential Project affects on trapping and other traditional uses with affected Aboriginal communities throughout the life the Project;
- The Proponent will work with trappers to reduce potential disruption to traplines if effects are identified;
- Establish an Access Management Working Group with key stakeholders and potentially affected Aboriginal representatives to discuss access management for the transmission line corridor and the mine site;

- Compensating affected trapline holders in accordance with industry and provincial protocols with associated proof of lost revenue;
- Informing holders of affected trapline areas and keyholes of Project activities, schedules, and locations;
- Locating and maintaining breaks in the rollback to facilitate access to trapping trails during clearing;
- Implementing design and operational procedures to limit risks associated with malfunctions and accidents;
- Prohibiting mine employees from trapping, hunting or fishing on mine site property;
- Implementing EMPs (**Section 12.2.1**) addressing air quality and emissions management; transportation and access management; landscape, soils, and vegetation management and restoration; and wildlife management; and
- Implementing a TK/TLU Committee with participation of the Aboriginal Groups on which territories the Project is located to monitor that commitments made by the Proponent in regards to TK/TLU are being complied with.

7.2.7.4.2.5 *Ulkatcho First Nation*

The UFN TLU study indicates that furbearers are trapped within the LSA and RSA (in particular lynx, squirrel, timber wolf, and beaver). The UFN identify three general trapping locations within the area of the mine site while trapping is also noted to occur in proximity to the transmission line ROW near Tatelkuz Lake, along Chedakuz Creek, and Kuyakuz Lake. Trapping also occurs at Moose Lake and Johnny Lake to the west of the Project. The TLU study specifically identifies beaver trapping along Chedakuz Creek and at Kuyakuz Lake. The TLU study identifies a range of species trapped by UFN members such as muskrat, black bear, coyote, fisher, fox, mink, and marten.

It should be noted that the UFN TLU study identifies general areas where trapping occurs but does not provide specific trapping sites.

7.2.7.4.2.5.1 *Changes in the Availability of Harvested Resources*

The potential changes in the availability of trapped resources for UFN is quantified through spatial analysis of habitat losses in the UFN traditional territory and in areas outside the UFN traditional territory where UFN identifies trapping activity also occurs.

Additionally, the effect of noise on furbearers (which can affect the availability of resources) is described. Potential effects on furbearers harvested by UFN and trapping sites are summarized in **Table 7.2.7-12**.

Table 7.2.7-12: Potential Changes in the Availability of Trapping Resources for UFN

Species	Changes in the Availability of Habitat for Furbearers
Bear	Very little (1%) of moderate to high grizzly bear summer habitat is being lost in the wildlife RSA portion that overlaps UFN's traditional territory. Additionally, very little (0.5%) of moderate to high grizzly bear summer habitat is being lost in the wildlife RSA portion outside of UFN's traditional territory, but in areas where UFN has indicated they trap.
Marten	Very little (0.5%) of moderate to high marten habitat is being lost in the wildlife RSA portion that overlaps UFN's traditional territory. Additionally, very little (0.5% or 720 ha) of moderate to high marten habitat is being lost in the wildlife RSA portion outside of UFN's traditional territory, but in areas where UFN has indicated they trap.
Beaver	Very little (0% or 5.76 ha) beaver habitat will be lost in the wildlife RSA portion that overlaps UFN's traditional territory. Additionally, very little (0% or 1 ha) beaver habitat is being lost in the wildlife RSA portion outside of UFN's traditional territory, but in areas where UFN has indicated they trap.

The UFN TLU study presents a map of traditional land use within the mineral tenures owned by the Proponent. The area covered by the TLU study was divided into quadrants and for each quadrant, the study identifies the number of TLU sites, the type of TLU activities and the potential species harvested (in some cases).

The analysis conservatively estimates that up to three trapping locations could exist within the mine site (this will be confirmed once more site specific trapping data is provided)³. An additional 21 trapping sites are estimated within the LSA and 48 additional trapping sites are estimated in the RSA.

7.2.7.4.2.5.2 Changes in Access to Land and Resources

The Project will restrict access to the area where the mine site will be developed. Trapping activities will no longer be permitted in the mine site and trapping will no longer be viable given the effects generated by the clearing of vegetation and soil removal to develop Project facilities within the mine site.

It is not expected that Project activities will affect UFN's ability to access trapping sites along Kuyakuz Lake, Tatelkuz Lake, Tsacha Lake, Moose Lake, Johnny Lake, the Kluskus Lakes, Euchiniko Lake, and Kluskus IR#1.

³ A conservative approach was employed to estimate the number of trapping sites in each quadrant by dividing the number of sites by the number of activities and rounding up the results for each quadrant that identifies trapping as one of the activities occurring.

7.2.7.4.2.5.3 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases of the Project may produce a change in the experience of using lands and resources for trapping purposes. Noticeable changes to baseline daytime and night time noise levels are expected to occur in the immediate vicinity of the mine site. From sunset to dawn, lights from the mine site will be noticeable.

7.2.7.4.2.5.4 Changes to the Quality of Resources

A HHERA was conducted to assess the effects of exposures to COPC on the health of people living in the vicinity of the Project. The HHERA model used worst-case conservative exposure scenarios, including for those Aboriginal peoples residing in the area and practicing traditional harvesting of country foods (i.e., hunting and fishing). The HHERA also considered all possible exposure pathways at the different phases of the Project from construction to post-closure. Based on the HHERA results, the residual health effects were determined to be not significant (negligible) during all phases of the Project.

7.2.7.4.2.5.5 Characterization of Residual Effects on UFN

After mitigation, the residual effect to UFN trapping is considered adverse, low to medium magnitude, since the Project overlaps with a very small portion of habitat suitable for furbearers and that the vast majority of trapping sites will remain available for UFN use in areas outside of the mine site. The geographic extent of the effect on trapping is site specific within the footprint of the mine site. The effect occurs over the life of the Project (long-term), continuously, but is reversible. The effect is likely (high) and is not significant (minor), primarily due to the low magnitude of the effect and site specific geographic extent. The confidence in the determination of significance is moderate, since the exact locations of the trapping sites were not available and very conservative assumptions had to be made to estimate the potential loss of trapping sites.

7.2.7.4.2.6 Nazko First Nation

Information regarding NFN's general trapping for traditional purposes was not available at the time of writing and have not been assessed. NFN have no identified provincially-registered traplines within the LSA. When TK/TLU information about trapping is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting, and monitoring.

7.2.7.4.2.7 Skin Tyee Nation

Information regarding STN's general trapping for traditional purposes was not available at the time of writing and have not been assessed. STN have no identified provincially-registered traplines within the LSA. When TK/TLU information about trapping is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting, and monitoring.

7.2.7.4.2.8 *Tsilhqot'in National Government*

Information regarding TNG's general trapping for traditional purposes was not available at the time of writing and have not been assessed. TNG have no identified provincially-registered traplines within the LSA. If a use that could result in an effect is identified, information will be considered in the Project design, execution, and management plans, permitting, and monitoring.

7.2.7.4.2.9 *Métis Nation British Columbia*

Information regarding trapping activity for MNBC members was not available at the time of writing and have not been assessed. MNBC members have no identified provincially-registered traplines within the LSA. If a use that could result in an effect is documented, information will be considered in the Project design, execution, management plans, permitting, and monitoring.

7.2.7.4.3 Residual Effects on Fishing

This section provides a brief overview of the anticipated residual effects on fishing for the LSA and RSA. A more detailed discussion of residual effects to current fishing uses of lands and resources by each Aboriginal group is presented in the following subsections.

A number of related effects assessments provide insight into how fishing and fish habitat may potentially be affected. Detailed descriptions of the effects on fish and fish habitat are provided in **Sections 5.3.8** and **Section 5.3.9**. The results of these assessments are provided below as the effects predictions in these sections provide insights into the effects predictions for CLRUTP. Locations of the water bodies and watersheds referenced in this section are shown in **Section 5.1.2.6**.

In all phases of the Project, effects on fish and fish habitat at stream crossings from linear developments (mine access road, airstrip and airstrip access road, transmission line, and Kluskus and Kluskus-Ootsa FSRs) and the water pipeline and freshwater reservoir, can be successfully mitigated, and therefore, there are no residual effects from the linear developments. Residual effects on fish and fish habitat from the mine site (in all Project phases) include:

- Loss of fish habitat in upper Davidson Creek watershed;
- Changes in flow and water quality in middle and lower reaches of Davidson Creek, lower Chedakuz Creek, Creek 661, and Creek 705;
- Changes in water temperature of Davidson Creek; and
- Potential disruption in homing of rainbow trout and kokanee (the indicator species) to Davidson Creek as a result of flow augmentation from Tatelkuz Lake.

There will be an unavoidable loss of fish and fish habitat on the mine site, and loss of access by fish to the headwaters of Davidson Creek and Creek 661. These losses will be offset with 'in-kind' and 'out-of-kind' habitat restoration, enhancement, and creation, which are described in the FMOP for the Project (**Appendix 5.1.2.6C**). Fish salvage and translocation will also reduce loss of fish.

There was a minor significant effect on rainbow trout (there are no kokanee on the reaches of Davidson Creek affected by the mine site) since lost habitat will be replaced with new fish habitat (increasing the size of Lake 1682LNRS).

Changes in flow in the middle and lower reaches of Davidson Creek will be mitigated, and are considered not significant. There will be no water quality effects on fish or fish habitat (with the exception of the diversion of Lake 1682LNRS noted below) because the mine will operate as a no-discharge facility during operations and closure. During post-closure water quality on Davidson Creek, downstream of the Mine Site, will meet applicable federal and provincial water quality guidelines. Some residual water quality effects could result from the diversion of Lake 1682LNRS (the headwater lake for Davidson Creek) into the Creek 705 watershed. This effect is considered not significant.

During operations and closure, water temperatures in Davidson Creek are expected to be slightly higher than the baseline, due to the augmentation of flow from Tatelkuz Lake. Although the effect is chronic and irreversible, it was considered not significant due to low magnitude and local geographic extent of the effect.

Effects on fish and fish habitat were assessed in the littoral zones (edges) of Tatelkuz Lake and lower Chedakuz Creek (such as degradation of littoral zones and lowering of surface water elevations) due to the water intake and other features of the FSS. The effect on surface water elevations will be mitigated (**Section 5.3.8**); therefore, there is no residual effect. There will be a residual effect due to loss of fish habitat quality and quantity (and therefore fish) in the upper one metre of the littoral zone of Tatelkuz Lake that cannot be fully mitigated; this was considered not significant due to the low magnitude of the effect. Fish impingement and entrainment at the intake pipes will be avoided by following Federal guidelines.

The potential to adversely affect the ability of fish to recognize and home to natal spawning areas of Davidson Creek was considered not significant due to the retention of Davidson surface and groundwater flows in Davidson Creek and the ability of salmonid fish (rainbow trout and kokanee) to adapt to new circumstances.

There were no cumulative effects on fish habitat because no other projects or activities are predicted to affect this VC. Therefore, effects on fishing due to changes in quality or abundance of fish are also not expected. The predictions of the effects assessment on fish and fish habitat will be monitored continuously for the life of the Project.

7.2.7.4.3.1 Lhoosk'uz Dene Nation

The potential effects for LDN current fishing practices will result from changes related to the mine site area, mine access road, and FSS, which overlap their traditional territory as well as portions of the transmission line ROW and Kluskus FSR. Although, fishing activity occurs throughout the LDN traditional territory the following section will focus on fishing activity in or near the Project footprint. The Blackwater River and its tributaries (i.e. Tsacha Lakes) were identified as critical

fishing areas for LDN. The Proponent made substantive changes to the Project design, including on-site and off-site infrastructure, to avoid the Blackwater River drainage.

Fishing is an important activity for LDN people, historically and currently. Indeed, fish continues to be a primary food staple and source of protein and comprises a major food source for the family residing at Tatelukus Lake Indian Reserve #28 (LDN elders, 2013; Indigenous Work Force, 2013). Interviews and discussions with LDN representatives and members, Tatelukuz and Kuyakuz lakes, parts of Davidson Creek, and Chedakuz Creek are identified as areas where fishing currently occurs. The discussion will center on those waterbodies in the study area. LDN harvests a range of fish species, including kokanee, trout, suckers, whitefish, and ling cod in these areas.

7.2.7.4.3.1.1 Changes in the Availability of Harvested Resources

The potential changes in the availability of harvested fish resources for LDN is quantified through spatial analysis of fish habitat losses in the LDN traditional territory. The loss of fish and habitat type is presented in **Table 7.2.7-13**.

Table 7.2.7-13: Loss of Fish and Fish Habitat Type for LDN

Fish Species	Habitat Units
Rainbow Trout	144,207
Kokanee	0
Food & Nutrient Production	80,438
Total	224,645 (HU)
	161,218 (m²)

Five separate projects (fish habitat enhancement projects) are proposed by the Proponent to offset the residual effects to fish caused by the Project. These include three “on-site” projects within the Davidson and Creek 661 watersheds (enlargement of Lake 01682LNRS; construction of two overwintering and summer rearing ponds near the middle reaches of Davidson Creek; and construction of an overwintering and summer rearing pond near the middle of Creek 661). In addition, two “off-site” projects are proposed including the restoration of fish habitat in the Mathews Creek watershed (which is in LDN’s traditional territory).

After mitigation and compensation measures, it is expected that there will be gains in fish habitat of 386,785 (HU) or 153,699 (m²). As a result of mitigation, no significant residual effects to fish availability in LDN traditional territory are predicted.

There will be small reductions in flow of lower Chedakuz Creek during operations, closure and post-closure compared to baseline flows. Those small reductions in flow will result in small reductions in the quantity and quality of fish habitat in the stream during summer and winter. For some life-stages such as rainbow trout spawners and kokanee spawners the amount of habitat will decrease as a result of flow reduction, but only by 4% to 6%. For other life-stages such as rainbow trout fry the amount of habitat will increase slightly during spring as a result of flow

reduction. It is unlikely that these small changes in habitat quantity and quality will result in measurable changes in fish numbers in lower Chedakuz Creek. This is particularly applicable to those species that are components of Aboriginal fisheries such as kokanee, suckers, mountain whitefish and burbot that spend most of their lives in Tatelkuz Lake and use Chedakuz Creek only for spawning and embryo incubation.

There are no expected significant changes to fish availability in Tatelkuz Lake, Chedakuz Creek nor in the middle and lower reaches of Davidson Creek. Based on input by LDN, the Proponent designed the Project to avoid the lower reaches of Davidson Creek. It was found that LDN fisheries values were higher in the lower reaches of Davidson Creek where Kokanee salmon spawning occurs and the Project was designed to avoid effects in this area. No effects to availability of kokanee, trout, suckers, mountain whitefish, ling cod and burbot are predicted in Tatelkuz Lake.

The availability of fish resources for harvesting by LDN members is not predicted to change in any of these areas. However, the upper reaches of Davidson Creek will be permanently altered from the commencement of Project construction. There will be a permanent loss of fish and fish habitat in the upper reaches of Davidson Creek, however no data sources to date have identified current fish harvesting in the upper reaches of Davidson Creek.

The introduction of workers potentially fishing in these creeks and lakes will be mitigated through no fishing policies for workers resident at site during their shifts. The development of the mine access road may indirectly increase outside competition for resources due to greater accessibility. To mitigate these effects in LDN traditional territory, there will be a security station and gate to prevent public use of the mine access road. The Proponent is establishing an access management working group (of which LDN representatives will be invited to participate in) to discuss access management issues. Ongoing consultation with LDN will occur with respect to design and implementation of the final TAMP.

7.2.7.4.3.1.2 Changes in Access to Land and Resources

As discussed, the LDN identified Tatelkuz Lake, Chedakuz Creek and portions of Davidson Creek as key fishing locations. Access to these water bodies will not be changed by the Project.

Access to Tatelkuz Lake from the south (i.e., from Kluskus IR #1 or the Alexander Mackenzie Trail) will not be impeded from the presence of a freshwater supply system. The freshwater pipeline will be buried so as not affect access and it will be buried alongside an existing FSR to avoid additional disturbance. The family residing at IR#28 utilize Tatelkuz Lake for navigation activities such as canoeing and boating. No effects to navigation in this lake are anticipated.

The only new access resulting from the Project is the new mine access road that will be constructed from the Kluskus FSR into the mine site (which will be gated for site security purposes), the airstrip access road, and the transmission line ROW, none of which are currently used to access these water bodies.

7.2.7.4.3.1.3 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases of the Project may produce a change in the experience of using lands and resources for fishing purposes. With respect to noise, noticeable changes to baseline daytime and night time noise levels are expected to occur around the mine site and along the mine access road. Noise modelling did not predict daytime (55 dBA) or nighttime (45 dBA) noise exceedance at any human receptor locations in the area including, Tatelkuz Lake IR 28, which is located approximately 15 km from the mine site. The mine site operational noise will be attenuated to the background level of 31 dBA at approximately 4 km to the east and west, and 6 km to the north and south. Noise from related truck traffic during construction and operations may be noticeable for those harvesting fish on lower Chedakuz Creek. Noise from the FSS will only be detectable at the pumphouse on the southeast side of Tatelkuz Lake where there may be some low noise associated with the structure. Any maintenance associated with the pumphouse may also produce minor noise disturbances but it will be infrequent. As discussed, the freshwater pipeline will be buried to reduce visual disturbances around Tatelkuz Lake.

7.2.7.4.3.1.4 Changes to the Quality of Resources

LDN representatives expressed concern about potential changes to the quality of resources- in this case, contamination of fish for human consumption. The Project will generate air and liquid effluent emissions. However, the surface water quality assessment has indicated that the water quality in receiving streams (after mixing) downstream of the TSF is expected to meet BC Freshwater Guidelines or site-specific water quality objectives. Therefore, this is not expected to result in harmful accumulation and release of metals from downstream surface water.

A HHERA was conducted to assess the effects of exposures to COPC on the health of people living in the vicinity of the Project. The HHERA model used worst-case conservative exposure scenarios, including for those Aboriginal peoples residing in the area (Tatelkuz Lake Indian Reserve #28) and practicing traditional harvesting of country foods (fishing). The HHERA also considered all possible exposure pathways at the different phases of the Project from Construction to Post-Closure. Based on the HHERA results, the residual health effects were determined to be not significant (negligible) during all phases of the Project.

Given that the potential contamination of country foods has been raised as a serious concern by LDN, the Proponent has committed to engaging LDN in ongoing environmental monitoring, and this includes the Country Foods Monitoring Program.

7.2.7.4.3.1.5 Characterization of Residual Effects on LDN

The residual effect on current LDN fishing practices is negative since there is a loss of fish and fish habitat in the upper reaches of Davidson Creek and fish are an important source of food. The magnitude of the impact is low since the Project affects a very small area (relative to overall number of water bodies used for fishing in the area), and will not impede fishing in the other areas of the RSA or LSA. The effect is site specific, confined to the area directly disturbed/affected by the Project (footprint as well as areas now inaccessible due to Project), and is permanent. The

effect is irreversible and continuous. There is a high likelihood that the effect will occur. The effect is considered not significant (minor) since the effect is low in magnitude and site specific in geographic extent. Confidence in this prediction is moderate since mitigation of potential effects is well understood. However, it should be noted that information on current fishing for traditional purposes by the LDN was gathered from only a few members of the LDN, and therefore there could be some variation within the LDN membership about the importance and use of the upper reaches of Davidson Creek.

7.2.7.4.3.2 Nadleh Whut'en First Nation

While there is no site-specific TK/TLU information about locations where the NWFN members fish for traditional purposes, their traditional territory overlaps with the northern portion of the LSA where the transmission line is proposed and crosses the Nechako River. Discussions with NWFN were underway regarding a TK/TLU study at the time of writing. When TK/TLU information about fishing is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting and monitoring. Secondary research indicates that NWFN members currently fish all over their traditional territory; in particular the Nechako River which is an important site for sockeye production (and an area of importance to NWFN). Secondary research demonstrates the NWFN are also concerned about the existing population of white sturgeon in the Nechako River (Carrier Sekani Tribal Council, 2006). Consultation with NWFN also indicates concerns related to effects on fishing (for salmon and white sturgeon) in the Nechako River.

In the absence of Project specific TK/TLU data, the section below aims to provide a general discussion of how the Project may interact with current fishing activities in NWFN traditional territory, recognizing that it is limited due to a lack of specific use data. The potential effects for NWFN current fishing practices will focus on the area of the proposed transmission line ROW.

7.2.7.4.3.2.1 Changes in the Availability of Harvested Resources

Section 5.2.8 provides a detailed discussion on potential effects to fish, and does not anticipate any effects to fish in the Nechako River. Existing crossing structures will be used to cross the Nechako River and erosion and sediment control measures (e.g., erosion control matting and hydro seeding) will be used to protect erodible soils around stream crossings. Riprap and other erosion and sediment control measures will be incorporated into all new temporary stream crossing designs where required. Silt fencing will be used to limit sediment from reaching fish-bearing watercourses where required.

After mitigation measures, there are no predicted effects to fish, including availability, expected in the Nechako River. The availability of fish resources for harvesting by NWFN members is not predicted to change in any of these areas.

The introduction of workers potentially fishing in these rivers will be mitigated through no fishing policies for workers during their shifts. The development of the transmission line ROW may indirectly increase outside competition for resources due to greater accessibility. To mitigate these

effects in NWFN traditional territory, the Proponent is establishing an access management working group (of which NWFN representatives will be invited to participate in) to discuss access management issues. Ongoing consultation with NWFN will occur with respect to design and implementation of the final TAMP.

7.2.7.4.3.2.2 No Changes in Access to Land and Resources

As discussed, the NWFN identified fishing activity in the Nechako River. Access to the Nechako River will not be impeded from the presence of the transmission line ROW, however it may be facilitated by the Project. As discussed above, access management strategies will be discussed with NWFN to avoid competition from non-Aboriginal fish harvesters'.

7.2.7.4.3.2.3 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases related to the transmission line may produce a change in the experience of using lands and resources for fishing purposes. To reduce visual changes, grass and brush will be allowed to colonize the ROW where possible. Ongoing communication with NWFN on this issue is anticipated. The transmission line alignment has been designed to take advantage of existing rights-of-way, existing shared access, and other infrastructure to the extent feasible to avoid additional surface disturbance. Approximately 70% of the transmission line follows existing disturbance.

With respect to noise, noticeable changes may occur during construction of the transmission line and interact with the experience of fishing. Noise from transmission line construction will be limited to the construction phase only (apart from any necessary maintenance during operations). The construction phase is expected to last 12 months, so construction work at any particular location should be temporary (i.e. weeks) as the construction crews will advance at a speed of approximately 2.5 km per week.

7.2.7.4.3.2.4 Changes to the Quality of Resources

The construction and operation of the transmission line, the upgrades proposed for the Kluskus FSR and the transportation of workers and materials along the Kluskus FSR to the mine site, do not have the potential to generate COPCs in quantities that could affect the health of fish in the NWFN traditional territory.

The construction of the transmission line ROW will last approximately 12 months and disturbance at a certain location will be temporary (i.e. weeks). The additional traffic generated by the Project along the FSR will be generated during the construction and operations phase of the project, but noise and air quality disturbances will be confined to areas immediately adjacent to the FSR, where no human receptors have been identified. The risk of accidents along the Kluskus FSR that could generate contamination (i.e. spills of chemicals or fuels) will be mitigated through traffic control (e.g. speed limits) and health and safety measures as described in the Accidents and Malfunctions section 10 of the Application. Given the lack of site specific fishing information for NWFN, it is difficult to assess the effects to current fishing practices. The Proponent looks forward to ongoing

dialogue with NWFN to better understand how the Project may interact with NWFN current fishing practices. When related TK/TLU information is received, the Proponent will consider it in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.3.3 Saik'uz First Nation

The SFN fish 'all around the region' including in the Nechako River for salmon and for kokanee in a variety of lakes. The SFN traditional territory is to the north and east of the mine site portion of the LSA. A keyoh holder also noted the presence of a family fish trap on the portion where the transmission line crosses Greer Creek (trout was noted to be the major fish species sought after in the keyoh near Greer Creek). TK/TLU information about locations where other SFN members fish for traditional purposes was not available at the time of writing but the SFN traditional territory overlaps portions of the LSA where the transmission line is proposed and crosses the Nechako River as well as where the transmission line crosses Greer Creek. A family noted that the Greer Creek transmission line crossing is very close to an SFN fish camp within their keyoh. However, the Greer Creek transmission line crossing is approximately 20 kilometres north of the northern boundary of the family's registered trapline.

At the time of writing, an SFN TK/TLU was being completed. When TK/TLU information about fishing is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting and monitoring.

Although no specific sites for fishing were identified, the section below aims to provide a general discussion of how the Project may affect current fishing activities in SFN traditional territory, recognizing that it is limited due to a lack of specific use data. Given these limitations, this section will describe potential effects to current fish harvesting in the only areas identified (the Nechako River and Greer Creek- both of which are traversed by the transmission line).

7.2.7.4.3.3.1 Changes in the Availability of Harvested Resources

Section 5.3.8 provides a detailed discussion on potential effects to fish, and does not anticipate any effects to the availability of fish in the Nechako River nor Greer Creek. Erosion and sediment control measures (e.g., erosion control matting and hydro seeding) will be used to protect erodible soils around stream crossings. Riprap and other erosion and sediment control measures will be incorporated into all new temporary stream crossing designs where required. Silt fencing will be used to limit sediment from reaching fish-bearing watercourses where required.

The Project was designed to avoid effects to fish. After mitigation measures; there are no predicted effects to fish, including availability, expected in the Nechako River. The availability of fish resources for harvesting by SFN members is not predicted to change in any of these areas as a result of the transmission line.

Although no loss of fish or fish habitat are expected in SFN traditional territory, the Proponent is considering off-site locations for the FMOP to compensate for fish lost in the mine site. One of the

options under consideration includes enhancing fish habitat in Greer Creek. This option is being discussed with SFN and other nearby tenure holders.

7.2.7.4.3.3.2 Changes in Access to Land and Resources

The SFN identified fishing activity in the Nechako River and Greer Creek although specific harvesting sites were not provided. Access to the Nechako River will not be impeded from the presence of the transmission line ROW, however it may be facilitated by the Project. The introduction of workers potentially fishing in these waterbodies will be mitigated through no fishing policies for workers during their shifts.

The development of the transmission line ROW may indirectly increase outside competition for fish resources due to greater accessibility. To mitigate these effects in SFN traditional territory, the Proponent is establishing an access management working group (of which SFN representatives will be invited to participate in) to discuss access management issues. Ongoing consultation with SFN will occur with respect to design and implementation of the final TAMP. There will be a security station and gate to prevent public use of the mine access road. With respect to the Greer Creek transmission line crossing, the surrounding area is already accessible via the Kenney Dam Road and the Greer Creek Recreation Site. Two lodges (the Nechako Retreat and Crystal Lake Cabins) also operate in the area.

7.2.7.4.3.3.3 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases related to the transmission line may produce a change in the experience of using lands and resources for fishing purposes. To reduce visual changes, grass and brush will be allowed to colonize the ROW where possible. Ongoing communication with SFN on this issue is anticipated. The transmission line alignment has been designed to take advantage of existing rights-of-way, existing shared access, and other infrastructure to the extent feasible to avoid additional surface disturbance. Approximately 70% of the transmission line follows existing disturbance.

With respect to noise, noticeable changes may occur during construction of the transmission line and interact with the experience of fishing. Noise from transmission line construction will be limited to the construction phase only (apart from any necessary maintenance during operations). The construction phase is expected to last 12 months, so construction work at any particular location should be temporary (i.e., weeks) as the construction crews will advance at a speed of approximately 2.5 km per week.

7.2.7.4.3.3.4 Changes to the Quality of Resources

The construction and operation of the transmission line, the upgrades proposed for the Kluskus FSR and the transportation of workers and materials along the Kluskus FSR to the mine site, do not have the potential to generate COPCs in quantities that could affect the health of fish in the SFN traditional territory.

The construction of the transmission line ROW will last approximately 12 months and disturbance at a certain location will be temporary (i.e., weeks). The additional traffic generated by the Project along the FSR will be generated during the construction and operations phase of the project, but noise and air quality disturbances will be confined to areas immediately adjacent to the FSR, where no human receptors have been identified. The risk of accidents along the Kluskus FSR that could generate contamination (i.e., spills of chemicals or fuels) will be mitigated through traffic control (e.g. speed limits) and health and safety measures as described in the Accidents and Malfunctions section 10 of the Application.

The Proponent looks forward to ongoing dialogue with SFN to better understand how the Project may interact with SFN current fishing practices. Based on the discussion above, no adverse effects are anticipated on current fishing practices for Greer Creek or the Nechako River. When related TK/TLU information is received, the Proponent will consider it in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.3.4 Stelat'en First Nation

StFN members use a variety of fishing practices (e.g., hook and line fishing, netting, traps, barricades). They harvest many different species. Salmon, char, whitefish and trout – with salmon being the most important – were most referenced during interviews in relation to subsistence fisheries. However, other species (e.g., suckers and minnows) are also harvested and used (e.g., for bait or food for domestic animals). StFN communities use rivers (e.g., the Endako and the Stellako Rivers) and lakes (e.g., Fraser and Francois Lakes) as important habitat to support their fishing practices (Triton 2014).

The StFN LRUS (Proponent Version; Triton 2014) does not identify specific fishing locations. The Proponent is consulting with StFN about its preferred methods to share information about fishing practices that may be affected by the Project and to develop methods to mitigate any potential adverse effects.

Although there is an absence of site-specific TK/TLU information where the StFN might harvest fish in the Project area, their traditional territory overlaps with the northern portion of the LSA where the transmission line is proposed and crosses the Stellako River. Accordingly, effects on fishing have been assessed based on the assumption that some fishing activity occurs on the Stellako around the proposed transmission line crossing. This crossing has been identified as a concern for fishing practices, particularly any potential effects to salmon.

The section below aims to provide a general discussion of how the Project may interact with StFN current fishing activities, recognizing that it is limited due to a lack of site-specific use data. The potential effects for StFN current fishing practices will focus on the area of the proposed transmission line crossing. **Section 5.3.8** provides a detailed discussion on potential effects to fish, and does not anticipate any effects to fish in the Stellako River.

7.2.7.4.3.4.1 Changes in the Availability of Harvested Resources

Section 5.2.8 provides a detailed discussion on potential effects to fish, and does not anticipate any effects to fish in the Stellako or Nechako Rivers. Erosion and sediment control measures (e.g., erosion control matting and hydro seeding) will be used to protect erodible soils around stream crossings. Riprap and other erosion and sediment control measures will be incorporated into all new temporary stream crossing designs where required. Silt fencing will be used to limit sediment from reaching fish-bearing watercourses where required.

The Project was designed to avoid effects to fish. After mitigation measures; there are no predicted effects to fish, including availability, expected in the Stellako River nor in the Nechako River. The availability of fish resources for harvesting by StFN members is not predicted to change in any of these areas as a result of the transmission line.

7.2.7.4.3.4.2 Changes in Access to Land and Resources

As discussed, the StFN identified fishing activity in the Stellako River. Access to the Stellako River will not be impeded from the presence of the transmission line ROW, however it may be facilitated by the Project. The introduction of workers potentially fishing in these rivers will be mitigated through no fishing policies for workers during their shifts. The development of the transmission line ROW may indirectly increase outside competition for resources due to greater accessibility. To mitigate these effects in StFN traditional territory, the Proponent is establishing an access management working group (of which StFN representatives will be invited to participate in) to discuss access management issues.

7.2.7.4.3.4.3 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases related to the transmission line may produce a change in the experience of using lands and resources for fishing purposes. To reduce visual changes, grass and brush will be allowed to colonize the ROW where possible. Ongoing communication with StFN on this issue is anticipated. The transmission line alignment has been designed to take advantage of existing rights-of-way, existing shared access, and other infrastructure to the extent feasible to avoid additional surface disturbance. Approximately 70% of the transmission line follows existing disturbance.

With respect to noise, noticeable changes may occur during construction of the transmission line and interact with the experience of fishing. Noise from transmission line construction will be limited to the construction phase only (apart from any necessary maintenance during operations). The construction phase is expected to last 12 months, so construction work at any particular location should be temporary (i.e. weeks) as the construction crews will advance at a speed of approximately 2.5 km per week.

7.2.7.4.3.4.4 Changes to the Quality of Resources

The construction and operation of the transmission line do not have the potential to generate COPCs in quantities that could affect the health of fish in the StFN traditional territory. The

construction of the transmission line ROW will last approximately 12 months and disturbance at a certain location will be temporary (i.e. weeks). The risk of accidents along the Kluskus FSR that could generate contamination (i.e. spills of chemicals or fuels) will be mitigated through traffic control (e.g. speed limits) and health and safety measures as described in the Accidents and Malfunctions **Section 10** of the Application.

Given the lack of site-specific fishing information for StFN, it is difficult to assess the effects to current fishing practices. The Proponent looks forward to ongoing dialogue with StFN to better understand how the Project may interact with StFN current fishing practices. When related TK/TLU information is received, the Proponent will consider it in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.3.5 *Ulkatcho First Nation*

The UFN have identified fishing at Tatelkuz Lake, Chedakuz Creek, and Kuyakuz Lake⁴. The UFN TK/TLU study also identified Moose Lake and Johnny Lake as areas of intensive use near the Project area. Species harvested include suckers, lingcod, salmon, and trout. Steelhead is also taken, likely from the Blackwater River. The Blackwater River and its tributaries (i.e. Tsacha Lake) were identified as critical fishing areas for UFN. The Proponent made substantive changes to the Project design, including on-site and off-site infrastructure, to avoid the Blackwater River drainage. The UFN have a fish camp at the north end of Kuyakuz Lake, although the specific location has not been identified. No effects from the Project are expected near Kuyakuz Lake.

The potential effects for UFN current fishing practices will be specific to the mine site area and mine access road, which overlap their traditional territory as well as small portions of the freshwater pipeline, transmission line ROW and Kluskus FSR. Although, fishing activity occurs throughout the UFN traditional territory the following section will focus on fishing activity in or near the Project footprint. The TLUS study identifies fishing as an important activity for UFN.

7.2.7.4.3.6 *Changes in the Availability of Harvested Resources*

The potential changes in the availability of harvested fish resources for UFN is quantified through spatial analysis of fish habitat losses in the UFN traditional territory (**Table 7.2.7-14**).

Table 7.2.7-14: Loss of Fish and Fish Habitat Type for UFN

Fish Species	Habitat Units
Rainbow Trout	128,534
Kokanee	0
Food & Nutrient Production	71,119
Total	199,653 (HU)
	135,487 (m2)

⁴ These waterbodies are located outside the UFN traditional territory boundary.

BLACKWATER GOLD PROJECT

APPLICATION FOR AN
ENVIRONMENTAL ASSESSMENT CERTIFICATE /
ENVIRONMENTAL IMPACT STATEMENT
ASSESSMENT OF POTENTIAL SOCIAL EFFECTS



Five separate projects (fish habitat enhancement projects) are proposed by the Proponent to offset the residual effects to fish caused by the Project. These include three “on-site” projects within the Davidson and Creek 661 watersheds (enlargement of Lake 01682LNRS; construction of two overwintering and summer rearing ponds near the middle reaches of Davidson Creek; and construction of an overwintering and summer rearing pond near the middle of Creek 661). In addition, two “off-site” projects are proposed including the restoration of fish habitat in the Mathews Creek watershed (which is in UFN’s traditional territory).

After mitigation and compensation measures, it is expected that there will be gains in fish habitat of 386,785 (HU) or 153,699 (m²). As a result of mitigation, no significant residual effects to fish availability in UFN traditional territory are predicted.

There are no expected significant changes to fish availability in Tatelkuz Lake, Chedakuz Creek nor in the middle and lower reaches of Davidson Creek. Based on input by Aboriginal groups, the Proponent designed the Project to avoid the lower reaches of Davidson Creek. It was found that Aboriginal fisheries values were higher in the lower reaches of Davidson Creek where Kokanee salmon spawning occurs and the Project was designed to avoid effects in this area. No effects to availability of kokanee, trout, suckers, mountain whitefish, ling cod and burbot are predicted in Tatelkuz Lake.

No changes to fish or fish habitat will occur in Moose Lake and Johnny Lake. The availability of fish resources for harvesting by UFN members is not predicted to change in any of these areas. However, the upper reaches of Davidson Creek will be permanently altered from the commencement of Project construction. There will be a permanent loss of fish and fish habitat in the upper reaches of Davidson Creek, however no data sources to date have identified current fish harvesting in the upper reaches of Davidson Creek.

7.2.7.4.3.6.1 Changes in Access to Land and Resources

As discussed, the UFN identified Moose and Johnny Lakes as key fishing areas. The Project will not affect access to these waterbodies nor will it facilitate access by outside users as the transmission line and Kluskus FSR are not located near these lakes.

How UFN members access Tatelkuz Lake, Chedakuz Creek and Kuyakuz Lake is unknown at the time of writing but access to these water bodies using historic trails (Alexander Mackenzie Trail, Messue Wagon Trail) will not be impeded by the Project, nor will road access using the Kluskus Ootsa FSR.

The introduction of workers potentially fishing in nearby creeks and lakes will be mitigated through no fishing policies for workers resident at site during their shifts. The development of the mine access road may indirectly increase outside competition for resources due to greater accessibility. To mitigate these effects in UFN traditional territory, the Proponent is establishing an access management working group (of which UFN representatives will be invited to participate in) to discuss access management issues. There will also be a security station and gate to prevent public

use of the mine access road. Ongoing consultation with UFN will occur with respect to design and implementation of the final TAMP.

7.2.7.4.3.6.2 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases of the Project may produce a change in the experience of using lands and resources for fishing purposes. With respect to noise, noticeable changes to baseline daytime and night time noise levels are expected to occur around the mine site and along the mine access road. Noise modelling did not predict daytime (55 dBA) or nighttime (45 dBA) noise exceedance at any human receptor locations in the area including, Tatelkus Lake IR 28, which is located approximately 15 km from the mine site. The mine site operational noise will be attenuated to the background level of 31 dBA at approximately 4 km to the east and west, and 6 km to the north and south. Noise from related truck traffic during construction (at the peak about to 2 additional trucks per hour) and operations may produce some noise disturbances. Noise from the FSS will only be detectable at the pumphouse on the southeast side of Tatelkuz Lake where there may be some low noise associated with the structure. Any maintenance associated with the pumphouse may also produce minor noise disturbances but it will be infrequent. As discussed, the freshwater pipeline will be buried to reduce visual disturbances around Tatelkuz Lake.

7.2.7.4.3.6.3 Changes to the Quality of Resources

UFN representatives expressed concern about potential changes to the quality of resources- in this case, contamination of fish for human consumption. The Project will generate air and liquid effluent emissions. However, the surface water quality assessment has indicated that the water quality in receiving streams (after mixing) downstream of the TSF is expected to meet BC Freshwater Guidelines or site-specific water quality objectives. Therefore, this is not expected to result in harmful accumulation and release of metals from downstream surface water.

The residual effect on current UFN fishing practices is negative since there is a loss of fish and fish habitat in the upper reaches of Davidson Creek and fish are an important source of food. The magnitude of the impact is low since the Project affects a very small area (relative to overall number of water bodies used for fishing in the area), and will not impede fishing in the other areas of the RSA or LSA. The effect is site specific, confined to the area directly disturbed/affected by the Project, and is permanent. The effect is irreversible and continuous. There is a high likelihood that the effect will occur. The effect is considered not significant (minor) since the effect is low in magnitude and site specific in geographic extent. Confidence in this prediction is moderate since mitigation of potential effects is well understood. However, it should be noted that information on current fishing for traditional purposes by the UFN relies solely on the TLUS study, and therefore there could be some variation within the UFN membership about the importance and use of the upper reaches of Davidson Creek.

7.2.7.4.3.6.4 Characterization of Residual Effects on UFN

The residual effect on current UFN fishing practices is negative since there is a loss of fish and fish habitat in the upper reaches of Davidson Creek, which is within UFN's traditional territory. The magnitude of the impact is low since the Project affects a very small area (relative to overall number of water bodies used for fishing in the area), and will not impede fishing in the other areas of the RSA or LSA. The effect is site specific, confined to the area directly disturbed/affected by the Project (footprint as well as areas now inaccessible due to Project), and is permanent. The effect is irreversible and continuous. There is a high likelihood that the effect will occur. The effect is considered not significant (minor) since the effect is low in magnitude and site specific in geographic extent. Confidence in this prediction is moderate since mitigation of potential effects is well understood.

However, it should be noted that information on current fishing for traditional purposes by the UFN was relies solely on the TLUS study.

7.2.7.4.3.7 Nazko First Nation

NFN traditional territory overlaps with a portion of the Kluskus FSR in the RSA and LSA northeast of the mine site. None of the fish or fish habitat in this portion of the Project area will be adversely affected.

7.2.7.4.3.8 Skin Tyee First Nation

The STN fish for traditional purposes in the Morice River, its tributaries, and at Uncha Lake. None of these waterbodies are within the RSA or LSA. The STN traditional territory overlaps virtually all of the RSA and LSA for the Project. The residual effect to STN on fishing for traditional purposes may be therefore, similar to that noted for the LDN if they fish in the upper reaches of Davidson Creek. Given the very large size of the territory relative to the small affected area, and the presence of many other water bodies for fishing, the probability that they rely heavily on Davidson Creek to fish for traditional purposes is considered low. When TK/TLU information about fishing is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting and monitoring. Therefore, no residual effects on fishing for traditional purposes are expected.

7.2.7.4.3.9 Tsilhqot'in National Government

To date, the TNG have not identified CLRUTP that may be affected by the Project, however the Proponent looks forward to ongoing dialogue with TNG. If a use that could interact with the Project is identified, information will be considered in the Project design, execution, management plans, permitting and monitoring.

If a use that could result in an effect is documented, information will be considered in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.3.10 *Métis Nation British Columbia*

If the MNBC members fish in the upper reaches of Davidson Creek, the residual effect on their fishing for traditional purposes may be similar to that noted for the LDN. Given the presence of many other water bodies for fishing in the region, the probability that they rely heavily on Davidson Creek to fish for traditional purposes is considered low. Therefore, no residual effects on fishing for traditional purposes are expected. If a use that could result in an effect is documented, information will be considered in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.4 Residual Effects on Plant Gathering

This section provides a brief overview of the anticipated residual effects on plants for the LSA and RSA. A more detailed discussion of residual effects to current plant gathering land uses by each Aboriginal group is presented in the following sections.

A number of related effects assessments provide insight into how fishing and fish habitat may potentially be affected. Detailed descriptions of the effects on fish and fish habitat are provided in **Sections 5.3.8** and **Section 5.3.9**. The results of these assessments are provided below as the effects predictions in these sections provide insights into the effects predictions for CLRTUP. Locations of the water bodies and watersheds referenced in this section are shown in **Section 5.1.2.6**.

Detailed information about the effects on plants used for traditional purposes and mitigations for any adverse effects are contained in **Section 5.4.5** (Ecosystem composition) and summarized below as the effects predictions in these sections provide insights into the effects predictions for CLRUTP.

Ecosystem composition refers to the diversity of ecosystems present within the Project area, as well as sensitive ecosystems (riparian, old growth forest and sparsely vegetated ecosystems). Ecosystems are classified using the provincial biogeoclimatic classification system, and mapped as part of the vegetation baseline program. The Project will affect the ecosystem composition VC by the removal of vegetation, including site clearing and grubbing, primarily during construction. One of the five indicators used to assess effects on ecosystem composition was traditional use plants.

A variety of berry-producing plants were selected as an indicator of traditional use plants (**Figure 7.2.7-1**). It is recognized that there are a wide range of traditional use plants that would occur throughout other ecosystem composition indicators including old growth forests and riparian areas. Consultation with Aboriginal groups helped to identify traditional use plants to be assessed. A total of 19 upland berry-producing species were chosen to represent traditional use and were confirmed to occur in the Project area by the baseline field program. All are upland plant species and are listed in **Table 7.2.7-15**. The leaves, stems, and roots are used for food, medicine, or tea. (Young and Hawley, 2004; Turner, 1997).

Table 7.2.7-15: Traditional Use Plant Species

Scientific Name	Common Name
<i>Amelanchier alnifolia</i>	Saskatoon
<i>Arctostaphylos uva-ursi</i>	kinnickinnick
<i>Fragaria virginiana</i>	wild strawberry
<i>Prunus pensylvanica</i>	pin cherry
<i>Ribes glandulosum</i>	skunk currant
<i>Ribes hudsonianum</i>	northern black currant
<i>Ribes lacustre</i>	black gooseberry
<i>Ribes sp.</i>	currant or gooseberry
<i>Ribes triste</i>	red swamp currant
<i>Rubus idaeus</i>	red raspberry
<i>Rubus parviflorus</i>	thimbleberry
<i>Rubus pedatus</i>	five-leaved bramble
<i>Rubus pubescens</i>	dwarf red-raspberry
<i>Shepherdia canadensis</i>	soopolalie
<i>Vaccinium caespitosum</i>	dwarf blueberry
<i>Vaccinium membranaceum</i>	black huckleberry
<i>Vaccinium myrtilloides</i>	velvet-leaved blueberry
<i>Vaccinium scoparium</i>	grouseberry
<i>Viburnum edule</i>	highbush cranberry

Ecosystem composition loss was predicted for traditional use plants. For some Project components, such as the transmission line, Project effects on ecosystem composition will be relatively minor. For this type of effect, reclamation efforts at closure are expected to be successful in restoring ecosystems similar to baseline. The Project components (from the mine site and linear features) will remove 2,852 ha (26%) of the traditional plant use habitat due to clearing within the LSA used for assessment of effects on ecosystem composition (**Section 5.4.5**). At post-closure and after reclamation has been successful, 1,377 ha (13%) of traditional use plants within the ecosystem composition LSA will remain as a permanent, long-term loss. This would represent very small proportions of any of the First Nations traditional territories that overlap with the CLRUTP RSA and LSA.

In other areas, in particular the mine site, disturbance is expected to remove all vegetation and topsoil, creating what is termed “mine-related landforms” at closure. The reclamation outcome of this type of landform will be substantially different from baseline condition, and will be calculated as permanent loss of those ecosystems. A total of 1,495 ha (12%) of baseline ecosystems in the combined (mine site combined with the road and transmission line) LSA occur on mine related landforms. These ecosystems include riparian (20%), old growth forest (10%), and traditional use plant habitat (13%). The effects are local, a one-time occurrence, the magnitude is moderate. Native plant species will be used during reclamation and a mitigation plan implemented.

The assessment of effects on current land and resources use conservatively assumes that the losses in availability of land and resources also include areas within the mine site that will not be cleared of vegetation but that will become unavailable during the different phases of the proposed Project. Because of this reason, quantitative estimates of habitat losses for CLRUTP are higher than the ones presented in the ecosystem composition VC.

Other effects to ecosystem composition include dust as well as nitrogen deposition which may facilitate spread of invasive plants. Mitigation plans and measures have been developed, and when properly implemented will reduce or eliminate the threat of dust and invasive species. A small area near the mine site will be affected by nitrogen deposition, which may persist into the post-closure phase. However, given the small area affected and likely reversal of this effect over time, the significance ranking of nitrogen deposition effects at post-closure phase was not significant (minor).

7.2.7.4.4.1 Lhoosk'uz Dene Nation

The LDN noted they harvest a wide range of plants for food, medicine, and building materials. Plant gathering occurs “all over,” and is particularly plentiful around Tatelkuz Lake, and along trails—the Messue Wagon Trail, specifically. Tatelkuz Lake and the trail are within the LSA. However, none of these areas will be impacted by clearing vegetation for the mine site, mine site access road, airstrip, nor airstrip access road. Clearing of the ROW for the transmission line (and Mills Range route option) overlaps with areas that may be used for plant gathering, where the ROW crosses the Messue Wagon Trail. This will affect a small portion of the areas that are used for plant harvesting within the LSA, and may increase access to other areas to gather traditionally used plants. A discussion of the effects to current plant gathering is presented below.

7.2.7.4.4.1.1 Changes in the Availability of Harvested Resources

According to the ecosystem effects assessment (**Section 5.4.5**), activities during the Project phases may result in changes to the abundance and distribution to plant resources within LDN territory. The potential changes in the availability of harvested traditional plants for LDN is quantified through spatial analysis of habitat losses in the LDN traditional territory (**Table 7.2.7-16**). Habitat losses are largely due to the clearing of the mine site. There are no effects on LDN traditional plant gathering along the Kluskus FSR since there was no significant effect on traditionally used plants from dust deposition along the Kluskus FSR and this road was not noted as an area that was used for plant gathering.

Table 7.2.7-16: Potential Changes in the Availability of Traditional Plant Habitat for LDN

Project Component	Changes in the Availability of Traditional Plant Habitat (ha)
Mine (mine site, mine access road, airstrip and FSS)	3,709
Transmission	178
Kluskus FSR	34
Total	3,921 ha

As expected, the majority of the changes in traditional plant habitat occurs as a result of the clearing of the mine site. In total, 3,921 (18%) of the traditional plant habitat that is present in the RSA and LDN traditional territory for vegetation will be lost during operations and construction. During interviews, LDN elders noted they pick traditional plants at lower elevations around lakes such as Kuyakuz Lake and Tatelkuz Lake. An abundance of berries and medicinal plants exist on the south and south-east sides of Tatelkuz Lake.

7.2.7.4.4.1.2 Changes in Access to Land and Resources

Based on interviews conducted with the family residing at Tatelkus Lake IR#28, nearby trapline holder and the TK/TLU data provided, preferred locations for gathering occurs around Tatelkuz Lake, particularly on the south and north east sides. An abundance of berries and traditional medicines are available in these areas. Project related activities will not reduce accessibility or use to these areas nor will it affect access to the Messue Wagon Trailor the Alexander Mackenzie Trail.

Access to Tatelkuz Lake from the south (i.e. from Kluskus IR #1 or the Alexander Mackenzie Trail) will not be impeded from the presence of a freshwater supply system. The freshwater pipeline will be buried so as not affect access and it will be buried alongside an existing FSR to avoid disturbance.

It is expected that there will be no access to the mine site for plant gathering until after post-closure. The mine site area was not noted by the LDN as a place for plant gathering.

7.2.7.4.4.1.3 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases of the Project is not expected to affect gathering locations around Tatelkuz Lake, Kuyakuz Lake and the Messue Wagon Trail. No visual or auditory effects are anticipated from the mine site in these locations.

Noise from the FSS will only be detectable at the pumphouse on the southeast side of Tatelkuz Lake where there may be some low noise associated with the structure. Any maintenance associated with the pumphouse may also produce minor noise disturbances but it will be infrequent. As discussed, the freshwater pipeline will be buried to reduce visual disturbances around Tatelkuz Lake.

7.2.7.4.4.1.4 Changes to the Quality of Resources

LDN representatives have expressed concern about potential changes to the quality of resources in this case, contamination of berries and plants for human consumption. The Project will generate air and liquid effluent emissions. A HHERA was conducted to assess the effects of exposures to COPC on the health of people living in the vicinity of the Project. The HHERA model used worst-case conservative exposure scenarios, including for those Aboriginal peoples residing in the area (Tatelkuz Lake Indian Reserve #28) and practicing traditional harvesting of country foods (i.e. gathering). The HHERA also considered all possible exposure pathways at the different phases of the Project from Construction to Post-Closure. Based on the HHERA results, the residual health effects were determined to be not significant (negligible) during all phases of the Project.

Given that the potential contamination of country foods has been raised as a serious concern by LDN, the Proponent has committed to engaging LDN in ongoing environmental monitoring, and this includes the Country Foods Monitoring Program.

7.2.7.4.4.1.5 Characterization of Residual Effects on LDN

There are no residual effects on plants gathered for traditional purposes from nitrogen or dust deposition at the mine site, since this area will not be available for plant gathering area during construction, operations and closure and during post-closure the air emissions will stop. Besides, mitigation plans and measures will be implemented to reduce or eliminate the threat of nitrogen or dust deposition in the mine site area and effects are considered not significant. Overall the effect on plant gathering for LDN traditional purposes is considered negative, since there is a loss of areas used for plant gathering within the LSA. Plant gathering is considered an important traditional use since plants are harvested for food, medicines, and building materials. The magnitude of the effect is considered low, but overall does not impede the activity, since traditionally used plants are widespread in the areas surrounding Tatelkuz Lake and along the upper portion of the Messue Wagon Trail towards Kuyakuz Lake and the Kluskus IR#1. The geographic extent of the effect is site specific since the effect is confined to the transmission line ROW crossing over the Messue Wagon Trail, and is long-term reversible, and continuous. Given the low magnitude and geographic extent, the effect is considered highly likely and not significant (minor). Confidence in this prediction is moderate since mitigation of potential effects on plants is well-understood and proven effective. However, it should be noted that information on current plant harvesting for traditional purposes by the LDN was gathered from only a few members of the LDN and the TK/TLU information provided. Therefore, there could be some variation within the LDN membership about the important areas for plant gathering.

7.2.7.4.4.2 Nadleh Whut'en First Nation

The NWFN traditional territory overlaps with the northern portion of the transmission line ROW. At the time of writing, no known areas of NWFN plant harvesting were identified. Given the territorial overlap, the effects to plant gathering in the StFN traditional territory may be similar to effects in NWFN traditional territory, which is described in **Section 7.2.7.4.4.4**. When site-specific TK/TLU information about plant harvesting is shared with the Proponent, the information will be considered

in the Project design, execution, management plans, permitting and monitoring. The potential changes in the availability of harvested traditional plants for NWFN is quantified through spatial analysis of habitat losses in the NWFN traditional territory (**Table 7.2.7-17**).

Table 7.2.7-17: Potential Changes in the Availability of Traditional Plant Habitat for NWFN

Project Component	Changes in the Availability of Traditional Plant Habitat (ha)
Mine (mine site, mine access road, airstrip and FSS)	0
Transmission	189
Kluskus FSR	8
Total	197

As expected, the majority of the changes in traditional plant habitat occurs as a result of the transmission line. In total, 197 ha (4%) of the traditional plant habitat that is present in the RSA and NWFN traditional territory for vegetation will be lost during construction. There is a potential loss of 197 ha of traditional use plants but the Proponent will make reasonable efforts not to remove traditional plants when constructing the transmission line within NWFN traditional territory (where feasible). The determination of significance for the residual effect of the Project on plant gathering was not conducted because at the time of writing no information was available about the current use of plant gathering in NWFN traditional territory and around the transmission line ROW.

7.2.7.4.4.3 Saik'uz First Nation

The SFN trapline holders interviewed noted they harvest a wide range of plants for medicinal and food purposes in their respective traplines. The SFN traditional territory overlaps with a portion of the transmission line ROW, and the majority of the Kluskus FSR. Effects on plants as a result of construction, operation, and closure phases of the transmission line, and dust from the traffic using the Kluskus FSR (including loss of traditional use plants, dust and nitrogen deposition, and invasive species) are discussed with respect to effects on SFN plant gathering. At the time of writing, an SFN TK/TLU study was underway. When TK/TLU information about plant harvesting is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting and monitoring. The following section presents a general discussion of how the Project may interact with current SFN plant gathering activities, in particular the two traplines where berry and medicinal plant harvesting was noted to occur.

7.2.7.4.4.3.1 Changes in the Availability of Harvested Resources

According to the ecosystem effects assessment (**Section 5.4.5**), activities during the Project phases may result in changes to the abundance and distribution to plant resources within SFN territory. The potential changes in the availability of harvested traditional plants for SFN is quantified through spatial analysis of habitat losses in the SFN traditional territory (**Table 7.2.7-18**).

Table 7.2.7-18: Potential Changes in the Availability of Traditional Plant Habitat for SFN

Project Component	Changes in the Availability of Traditional Plant Habitat (ha)
Mine (mine site, mine access road, airstrip and FSS)	0
Transmission	294
Kluskus FSR	141
Total	435

As expected, the majority of the changes in traditional plant habitat occurs as a result of the transmission line. In total, 435 ha (3%) of the traditional plant habitat that is present in the RSA and SFN traditional territory for vegetation will be lost during construction. There is a potential loss of traditional use plants but the Proponent will make reasonable efforts not to remove traditional plants when constructing the transmission line within SFN traditional territory (where feasible). During the closure phase, the transmission line will be revegetated with native traditional use plants.

The Kluskus FSR is an existing road and is currently in use (except for an area where the road will be re-routed and widened as a result of the Project). The Project's use of the Kluskus FSR is not expected to affect the ability of SFN people to harvest berries in these areas. At its peak, traffic will only increase by two trucks per hour. After the construction phase, Project related traffic will reduce further. Most (70%) of the transmission line, follows areas of existing disturbance. Where clearing is required, effects to plant communities may occur. Ongoing vegetation management during operations and closure may also result in effects to plants.

As indicated in the table, there will be a loss of plant habitat as a result of the transmission line and Kluskus FSR.

The extent to which plant gathering is practiced throughout SFN territory is unknown at the time of writing.

7.2.7.4.4.3.2 Changes in Access to Land and Resources

The Kluskus FSR is an existing road and access to existing gathering sites along the road will not be affected by the Project. The transmission line may facilitate access to gathering sites for SFN members but may also increase access by outside users. To mitigate any effects, the Proponent is establishing an access management working group to discuss access management issues.

Based on interviews with the two SFN trapline holders in the Project area, it is understood that plant harvesting occurs within the traplines. It is not expected that the Project activities will affect users in accessing their traplines (TR0711T007 and TRO712T009) where known berry and medicinal plant harvesting occurs. The Proponent will work with the trapline holders to reduce any disruption, as required. The Proponent will also facilitate access to trails during clearing, as appropriate. Increased access to these areas from non-Aboriginal users has been raised as a

concern. The construction of the transmission line ROW may exacerbate existing access (there is existing road access in the trapline areas via the Kluskus FSR and 500 Road) by other users to this area. As discussed, the Proponent is exploring access management options to mitigate this.

7.2.7.4.4.3.3 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases of the Project and transmission line may produce a change in the experience of using lands and resources for gathering purposes. No noticeable changes to baseline daytime and night time noise levels are expected to occur around the transmission line, apart from the short-term construction time.

From gathering areas, the transmission line will likely be visible from some vantage points for the construction, operations and closure phases. As required, the Proponent will notify the two potentially affected trapline holders (who also use these areas for plant gathering) of Project activities, schedules, and locations to reduce changes to the experience of using the lands for gathering.

7.2.7.4.4.3.4 Changes to the Quality of Resources

The construction and operation of the transmission line, the upgrades proposed for the Kluskus FSR and the transportation of workers and materials along the Kluskus FSR to the mine site, do not have the potential to generate COPCs in quantities that could affect the health of traditional plants within the vicinity of these traplines. The construction of the transmission line ROW will last approximately 12 months and disturbance at a certain location will be temporary (i.e., weeks). Therefore, no changes to the quality of resources for gathering purposes are anticipated in these locations.

Although limited plant harvesting data was available at the time of writing, the residual effects to gathering near the two traplines is considered low magnitude, since the Project overlaps with a very small portion of the traplines but will not impede the gathering activity. The geographic extent is site specific within the footprint of the transmission line and existing Kluskus FSR. The effect occurs during construction, operations and closure (long-term), continuously, but is reversible. The effect is likely (high) and is not significant (negligible), primarily due to the low magnitude of the effect and site specific geographic extent. The confidence is low in this rating, since the information is based on interviews with SFN trapline holders and is not representative of effects to all SFN gathering activities. No specific locations where gathering occurs was provided.

When additional TK/TLU information about gathering is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.4.4 Stelat'en First Nation

The StFN traditional territory overlaps with the northern portion of the transmission line ROW.

Plants are an important cultural resource for the StFN and are used for both food and medicine (Triton 2014). There are many important species of berries (e.g., soapberries, huckleberries,

blueberries, raspberries, thimbleberries, blackberries, currants, gooseberries, saskatoon berries, and cranberries), bulbs and stems (e.g., various species of lily, water plantain, bulrush, cattail, and spring-beauty), and, historically, edible tree lichens (Triton 2014). These species provide many different nutrients to the StFN diet. Triton (2014:39) note “there are many areas of contemporary and intense use that lie within the proposed transmission line due to the proximity of the alignment to the Stellaquo reserve and the habitat quality it crosses.”

The StFN LRUS (Proponent Version; Triton 2014) does not identify specific plant gathering locations. The Proponent is consulting with StFN about its preferred methods to share information about gathering practices that may be affected by the Project and to develop methods to mitigate any potential adverse effects.

During consultation activities with StFN, concerns were raised about potential effects to berry harvesting areas around the transmission line crossing of the Stellako River. The StFN traditional territory overlaps with a portion of the transmission line ROW, and the majority of the Kluskus FSR. Although there is a lack of site-specific data, the following section presents a general discussion of how the Project may interact with current StFN plant gathering activities, in particular the area where the transmission line crosses the Stellako River.

Changes in the Availability of Harvested Resources

According to the ecosystem effects assessment (**Section 5.4.5**), activities during the Project phases may result in changes to the abundance and distribution to plant resources within StFN territory. The potential changes in the availability of harvested traditional plants for StFN is quantified through spatial analysis of habitat losses in the StFN traditional territory (**Table 7.2.7-19**).

Table 7.2.7-19: Potential Changes in the Availability of Traditional Plant Habitat for StFN

Project Component	Changes in the Availability of Traditional Plant Habitat (ha)
Mine (mine site, mine access road, airstrip and FSS)	0
Transmission	188
Kluskus FSR	0
Total	188

As expected, the majority of the changes in traditional plant habitat occurs as a result of the transmission line. In total, 188 ha (4%) of the traditional plant habitat that is present in the RSA and StFN traditional territory for vegetation will be lost during construction. There is a potential loss of 188 ha of traditional use plants but the Proponent will make reasonable efforts not to remove traditional plants when constructing the transmission line within StFN traditional territory (where feasible). During discussions with StFN, it was suggested that removal of traditional use plants be avoided during construction and that the Proponent plant additional berry shrubs to augment available gathering areas for members. This is under consideration and a matter of

ongoing discussion. During the closure phase, the transmission line will be re-vegetated with native traditional use plants.

Most (70%) of the transmission line, follows areas of existing disturbance. Where clearing is required, effects to plant communities may occur. Ongoing vegetation management during operations and closure may also result in effects to plants. As indicated in the table, there will be a loss of plant habitat as a result of the transmission line. The extent to which this is practiced throughout StFN territory is unknown at the time of writing.

7.2.7.4.4.4.1 Changes in Access to Land and Resources

As discussed, the StFN identified gathering activity near the Stellako River transmission line crossing although specific harvesting sites were not provided. Access to the Stellako River will not be impeded from the presence of the transmission line ROW, however it may be facilitated by the Project. The development of the transmission line ROW may indirectly increase outside competition for resources due to greater accessibility. To mitigate these effects in StFN traditional territory, the Proponent is establishing an access management working group (of which StFN representatives will be invited to participate in) to discuss access management issues.

7.2.7.4.4.4.2 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases related to the transmission line may produce a change in the experience of using lands and resources for gathering purposes. To reduce visual changes, grass and brush will be allowed to colonize the ROW where possible. Ongoing communication with StFN on this issue is anticipated. The transmission line alignment has been designed to take advantage of existing rights-of-way, existing shared access, and other infrastructure to the extent feasible to avoid additional surface disturbance. Approximately 70% of the transmission line follows existing disturbance.

No noticeable changes to baseline daytime and night time noise levels are expected to occur around the transmission line, apart from the short-term construction time. Noticeable changes may occur during construction of the transmission line and interact with the experience of plant gathering. Noise from transmission line construction will be limited to the construction phase only (apart from any necessary maintenance during operations). The construction phase is expected to last 12 months, so construction work at any particular location should be temporary (i.e. weeks) as the construction crews will advance at a speed of approximately 2.5 km per week.

From gathering areas, the transmission line will likely be visible from some vantage points for the construction, operations and closure phases.

7.2.7.4.4.4.3 Changes to the Quality of Resources

The construction and operation of the transmission line does not have the potential to generate COPCs in quantities that could affect the health of traditional plants within the vicinity of the transmission line crossing. The construction of the transmission line ROW will last approximately

12 months and disturbance at a certain location will be temporary (i.e. weeks). Therefore, no changes to the quality of resources for gathering purposes are anticipated in these locations.

The determination of significance for the residual effect of the Project on plant gathering was not conducted because at the time of writing no information was available about the current use of plant gathering in StFN traditional territory and around the transmission line ROW.

7.2.7.4.4.5 *Ulkatcho First Nation*

The UFN gather many plants for food and medicinal purposes, and pick berries. They also harvest mushrooms. Locations of plant gathering sites where collection takes place were identified and appropriate avoidance and mitigation measures were developed (**Section 7.2.7**).

The TLUS study notes that the areas within the Blackwater Project site are important to UFN for berry picking and collecting food and medicinal plants although specific locations were not identified. The study identifies other important plant harvesting areas (east of Tsacha Lake, Moose Lake and Johnny Lake).

7.2.7.4.4.5.1 *Changes in the Availability of Harvested Resources*

According to the ecosystem effects assessment (**Section 5.4.5**), activities during the Project phases may result in changes to the abundance and distribution to plant resources within UFN territory. The potential changes in the availability of traditional plants for UFN is quantified through spatial analysis of habitat losses in the UFN traditional territory (**Table 7.2.7-20**). Habitat losses are largely due to the clearing of the mine site.

Table 7.2.7-20: Potential Changes in the Availability of Traditional Plant Habitat for UFN

Project Component	Changes in the Availability of Traditional Plant Habitat (ha)
Mine (mine site, mine access road, airstrip and FSS)	2,691
Transmission	39
Kluskus FSR	1
Total	2,732

As expected, the majority of the changes in traditional plant habitat occurs as a result of the mine site. In total, 2,732 ha (27%) of the traditional plant habitat that is present in the RSA and UFN traditional territory for vegetation will be lost during construction and operations. During the closure phase, the transmission line will be re-vegetated with native traditional use plants.

No losses to important plant harvesting areas will occur in the other areas for harvesting identified by UFN including east Tsacha Lake, Moose Lake and Johnny Lake. The only habitat loss will be in the mine site, where the extent of plant harvesting appears to be less intensive than other nearby areas.

7.2.7.4.4.5.2 Changes in Access to Land and Resources

The mine site will no longer be accessible for use by UFN members with respect to plant gathering. The TLUS study did not identify specific access routes to gathering in the mine site area but did note a historic use of trails. Project related activities will not reduce accessibility or use of historic trails such as the Messue Wagon Trail or the Alexander Mackenzie Trail. Project related activities will not disturb access to the key plant harvesting areas identified (Tsacha Lake, Moose Lake and Johnny Lake).

7.2.7.4.4.5.3 Changes in the Experience of Using Lands and Resources

The mine site area will no longer be accessible for use during construction, operations and closure. Based on the noise effects assessment (**Section 5.2.2**) and the visual aesthetics effects assessment (**Section 7.2.8**) the construction, operations and closure phases of the Project is not expected to have sensory disturbances on gathering locations around Tsacha Lakes, Johnny Lake and Moose Lake. No visual or auditory effects are anticipated from the mine site in these locations.

7.2.7.4.4.5.4 Changes to the Quality of Resources

UFN has expressed concerns about the potential contamination of country foods, including medicinal and food plants. The Project will generate air and liquid effluent emissions. The Project will generate air and liquid effluent emissions. A HHERA was conducted to assess the effects of exposures to COPC on the health of people living in the vicinity of the Project. The HHERA model used worst-case conservative exposure scenarios, including for those Aboriginal peoples residing in the area. The model included human receptors at Tatelkus Lake IR #28 (near UFN Tatelkuz Lake gathering sites) and Laidman Lake Lodge (near Moose and Johnny Lake UFN gathering sites) and practicing traditional harvesting of country foods (i.e. gathering). The HHERA also considered all possible exposure pathways at the different phases of the Project from Construction to Post-Closure. Based on the HHERA results, the residual health effects were determined to be not significant (negligible) during all phases of the Project.

7.2.7.4.4.5.5 Characterization of Residual Effects on UFN

The residual effect on current UFN gathering practices is negative since there is a loss of plant habitat in the mine site. The magnitude of the impact is low since the Project affects a very small area (relative to overall number of plant harvesting areas currently used by UFN people), and will not impede plant gathering activities in the other areas of the RSA or LSA. The effect is site specific, confined to the area directly disturbed/affected by the Project, and is permanent. The effect is irreversible and continuous. There is a high likelihood that the effect will occur. The effect is considered not significant (minor) since the effect is low in magnitude and site specific in geographic extent. Confidence in this prediction is moderate since mitigation of potential effects is well understood. However, it should be noted that information on current plant gathering for traditional purposes by the UFN relies solely on the TLUS study, and therefore there could be some variation within the UFN membership about the importance and use of the mine site area.

7.2.7.4.4.6 *Nazko First Nation*

The NFN traditional territory overlaps with a small portion of the existing Kluskus FSR. Effects on plants from dust generated by traffic using the Kluskus FSR are considered minor and not significant. During the peak of construction, road traffic will increase by two trucks per hour and is not considered to have a significant effect on NFN's ability to gather plants along the existing FSR. When TK/TLU information about plant harvesting is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.4.7 *Skin Tye First Nation*

The STN traditional territory overlaps with the all areas in the RSA and LSA. If the STN harvest plants within the RSA and LSA, effects could be the same as experienced by the LDN. When TK/TLU information about plant harvesting is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.4.8 *Tsilhqot'in National Government*

To date, the TNG have not identified concerns related to plant gathering and the Proponent looks forward to ongoing dialogue. If a use that could interact with the Project is identified, information will be considered in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.4.9 *Métis Nation British Columbia*

If the MNBC members gather plants in the LSA, the residual effect on their plant gathering, may be similar to that noted for the LDN. If a use that could result in an effect is documented, information will be considered in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.5 Residual Effects on Other Cultural and Traditional Uses of the Land

7.2.7.4.5.1 *Lhoosk'uz Dene Nation*

During interviews with LDN elders (2013) and in consultation activities two sites of cultural importance were identified including Kuyakuz Mountain and Tatelkuz Lake (north shore). Both sites are sacred and areas where ceremonial activities may occur. In addition, the historic Messue Wagon Trail is used to connect IR #28 to Knewstubb Lake in the north, and the West Road (Blackwater) River and Alexander MacKenzie (Grease) Trail in the south runs through the east portion of the LSA. These trails are of cultural and historic importance to LDN people. This trail will intersect the fresh water pipeline and the transmission line ROW (both the proposed and Mills Ranch Re-route options). The trail currently intersects with the Kluskus FSR. Canoeing and boating on Tatelkuz Lake was noted as a traditional use. Boating on this lake will not be affected by the Project, and there are no anticipated residual effects.

7.2.7.4.5.1.1 Changes in Access to Land and Resources

The Messue Wagon trail will be temporarily disturbed to construct the freshwater pipeline, after which it will be buried and will not affect the use of this trail. The construction of the transmission line (either route) could also temporarily disrupt the use of the trail while the ROW is being cut, poles erected, and wires strung. After construction, the use of the trail should not be affected. It is not expected that the Project activities will affect users from accessing or using any of the other sites identified above for ceremonial, sacred or navigation purposes.

7.2.7.4.5.1.2 Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases of the Project may produce a change in the experience of using lands and resources for ceremonial or other purposes. No noticeable changes to baseline daytime and night time noise levels from the mine site are expected to be heard from the sites identified above (Kuyakuz Mountain, Tatelkuz Lake, and the trails). Noise from the FSS will only be detectable at the pumphouse on the southeast side of Tatelkuz Lake where there may be some low noise associated with the structure. Any maintenance associated with the pumphouse may also produce minor noise disturbances but it will be infrequent.

With respect to visual changes, the freshwater pipeline will be buried to reduce visual disturbances around Tatelkuz Lake and the Messue Wagon Trail. From the peak of Kuyakuz Mountain, the mine site will be visible for the construction, operations and closure phases. From certain vantage points of the Messue Wagon Trail, some infrastructure related to the mine will be visible.

With respect to visual changes to Tatelkuz Lake (north shore), there will be some visual disturbances. The mine site will be visible for the construction, operations and closure phases from certain vantage points. In addition, the pumphouse will be visible.

7.2.7.4.5.1.3 Changes to the Quality of Resources

No changes to the quality of the areas identified for ceremonial purposes are anticipated in these locations.

The residual effect on the use of the Messue Wagon Trail is negative, low in magnitude since the Project components overlap with very small portions of the trail, and will not impede the use of the trail. The effect will be experienced only in the intersection of the trail with these components and is, therefore, site specific in geographic extent. The effect is short-term, since it is only experienced in construction, reversible, and occurs once (in construction). The likelihood of occurrence is high and the effect is rated as not significant (negligible). The level of confidence in this rating is moderate.

Characterization of Residual Effects on LDN The residual effect on the ceremonial use of the north shore of Tatelkuz Lake is negative, low in magnitude since the Project components are visible, but will not impede ceremonial use. The effect is site specific in geographic extent. The effect is long-term because it extends into the closure phase. The likelihood of occurrence is high and the effect

is rated as not significant (negligible). The level of confidence in this rating is moderate because it is based on one interview and the Historic Use and Occupancy Study.

7.2.7.4.5.2 Nadleh Whut'en First Nation

At the time of writing, no information on other NWFN current traditional land and resource use (i.e. sacred sites) was available. When and if TK/TLU information about other uses such as ceremonial or sacred sites is provided, it will be used in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.5.3 Saikuz First Nation

The SFN have identified that they use their traditional territory, specifically keyohs, for ceremonial purposes. At the time of writing, the exact boundaries of the two keyohs traversed by the Project were unknown, however, the boundaries of the associated traplines are publically available. The following section will provide a general discussion about how the Project may interact with ceremonial use of the traplines.

No losses to land for ceremonial purposes will occur in the traplines. Trapline TR0712T009 is traversed by the existing Kluskus FSR by 0.05%. No additional land in this area will be used by the Project. The Kluskus FSR also traverses trapline TR0711T007 as does the transmission line which may affect the availability of land for ceremonial purposes. 0.53% of the trapline will be crossed by the Project components including the transmission line.

It is not expected that the Project will limit the trapline holders from using other portions of the trapline for ceremonial and sacred purposes. Where feasible, the transmission line ROW follows existing disturbances.

7.2.7.4.5.3.1 Changes in Access to Land and Resources

It is not expected that the Project activities will affect users in using their traplines (TR0711T007 and TRO712T009) for ceremonial purposes. The Proponent will work with the trapline holders to reduce any disruption, as required. The Proponent will also facilitate access to trails during clearing, as appropriate.

Increased access to these areas from non-Aboriginal users has been raised as a concern and could interact with ceremonial practices (through ATV and ski-doo use). The construction of the transmission line ROW may exacerbate existing access (there is existing road access in the trapline areas via the Kluskus FSR and 500 Road) by other users to this area. To mitigate any effects, the Proponent is establishing an access management working group to discuss access management issues. Changes in the Experience of Using Lands and Resources

The construction, operations and closure phases of the Project and transmission line may produce a change in the experience of using lands and resources for ceremonial or other purposes. No noticeable changes to baseline daytime and night time noise levels are expected to occur around the transmission line, apart from the short-term construction time.

From gathering areas, the transmission line will likely be visible from some vantage points for the construction, operations and closure phases.

As required, the Proponent will notify affected trapline holders (who also use these areas for ceremonial purposes) of Project activities, schedules, and locations to reduce changes to the experience of using the lands for other traditional purposes.

7.2.7.4.5.3.2 Changes to the Quality of Resources

No changes to the quality of the traplines for ceremonial purposes are anticipated in these locations. However, additional information on site specific locations where ceremonial activities occur (smudges etc) may help clarify. An SFN TK/TLU study is underway and when the information is made available, the Proponent will consider it in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.5.4 Stelat'en First Nation

The StFN LRUS (Proponent Version; Triton 2014) does not identify specific cultural uses that may interact with the Project. The Proponent is consulting with StFN about its preferred methods to share information about cultural uses that may be affected by the Project and to develop methods to mitigate any potential adverse effects.

7.2.7.4.5.5 Ulkatcho First Nation

The UFN have identified a trail, campsite, and a place name in the LSA and near the proposed mine site. The precise locations of the trail and campsite have not been determined. In the Heritage Effects assessment of the mine site, a trail and a number of Culturally Modified Trees (CMTs) associated with the trail have been recorded. Dates recorded from CMTs sampled do not indicate current use. The mine site area was identified in the TLUS as an area used with less intensity. The effect on the sites is negative. The likelihood of occurrence is high, but the magnitude is considered low, since the use appears to have occurred in the past and occurs over a relatively small area, is site specific and continuous, permanent, and irreversible. The effect is not significant (minor) due to the low, site-specific nature of the effect. Confidence is moderate but could be increased with further community consultation. Mount Davidson peak and the slopes that hold the place name *Tillie*.

A trail in the vicinity of Tatelkuz Lake has been identified in the TLUS. The Messue Wagon Trail is used to connect IR #28 to the Knewstubb Lake in the north, and the West Road (Blackwater) River and Alexander MacKenzie (Grease) Trail in the south, runs through the east portion of the LSA. This trail will intersect with the freshwater pipeline and the transmission line ROW (both the proposed and Mills Ranch Re-route options). The trail currently intersects the Kluskus FSR.

The trail will be temporarily disturbed to construct the freshwater pipeline, after which it will be buried and will not affect the use of this trail. The construction of the transmission line (either route) could also temporarily disrupt the use of the trail while the ROW is being cut, poles erected, and wires strung. After construction, the use of the trail should not be affected. The residual effect on

the use of the Messue Wagon Trail is negative, low in magnitude since the Project components overlap with very small portions of the trail and will not impede the use of the trail. The effect will be experienced only in the intersection of the trail with these components and is, therefore, site specific in geographic extent. The effect is short-term, since it is only experienced in construction, reversible, and occurs once. The likelihood of occurrence is high and the effects rating is not significant (negligible). The level of confidence in this rating is high.

A trail on the east side of Tatelkuz Lake has also been identified, which connects with the Messue Wagon Trail. There are no residual effects on this trail.

7.2.7.4.5.6 Nazko First Nation

The Nuxalk Carrier Grease Trail is also in the NFN territory and to the south of the LSA. No residual effects are expected for the trail as the Project components were specifically located outside of the Blackwater drainage to avoid this sensitive area. When TK/TLU information about other current traditional land and resource uses is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.5.7 Skin Tyee First Nation

When TK/TLU information about other current traditional land and resource uses is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.5.8 Tsilhqot'in National Government

The TNG have not identified CLRUTP that may be affected by the Project, however the Proponent looks forward to ongoing dialogue with TNG. If a use that could interact with the Project is identified, information will be considered in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.5.9 Métis Nation British Columbia

When TK/TLU information about other current traditional land and resource uses is shared with the Proponent, the information will be considered in the Project design, execution, management plans, permitting and monitoring.

7.2.7.4.5.10 Summary of Residual Effects

Table 7.2.7-21 shows a summary of residual effects.

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Table 7.2.7-21: Summary of Residual Effects of the Project on Current Land and Resource Use for Tradition Purposes

Project Phase	Key Indicators	Context	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Confidence in Likelihood Determination	Residual Effect Significance	Confidence in Significance Determination
Lhoosk'uz Dene Nation											
C, O, CL, PC	Hunting	High	Medium	Local	Long-term	Continuous	Yes	High	High	Not Significant (moderate)	Moderate
C, O, CL, PC	Trapping (TR0512T014)	High	Low/Medium	Site-specific	Long-term	Continuous	Yes	High	High	Not Significant (minor)	High
C, O, CL, PC	Trapping (TR0512T027)	-	-	-	-	-	-	-	-	-	-
C, O, CL, PC	Fishing	High	Low	Site-specific	Permanent	Continuous	No	High	High	Not Significant (minor)	Moderate
C, O, CL, PC	Plant Gathering	High	Low	Site-specific	Long-term	Continuous	Yes	High	High	Not Significant (minor)	Moderate
C	Other Cultural and Traditional Uses of the Land (trails)	High	Low	Site-specific	Short-term	Once	Yes	High	High	Not Significant (negligible)	High
n/a	Other Cultural and Traditional Uses of the Land (boating)	-	-	-	-	-	-	-	-	-	-
n/a	Other Cultural and Traditional Uses of the Land (sacred sites)	-	-	-	-	-	-	-	-	-	-
Nadleh Whut'en First Nation											
n/a	Hunting	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Trapping	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Fishing	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Plant Gathering	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Other Cultural and Traditional Uses of the Land	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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Project Phase	Key Indicators	Context	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Confidence in Likelihood Determination	Residual Effect Significance	Confidence in Significance Determination
Saik'uz First Nation											
n/a	Hunting	NR	NR	NR	NR	NR	NR	NR	NR	NR	
C,O,CL	Trapping (TR0712T009)	-	-	-	-	-	-	High	High	Not Significant (negligible)	Moderate
C,O,CL	Trapping (TR0711T007)	-	-	-	-	-	-	High	High	Not Significant (negligible)	Moderate
n/a	Fishing	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Plant Gathering	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Other Cultural and Traditional Uses of the Land	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Stellat'en First Nation											
n/a	Hunting	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Trapping	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Fishing	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Plant Gathering	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Other Cultural and Traditional Uses of the Land	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Ulkatcho First Nation											
C, O, CL, PC	Hunting	High	Medium	Local	Long-term	Continuous	Yes	High	High	Not Significant (moderate)	Moderate
C, O, CL, PC	Trapping	High	Low	Local	Long-term	Continuous	Yes	High	High	Not Significant (minor)	Moderate
C, O, CL, PC	Fishing	High	Low	Site-specific	Permanent	Continuous	No	High	High	Not Significant (minor)	Moderate
C, O, CL, PC	Plant Gathering	High	Low	Site-specific	Long-term	Continuous	Yes	High	High	Not Significant (minor)	Moderate
C, O, CL, PC	Other Cultural and Traditional Uses of the	High	Low	Site specific	Permanent	Continuous	No	High	High	Not significant (minor)	Moderate

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Project Phase	Key Indicators	Context	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Confidence in Likelihood Determination	Residual Effect Significance	Confidence in Significance Determination
	Land (trail at mine site and CMTs)										
C	Other Cultural and Traditional Uses of the Land (Messue Wagon Trail)	High	Low	Site-specific	Short-term	Once	Yes	High	High	Not Significant (negligible)	High
n/a	Other Cultural and Traditional Uses of the Land (other trail east of Tatelkuz Lake)	-	-	-	-	-	-	-	-	-	-
n/a	Other Cultural and Traditional Uses of the Land (place name: Tillie)	-	-	-	-	-	-	-	-	-	-
Nazko First Nation											
n/a	Hunting	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Trapping	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Fishing	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Plant Gathering	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Other Cultural and Traditional Uses of the Land – Nuxalk Carrier Grease Trail	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Skin Tyee First Nation											
n/a	Hunting	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Trapping	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Fishing	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Plant Gathering	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Other Cultural and Traditional Uses of the Land	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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Project Phase	Key Indicators	Context	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Confidence in Likelihood Determination	Residual Effect Significance	Confidence in Significance Determination
<i>Tsilhqot'in National Governmental Government</i>											
n/a	Hunting	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Trapping	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Fishing	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Plant Gathering	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Other Cultural and Traditional Uses of the Land	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
<i>Métis Nation British Columbia</i>											
n/a	Hunting	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Trapping	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Fishing	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Plant Gathering	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
n/a	Other Cultural and Traditional Uses of the Land	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Note: “-“ no adverse residual effects expected on this indicator.
“NR” refers to not rated due to lack of information on current uses of the land and resources for traditional purposes.
C = construction; O = operations; CL= closure; PC = post-closure; n/a = not applicable.

7.2.7.5 Cumulative Effects

This section determines the need for assessing cumulative effects and when applicable, assesses cumulative effects, discusses mitigation and determines the significance of the cumulative effects of the Project in combination with other projects and activities.

Potential cumulative effects on CLRUTP must be considered when the residual effect is determined to be other than not significant (negligible) and it overlaps, temporarily or spatially, with known or likely residual effects from past, present, or reasonably foreseeable projects within the established RSA. As with NTLRU, the potential cumulative interactions are numerous and both use-specific and group-specific. The CEA method used is consistent with other VCs (the same criteria and attributes are used) but the format for presentation is different to enable a clearer understanding of the effects.

There are seven indicators experiencing residual effects with ratings of “not significant (minor)” or “not significant (moderate)” that will be carried forward in the CEA (see **Table 7.2.7-22**), as specified in the methodology described in **Section 4.3.6**, because they have the potential to interact with other projects and activities present in the RSA.

There is one indicator for UFN (i.e., Other Cultural and Traditional Uses of the Land (trail at mine site and CMTs) which has determined to be not significant (minor). This indicator has a geographic extent is limited to the mine site and doesn’t have the potential to interact with other projects or activities, therefore it will not be carried into the CEA.

Table 7.2.7-22: Residual Effects on CLRUTP Carried Forward for Cumulative Effects Assessment

Indicator Experiencing Residual Effect	Significance Rating
LDN Hunting	not significant (moderate)
LDN Trapping (TR0512T014)	not significant (minor)
LDN Fishing	not significant (minor)
LDN Plant harvesting	not significant (minor)
UFN Hunting	not significant (moderate)
UFN Trapping	not significant (minor)
UFN Fishing	not significant (minor)
UFN Plant harvesting	not significant (minor)

7.2.7.5.1.1 *Potential Cumulative Effects*

To have potential cumulative effects, the seven residual effects (**Figure 7.2.7-5**) have to interact with other activities in the RSA, spatially or temporally. Activities that could potentially interact with the above residual effects on the LDN or UFN traditional territories, either spatially or temporally include:

- Mineral exploration;
- Forestry-related activities (cut blocks, woodlots);
- Agriculture and grazing;
- Transportation and access;
- Non-traditional hunting, fishing, trapping and guide outfitting; and
- Other recreational activities.

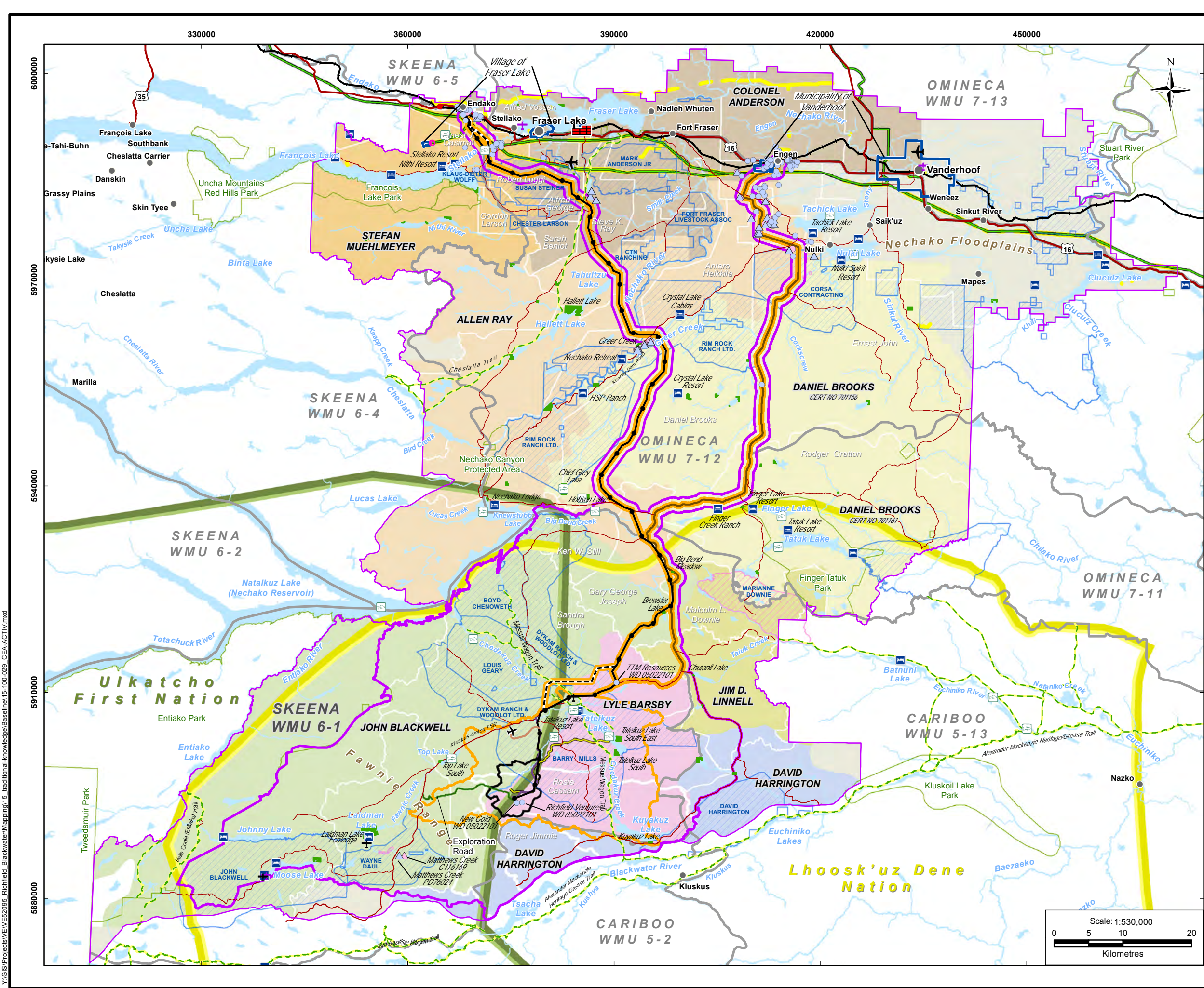
The only existing mining operation in the CLRUTP RSA is at Endako, but it is not located within LDN nor UFN traditional territories and its operations do not affect their traditional territories. The Nulki Hills Wind Project is also located outside of LDN and UFN traditional territory and therefore it is not considered in the assessment of cumulative effects. Other projects, such as the proposed gas pipeline projects, do not intersect with the LDN or UFN traditional territories or areas where the current traditional land and resource uses (hunting, trapping, fishing and plant harvesting) are conducted. Therefore, these projects were not included in this CEA.

Figure 7.2.7-12 illustrates past, present and future reasonable foreseeable projects and activities within the portions of LDN and UFN traditional territories overlapping with the CLRUTP RSA.

The CEA is largely based on the estimated habitat availability losses for plants and wildlife, derived from the footprint of projects and activities considered for the assessment. Specific information regarding effects of other projects or activities on access, sensorial disturbances or disruption of aquatic habitat is not available for use in the cumulative effects.

Mineral exploration activities, forestry activities, agriculture, and grazing, transportation and access, non-traditional hunting, trapping, guide outfitting and other recreation uses contribute to cumulative activities and land disturbance that negatively affects wildlife abundance and distribution and therefore hunting and trapping success in the RSA. These activities also affect the quality of fish habitat and the abundance of plants used for traditional purposes.

The majority of the disturbance within the overall RSA is caused by forestry activities accounting for approximately 94% of the total disturbance in the RSA.



- Parks
- Municipal Boundaries
- PROJECT COMPONENTS**
- Proposed Airstrip
- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- Proposed Transmission Line Re-routes
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access Road
- Proposed Mine Site
- AGRICULTURE**
- Range Tenures**
- Active Range Tenures (Present)
- Pending Range Tenures (Future)
- HUNTING**
- Wildlife Management Units
- Guide Outfitters**
- Colonel Anderson
- Lyle Barsby
- John Blackwell
- Daniel Brooks
- David Harrington
- Jim D. Linnell
- Stefan Muelmeyer
- Allen Ray
- Other
- INFRASTRUCTURE**
- Airport
- Airstrip
- Waterdome
- Sawmill Biomass Project
- Traplines**
- Traplines in the NTLU RSA
- Near the LSAs
- RECREATION**
- Recreation Lodge
- Recreation Fishing Location
- Active Recreation Trails
- Active Recreation Sites
- WATER LICENSES**
- In the Aquatic RSA and near the LSAs**
- Drinking Water Source
- Groundwater Well
- Points of Diversion Water License
- Water Licensed Works
- Current Land and Resource Use for Traditional Purposes**
- Regional Study Area
- Local Study Area
- Lhoosk'uz Dene Nation**
- LDN Territory
- Ulkatcho First Nation**
- UFN Territory

PROJECT: Blackwater Gold Project	
Cumulative Effects in LDN and UFN Traditional Territories within the CLRUTP RSA	
DATE: March, 2014	ANALYST: WR
JOB No: VE52277	QA/QC: MY
Figure 7.2.7-12	
PDF FILE: 15-100-029_CEA-ACTIV.pdf	

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7.2.7.5.1.2 Mitigation

Cumulative effects mitigation requires the input and participation of a range of industry parties (in this case forestry, mining, energy etc). The Proponent remains committed to supporting regional initiatives which address cumulative effects such as those related to caribou. Other mitigation developed by the Proponent will alleviate future cumulative effects on hunting, trapping and traditional plants gathering including mitigation designed for fish habitat compensation and revegetation and reclamation activities. Forestry and mineral exploration companies are also required to implement reclamation and revegetation measures once they complete activities in a specific area.

7.2.7.5.1.3 Residual Effects and Determination of Significance

This section presents the determination of significance for cumulative effects in hunting, trapping and fishing for LDN and hunting for UFN.

7.2.7.5.1.3.1 Lhoosk'uz Dene Nation

Hunting and Trapping

Approximately 70,000 ha of the portion of the RSA located within LDN traditional territory is or will be affected by past, present and future projects and activities. **Table 7.2.7-23** presents the details of the overlaps of past, present and future projects and activities within the RSA portion located in LDN traditional territory. As indicated, forestry is a key driver of cumulative effects in the area.

In addition to the effects of other projects and activities, the proposed Project will affect the availability of 4,777 ha of land in LDN traditional territory, for an estimated total of approximately 75,000 ha experiencing cumulative effects. In summary, approximately 28% of LDN's traditional territory overlapping the RSA for CULRTP are or will be experiencing cumulative effects.

There are ongoing mineral exploration activities occurring in the northern portion of the Fawnie Range and Mount Davidson as well as southeast of the proposed mine site on trapline TR0512T014 and keyoh held by the Jimmie family (LDN members). These areas are currently used for hunting and trapping. It is therefore reasonable to expect that these activities will have a negative cumulative effect on current traditional hunting and trapping by members of the LDN in these areas. The Jimmie family keyoh is an exclusive traditional use area that sustains the family under the direction of the most senior family male (detso). Others who wished to use the keyoh had to seek permission from, or be invited by the detso. Similarly, member of the Jimmie family cannot use other family's territories without permission from their detsos.

The cumulative effect on hunting is significant mainly because of the magnitude (28%) of the estimated disturbance within LDN's territory overlapping the RSA. This cumulative effect has a chronic duration (+35 years), regional extent, it is continuous but reversible with the implementation of mitigation measures such as revegetation. The context of the cumulative is high given the already existing disturbance.

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A very small portion of approximately 8.1 ha (0.07%) of trapline TR0512T014 is overlapped by the proposed mine site, but there are approximately 5,284 (48%) ha (of past, present and reasonable foreseeable disturbances within the trapline territory by other projects and activities. In summary, close to 50% of the trapline surface is or will be experiencing cumulative effects. **Table 7.2.7-24** presents the details of the overlaps of past, present and future projects and activities within trapline TR0512T014.

The cumulative effect on trapping at TR0512T014 is significant mainly because of the magnitude (50%) of the estimated disturbance. This cumulative effect has a chronic duration (+35 years), local extent (restricted to trapline), it is continuous but reversible with the implementation of mitigation measures such as revegetation. The context of the cumulative is high given the already existing disturbance.

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Table 7.2.7-23: Past, Present and Future Projects and Activities in LDN traditional territory Overlapping RSA

Project/Activity	Spatial Overlap with	Temporal Overlap with	Amount of Spatial Overlap	Past	Present	Future
	Terrestrial RSA (Yes/No)	Terrestrial RSA (Yes/No)	(ha)			
Mining and exploration	Yes	Yes	241	n/a	Current Prospecting	Pending Quarries
					222	
					Active Quarries	
Nulki Hills Wind Project	No	No	0	n/a	19	Proposed Infrastructure
					n/a	
Forestry (cutblocks and woodlots) - past, present & future	Yes	Yes	66,000	Retired Cutblocks and Woodlots	Active Cutblocks and Woodlots	Full harvesting inventory and Pending Woodlots
				15,875	29,248	
Forestry roads	Yes	Yes	2,457	n/a	Current Roads	n/a
					2,457	
Agriculture and grazing	Yes	Yes	144	n/a	Present Extensive and Intensive Agriculture Tenures	Pending Extensive Agriculture Tenures
					144	
Other transportation and access roads (excluding forestry)	Yes	Yes	704	n/a	Current Main Roads	
					704	
Non-traditional hunting, trapping and guide outfitting	Yes	Yes	n/a ⁽²⁾	n/a	Active Traplines	n/a
					245,650	
					Active Guide Outfitter Areas	
Other recreation uses	Yes	Yes	471.9	n/a	251,061	Retired Recreation Sites
					Active Recreation Sites	
					472	
Total ⁽³⁾			70,017	15,875	Active Recreation Trails (km)	Retired Recreation Trails (km)
					46	

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Table 7.2.7-24: Past, Present and Future Projects and Activities in Trapline TR0512T014

Project/Activity	Spatial Overlap with	Temporal Overlap with	Amount of Spatial Overlap	Past	Present	Future	
	Terrestrial RSA (Yes/No)	Terrestrial RSA (Yes/No)	(ha)				
Mining and mineral exploration	Yes	Yes	26	n/a	Current Prospecting	Pending Quarries	
					26		0
					Active Quarries		
					0		
Nulki Hills Wind Project	No	No	0	n/a	n/a	Proposed Infrastructure	
						0	
Forestry (cutblocks and woodlots) - past, present & future	Yes	Yes	5,160	Retired Cutblocks and Woodlots	Active Cutblocks and Woodlots	Full harvesting inventory and Pending Woodlots	
				0	4,978	182	
Forestry roads	Yes	Yes	79	n/a	Current Roads	n/a	
					79		
Agriculture and grazing	Yes	Yes	0	Present Extensive Agriculture Tenures	n/a	Pending Extensive Agriculture Tenures	
				0			0
Other transportation and access roads (excluding forestry)	Yes	Yes	19	n/a	Current Main Roads	n/a	
					19		
Non-traditional hunting, trapping and guide outfitting	Yes	Yes	n/a ⁽²⁾	n/a	Active Traplines	n/a	
					11,076		
					Active Guide Outfitter Areas		
					11,076		
Other recreation uses	No	No	0	n/a	Active Recreation Sites	Retired Recreation Sites	
					0	0	
					Active Recreation Trails (km)	Retired Recreation Trails (km)	
					0	0	
Total⁽³⁾			5,284		0	0	

Fishing

Section 5.3.8.5 provides a detailed overview of interactions between fish and fish habitat, and mining, exploration, oil and gas development, forestry related activities, agriculture and grazing, transportation and access, non-traditional hunting, trapping and guide outfitting, recreational activities, and Aboriginal land use. It was concluded that none of these activities would contribute to cumulative effects on fish and fish habitat and a CEA was not carried forward. Given that these same activities could interact with fishing for traditional purposes, it is concluded that cumulative effects on fishing for traditional purposes are also not expected.

Plant Harvesting

In **Section 5.4.5** the cumulative spatial overlap (ecosystem loss) of other past, current, and future foreseeable projects on ecosystem composition (which combined ecosystem distribution, riparian and traditional use plants indicators—berries) was assessed as not significant (moderate). Forestry activities were considered a main contributor to this ecosystem loss, as was the effect of the mountain pine beetle. The cumulative ground disturbance from projects and activities listed in **Figure 7.2.7-6** within the CLRUTP RSA, which could include a wide range of plants used for traditional purposes is 3,921 ha.

In addition, to the loss caused by the Project there is an estimated loss of availability to approximately 70,000 ha within the LDN's traditional territory overlapping the RSA, forestry being the main driver of these cumulative effects.

There are areas that are preferred, or more intensely used for plant harvesting, around Tatelkuz Lake, and along the Messue Wagon Trail, which will not be drastically impacted by land clearing for Project but that are or will be experiencing cumulative effects from other activities, mainly forestry. These areas are also being used for guide outfitting, grazing, some recreation use at Tatelkuz Lake and mineral exploration.

The cumulative effect on plant harvesting is not significant (moderate) mainly because of the magnitude (28%) of the estimated disturbance. This cumulative effect has a chronic duration (+35 years), regional extent because the effects are spread in the RSA, it is continuous but reversible with the implementation of mitigation measures such as revegetation. The context of the cumulative is high given the already existing disturbance.

7.2.7.5.1.3.2 Ulkatcho First Nation

Hunting and Trapping

Hunting and trapping for traditional purposes by members of the UFN is also potentially affected through the cumulative interactions of the Project, other future foreseeable projects as noted above. The UFN identify current hunting and trapping activities occur within and around the mine site (which includes Mount Davidson), along the transmission line ROW (and Mills Ranch Re-route), near Tatelkuz Lake, Kuyakuz Lake and Chedakuz Creek. These areas are affected (through land disturbance) cumulatively by current exploration activities, forestry activities and

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associated logging roads, agriculture and grazing, transportation and access, non-traditional hunting, trapping, guide outfitting, and other recreation uses. It is therefore reasonable to expect that these activities will have a negative cumulative effect on current traditional hunting by members of the UFN in these areas. The cumulative effect is important to the UFN. They indicate in the TLUS that:

“the proposed Blackwater project tenure is within prime caribou and moose habitat and an important caribou migration corridor. The UFN people are very concerned as to how drilling noise, vibration and habitat disturbances resulting from project development and operation phases and the construction of associated work sites will impact the caribou and moose habitat, migration routes and food sources” (TLUS).

Approximately 39,000 ha of the portion of the RSA located within UFN traditional territory is or will be affected by past, present and future projects and activities. In addition, the proposed Project will affect 3,232 ha, for an estimated total over 42,000 ha (27% of RSA located in UFN's traditional territory) experiencing cumulative effects. **Table 7.2.7-25** presents the details of the overlaps of past, present and future projects and activities within the RSA portion located in UFN traditional territory. As indicated, forestry is a key driver of cumulative effects in the area.

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Table 7.2.7-25: Past, Present and Future Projects and Activities in UFN Traditional Territory Overlapping RSA

Project/Activity	Spatial Overlap with	Temporal Overlap with	Amount of Spatial Overlap	Past	Present	Future
	Terrestrial RSA (Yes/No)	Terrestrial RSA (Yes/No)	(ha)			
Mining and exploration	Yes	Yes	99	n/a	Current Prospecting	Pending Quarries
					97	
					Active Quarries	
Nulki Hills Wind Project	No	No	0	n/a	2	Proposed Infrastructure
					n/a	
					0	
Forestry (cutblocks and woodlots) - past, present & future	Yes	Yes	36,699	Retired Cutblocks and Woodlots	Active Cutblocks and Woodlots	Full harvesting inventory and Pending Woodlots
				11,376	13,502	11,821
Forestry roads	Yes	Yes	1,945	n/a	Current Roads	n/a
					1,945	
Agriculture and grazing	Yes	Yes	15	n/a	Present Intensive Agriculture Tenures	Pending Extensive Agriculture Tenures
					15	0
Other transportation and access roads (excluding forestry)	Yes	Yes	392	n/a	Current Main Roads	n/a
					392	
Non-traditional hunting, trapping and guide outfitting	Yes	Yes	n/a ⁽²⁾	n/a	Active Traplines	n/a
					148,688	
					Active Guide Outfitter Areas	
Other recreation uses	Yes	Yes	266	n/a	Active Recreation Sites	Retired Recreation Sites
					266	0
					Active Recreation Trails (km)	Retired Recreation Trails (km)
Total ⁽³⁾			39,416	11,376	10	11,821
					16,219	

The cumulative effects on hunting and trapping are medium in magnitude since the cumulative Projects/activities overlaps several areas used for current traditional hunting (27% of UFN's traditional territory in RSA). The geographic extent of the cumulative effects is regional since the overlapping activities are spread over the RSA. The cumulative effect occurs in the chronic until revegetation measures are completed and is reversible. The frequency of the effect is continuous while these activities are underway although reclamation of exploration and forestry activities occurs regularly and may reduce these effects to some extent over time. The cumulative effects on hunting and trapping are likely (high) and considered not significant (moderate). The confidence in this rating is moderate.

Fishing

Section 5.3.8.5 provides a detailed overview of interactions between fish and fish habitat, and mining, exploration, oil and gas development, forestry related activities, agriculture and grazing, transportation and access, non-traditional hunting, trapping and guide outfitting, recreational activities, and Aboriginal land use. It was concluded that none of these activities would contribute to cumulative effects on fish and fish habitat and a CEA was not carried forward. Given that these same activities could interact with fishing for traditional purposes, it is concluded that cumulative effects on fishing for traditional purposes are also not expected.

Plant Harvesting

In **Section 5.4.5** the cumulative spatial overlap (ecosystem loss) of other past, current, and future foreseeable projects on ecosystem composition (which combined ecosystem distribution, riparian and traditional use plants indicators—berries) was assessed as not significant (moderate). Forestry activities were considered a main contributor to this ecosystem loss, as was the effect of the mountain pine beetle. The cumulative ground disturbance from projects and activities listed in **Figure 7.2.7-6** within the CLRUTP RSA, which could include a wide range of plants used for traditional purposes is 2,732 ha.

In addition, to the loss caused by the Project there is a loss of availability to approximately 39,000 ha within the RSA and UFN's traditional territory, forestry being the main driver of these cumulative effects.

The cumulative effect on plant harvesting is not significant (moderate) mainly because of the magnitude (27%) of the estimated disturbance. This cumulative effect has a chronic duration (+35 years), regional extent and the effects are spread in the RSA, it is continuous but reversible with the implementation of mitigation measures such as revegetation. The context of the cumulative is high given the already existing disturbance.

7.2.7.5.2 Summary of Cumulative Effects

Table 7.2.7-26 presents a summary of the determination of significance for cumulative effects occurring in LDN and UFN traditional territories.

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Table 7.2.7-26: Summary of Cumulative Effects on Current Land and Resource Use for Tradition Purposes

Project Phase	Key Indicators	Context	Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Likelihood	Confidence in Likelihood Determination	Residual Effect Significance	Confidence in Significance Determination
Lhoosk'uz Dene Nation											
C, O, CL, PC	Hunting	High	Medium	Regional	Chronic	Continuous	Yes	High	Moderate	Moderate	Moderate
C, O, CL, PC	Trapping (TR0512T014)	High	High	Local	Chronic	Continuous	Yes	High	Moderate	Significant	Moderate
C, O, CL, PC	Fishing	-	-	-	-	-	-	-	-	-	-
C, O, CL, PC	Plant Gathering	High	Moderate	Regional	Chronic	Continuous	Yes	High	Moderate	Moderate	Moderate
Ulkatcho First Nation											
C, O, CL, PC	Hunting	High	Moderate	Regional	Chronic	Continuous	Yes	High	Moderate	Moderate	Moderate
C, O, CL, PC	Trapping	High	Moderate	Regional	Chronic	Continuous	Reversible	High	Moderate	Moderate	Moderate
C, O, CL, PC	Fishing	-	-	-	-	-	-	-	-	-	-
C, O, CL, PC	Plant Gathering	High	Moderate	Regional	Chronic	Continuous	Yes	High	Moderate	Moderate	Moderate

7.2.7.6 Limitations

There are a number of limitations which should be considered. These include:

- Differing levels of TK/TLU data for each Aboriginal group. The depth of information also reflects the availability of relevant data from secondary sources, and the willingness of Aboriginal groups to share potentially sensitive information with the Proponent and the public. Two Aboriginal groups provided TK/TLU data which was incorporated into the document. However, three Aboriginal groups were in varying stages of completion regarding the TK/TLU studies and as a result the information was not included in the assessment.
- Comprehensiveness of primary data. Some TK/TLU was obtained through interviews with key Aboriginal representatives, knowledge holders, and through consultation. This form of data collection presents a limitation with respect to its comprehensiveness and whether discussions can be attributed to other members of the Aboriginal group.
- Distinguishing between historic and current use. In the available TK/TLU studies provided, it is difficult to distinguish between historic and current uses.
- Results from bio-physical components are limited to study areas that do not necessarily take into account current use of land and resources for traditional purposes by persons.
- For the CEA, the footprints of other projects and activities are largely based on secondary available information.

7.2.7.7 Assumptions

This section presents assumptions and limitations relative to the assessment of Project effects and the assessment of cumulative effects. For assessing cumulative effects, it has been conservatively assumed total loss of access or availability of land and resources located within the footprint of other projects and activities occurring in the RSA.

7.2.7.8 Conclusion

This section provides a conclusion regarding the significance of residual effects and cumulative effects if applicable. Results of the assessments were completed for each Aboriginal group that may experience Project effects. The Proponent continues to engage with potentially affected Aboriginal groups, and is in discussions about completing studies to provide traditional land and resource use information. Project-related effects on CLRUTP will be considered as new information becomes available.

The significance of effects of Project-related disturbances and activities on the CLRUTP VC was assessed after the application of mitigation measures. Effects were considered for the following indicators:

- Hunting;
- Trapping;

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- Fishing;
- Plant Gathering; and
- Other Cultural Traditional Uses of the Land, including trails and travel routes, and other cultural features.

No significant residual effects were identified.

Potential cumulative effects on CLRUTP were considered where adverse Project residual effects on the VC indicators overlap temporally or spatially with known or likely residual effects from past, present, or reasonably foreseeable projects or activities within the established RSA. Forestry is the main activity contributing cumulative effects in the RSA. Cumulative effects on LDN hunting and plant gathering were identified, although considered not significant (moderate). Cumulative effects on trapping in TR0512T014 were considered significant given the potential for 50% of that trapline to be affected by forestry. Cumulative effects on UFN hunting and plant gathering were identified, but considered not significant (moderate). Cumulative effects on LDN or UFN fishing are not expected.