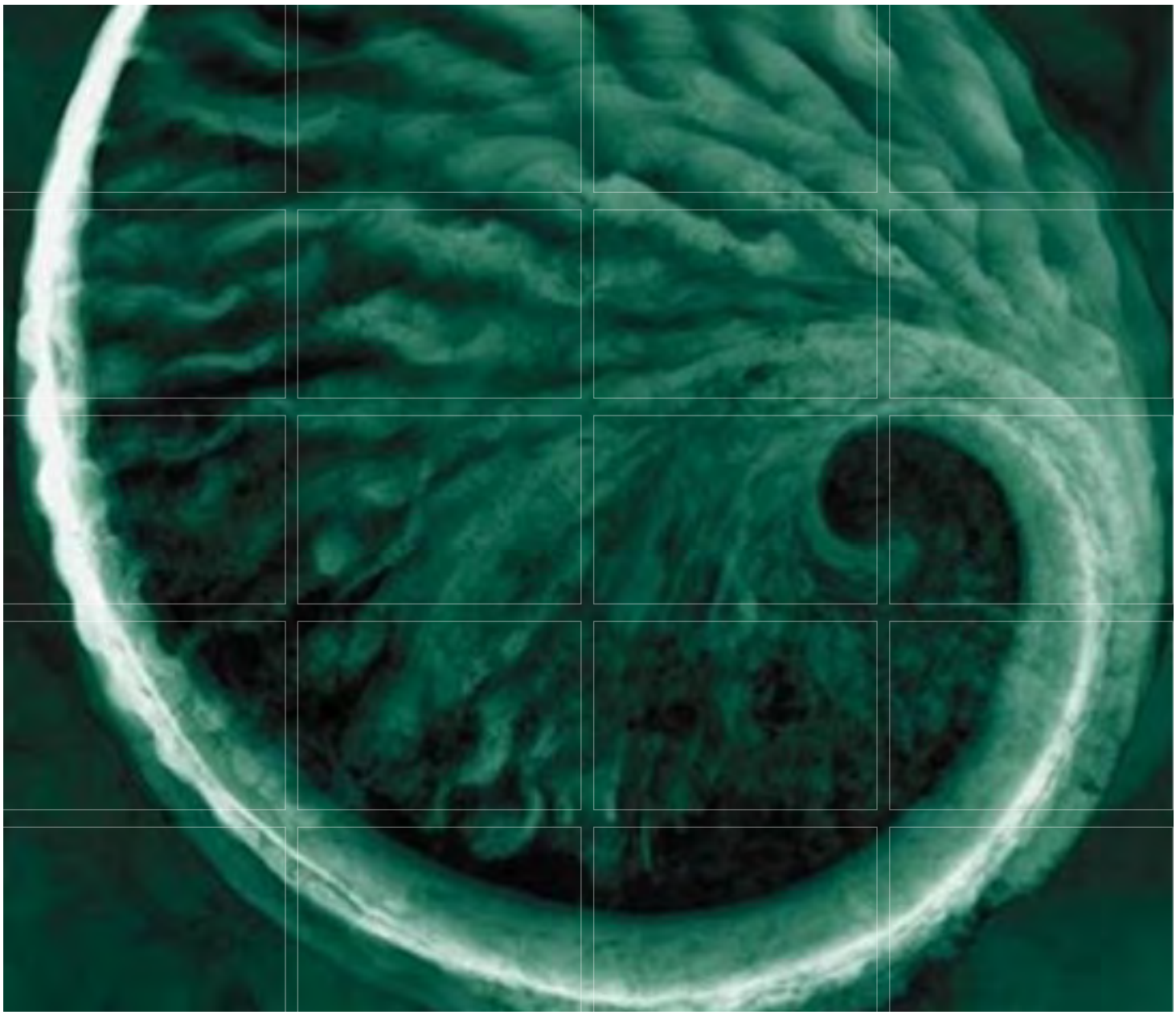

Prepared for:

newgold

BLACKWATER GOLD PROJECT

Current Land and Resource Use for Traditional Purposes

November 2015

ERM

The world's leading sustainability consultancy

New Gold Inc.

BLACKWATER GOLD PROJECT
Current Land and Resource Use for Traditional Purposes

November 2015

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BLACKWATER GOLD PROJECT

Current Land and Resource Use for Traditional Purposes

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GLOSSARY AND ABBREVIATIONS

Terminology used in this document is defined where it is first used. The following list will assist readers who may choose to review only portions of the document.

BC	British Columbia
BC EAO	British Columbia Environmental Assessment Office
BC MOE	British Columbia Ministry of Environment
BC FLNRO	British Columbia Forests, Lands and Natural Resource Operations
BMP	Best management practices
CEA	Cumulative Effects Assessment
CEA Agency	Canadian Environmental Assessment Agency
CMT	Culturally modified tree
CSTC	Carrier Sekani Tribal Council
DFO	Fisheries and Oceans Canada
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMF	Electromagnetic Field
FSR	Forest Service Road
FSS	Freshwater Supply System
IR	Indian Reserve
LDN	Lhoosk'uz Dene Nation
LRMP	Land and Resource Management Plan
LSA	Local Study Area
MNBC	Métis Nation British Columbia
MPB	Mountain Pine Beetle
NWFN	Nadleh Whut'en First Nation
New Gold, the Proponent	New Gold Inc.

NFN	Nazko First Nation
The Project	The Blackwater Gold Project
LRUS	Land and Resource Use Study
RMZ	Resource management zone
ROW	Right-of-way
RSA	Regional Study Area
SFN	Saik'uz First Nation
STN	Skin Tyee Nation
StFN	Stellat'en First Nation
TK/TLU	Traditional Knowledge/Traditional Land Use
TLUOS	Traditional Land Use and Occupancy Study
TLUS	Traditional Land Use and Ecological Knowledge
TNG	National Government
TSF	Tailings Storage Facility
UFN	Ulkatcho First Nation
VC	Valued Component

1. INTRODUCTION

This memorandum assesses potential effects of the proposed Blackwater Project (the Project) on Aboriginal peoples' current use of lands and resources for traditional purposes (Current Aboriginal Use), as required under section 5(1)(c)(iii) of the *Canadian Environmental Assessment Act, 2012*. Effects on Current Aboriginal Use may arise indirectly as a result of changes to the environment caused by the Project.

As described in Section 9.1.3 of the Project's EIS Guidelines (CEA Agency 2013), Current Aboriginal Use includes activities related, but not limited, to hunting, trapping, fishing, plant gathering and cultural and other traditional uses of the land (e.g., use of sacred sites). It includes any practice or activity that is part of the Aboriginal's groups' distinctive culture and has been routinely practiced by the Aboriginal group within a timeframe extending from the recent past to the present. Section 4.2 of the Application Information Requirements (AIR) (BC EAO 2014) and Section 9.1.3 of the Project's EIS Guidelines identify Current Aboriginal Use as a Valued Component (VC).

Aboriginal groups considered in the 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 First Nation (STN), Tsilhqot'in National Government (TNG) and Métis. These groups are identified in schedules B and C of the section 11 Order issued by the BC Environmental Assessment Office (EAO) on 9 July 2013, and section 9.2 of the Final Environmental Impact Statement Guidelines (EIS Guidelines) issued by the Canadian Environmental Assessment Agency (CEA Agency) on 19 February 2013.

Figure 1-1 identifies the traditional territories of LDN, NWFN, SFN, StFN, NFN, UFN, STN and TNG in relation to the proposed Project, and includes the Current Aboriginal Use Study Areas (as described in the Spatial Boundaries (Section 3.1.2).

This assessment is based on the Project design described in Section 2.2 of New Gold's Application for an environmental assessment certificate/Environmental Impact Statement (Application/EIS; October 2015). The assessment draws on conclusions in the Application/EIS related to noise and air quality (Sections 5.2), aquatic environment (Section 5.3), terrestrial environment (Section 5.4), visual resources (Section 7.2.8), heritage (Section 8.2), and health (Section 9.2.2), accidents and malfunctions (Section 10). It also draws on information relating to Aboriginal issues in Part C of the Application/EIS, Aboriginal Groups Information Requirements and the Supplemental Report on Transmission Line Access Roads (New Gold Inc. 2015).

The assessment follows the methods outlined in Section 4 of the Application/EIS, including: identification of Valued Components (VCs); description of baseline conditions; assessment of potential Project effects; proposed mitigation of Project effects; characterization of residual effects and significance; and assessment of cumulative effects. The criteria used to characterize residual effects on Current Aboriginal Use are outlined in Section 6, Characterizing Residual Effects. Where site-specific information related to current use has not been provided the assessment assumes a conservative approach.

This memorandum has been prepared in response to comments received from the BC EAO and CEA Agency during the review of the Application.

1.1 REGULATORY AND POLICY CONTEXT

Provincial Land and Resource Management Plans

The Project is located within the Vanderhoof Land and Resource Management Plan (Vanderhoof LRMP) (BC MOF 1997). The proposed mine site is located in the Davidson Creek Resource Management Zone (RMZ), and the proposed transmission line would pass through the following RMZs: Nechako West; Upper Nechako River; Crystal Lake; Kluskus; Chedakuz; and Davidson Creek. The Project is not located within any protected areas described in the LRMP. Entiako Provincial Park, located in the southwest corner of the LRMP area[1], is the closest protected area to the Project.

With respect to Current Aboriginal Use, the Vanderhoof LRMP seeks to protect Aboriginal groups' archaeological, cultural, and heritage values via the establishment of RMZ and associated management strategies. LDN participated in developing access management provisions in areas of critical moose habitat in the Davidson Creek RMZ during the LRMP process. The LRMP notes the need for resource and tourism employment to be available for Aboriginal communities and residents of the remote Upper Blackwater area.

BC Treaty Process and Aboriginal Strategic Agreements

The NWFN, SFN and StFN are members of the Carrier Sekani Tribal Council (CSTC), formed in 1979 (Carrier Sekani Tribal Council n.d.). The CSTC was accepted into the BC treaty process on December 14, 1993. The CSTC, Canada and BC signed a Framework Agreement on April 25, 1997, and currently are in Stage 4 of the BC treaty process.

The Nazko First Nation (NFN) has entered into treaty negotiations independently (Nazko First Nation 2013). The NFN signed a Framework Agreement in 1999. On 15 August 2012, NFN signed an Incremental Treaty Agreement with the BC Government that will expand economic development and job creation opportunities and will provide early land transfers to the First Nation in advance of a Final Agreement. The NFN received a land and cash offer in March 2013. The NFN is reviewing this offer internally and consulting with the community on next steps.

[1] The Entiako Protected Areas contains critical winter range for the Tweedsmuir-Entiako caribou herd, in addition to providing backcountry tourism opportunities. The Entiako Protected Areas provides opportunities for the Aboriginal groups such as hunting and fishing opportunities as well as historic trails and archaeological sites.

320000 360000 400000 440000

6000000 5960000 5920000 5880000

Endako
Stellako
Fraser Lake
Nadleh Whuten
Fort Fraser
Engen
Nechako River
Vanderhoof
Weneez
Sinkut River
Saik'uz
Nulki
Mapes
Stuart River Park
Stuart River
Tachick Lake
Stony
Smith Creek
Nulki Lake
Cluculz Lake
Cluculz Creek
Khai
Sinkut River
Corkscrew
Meridian Road (Vanderhoof) Ecological Reserve
Kluskus FSR
Nechako Canyon Protected Area
Chilako River Ecological Reserve
Finger Lake
Tatuk Lake
Finger Tatuk Park
Chilako River
Taluk Creek
Batnuni Lake
Euchiniko River
Nataniko Creek
Euchiniko
Nazko
Kluskoil Lake Park
Euchiniko Lakes
Baezaeko
Kluskus
Blackwater River
Kushya
Tsacha Lake
Kluskus-Ootsa FSR
Kluskus-Blue FSR
Tatelkuz Lake
Kuyakuz Lake
Top Lake
Fawnie Creek
Laidman Lake
Johnny Lake
Moose Lake
Entiako Park
Entiako Lake
Entiako River
Tetachuck River
Natalkuz Lake (Nechako Reservoir)
Tweedsmuir Park
Lucas Lake
Lucas Creek
Knewstubb Lake
Big Bend Creek
Bird Creek
Cheslatta River
Cheslatta Lake
Cheslatta
Knapp Creek
Targe Creek
Hallett Lake
Tahultzuz Lake
Nechako River
Nithi River
Takysie Creek
Uncha Lake
Uncha Mountains Red Hills Park
Francois Lake Park
François Lake
Southbank
Cheslatta Carrier
Danskin
Skin Tyee
Stellako
Endako

Stellat'en First Nation
Nadleh Whut'en First Nation
Saik'uz First Nation
Nazko First Nation
Lhoosk'uz Dene Nation
Ulkatcho First Nation
Skin Tyee Nation
Tsilhqot'in National Government

N

Legend

- Populated Place
- 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 Tyee 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

Scale: 1:500,000
0 5 10 20
Kilometres

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.

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 1-1**
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	amec

\\bby-fs2\bby-e-e-gis\GIS\Projects\VE\VE52095_Richfield_BlackwaterMapping\15_traditional-knowledge\Baseline\15-100-017_TLU-SAsFN_v4.mxd

In 2012, the TNG and the Province of BC signed a Strategic Engagement Agreement (commonly referred to as the Tsilhqot'in Stewardship Agreement (TSA) (formerly the Tsilhqot'in Framework Agreement); an extension agreement was signed in 2013 (Tsilhqot'in National Government 2013). This Agreement outlines a process for TNG communities to provide input related to proposed land use within their territory (Tsilhqot'in National Government n.d.). The TSA provides for regular meetings to discuss projects and recommendations. The mine site, tailings facility and approximately 28 km of the transmission line are located within the Engagement Zone A.

Treaties have not yet been reached with any of the First Nations considered in this assessment. At the time of writing, none of the other Aboriginal groups addressed in this memorandum have confirmed strategic agreements with the province of British Columbia.

Aboriginal Forestry and Fishery Agreements

The LDN, NFN, UFN, STN, NWFN, SFN and StFN have each signed forestry-related agreements with the province of BC. These agreements include provisions for Aboriginal groups to participate in the forestry sector, and do not affect the potential impacts of the Project on Current Aboriginal Use.

The CSTC has a fisheries program that has been in place since 1993. Current fisheries projects include the Nechako White Sturgeon Recovery Initiative as well as management and monitoring of fisheries in the Fraser and Nechako basins, including the Stuart River, Nadina River, Stellaquo River, Endako River, Ormond Creek and Nautley River (Nechako White Sturgeon Recovery Initiative 2014).

Publically-available information related to Aboriginal agreements is described in Table 1.1-1.

Fishing, Hunting, and Trapping Regulations

Aboriginal persons registered under the *Indian Act* (1985) who are residents of BC are not required to obtain any type of hunting licence under the BC *Wildlife Act* (1996). Aboriginal persons registered under the *Indian Act* (1985) who are residents of BC and are exercising an Aboriginal right to hunt for sustenance purposes within a traditionally-used area are required to comply with hunting regulations related to public health and public safety. Aboriginal persons registered under the *Indian Act* (1985) who are residents of BC and wish to hunt outside their traditionally-used areas must do so in accordance with the 2014 – 2016 Hunting and Trapping Regulations Synopsis (BC MOE). This includes making application for a Limited Entry Hunting authorization. Any hunting of wildlife species for sale or barter, in whole or in part, is not legal, except as authorized by regulation or where there is a demonstrated Aboriginal or treaty right to do so.

Gathering practices are generally not regulated under gathering-specific pieces of legislation. Commercial and personal harvesting of mushrooms, berries, fern fiddleheads, and greens is freely allowed on provincial forest lands.

Table 1.1-1. Aboriginal Agreements

Aboriginal Group	Title and Date	Description of Plan or Agreement
Lhoosk'uz Dene Nation	Forest Consultation and Revenue Sharing Agreement (2014)	Establishes a process for LDN to obtain economic benefits based on harvest activities in their traditional territory
Nadleh Whut'en First Nation	Forest Tenure Opportunity Agreement (2012)	Establishes a process for building NWFN capacity and participation in the forest sector by offering a forest tenure opportunity.
Saik'uz First Nation	Environmental Stewardship Plan (under development) as part of Nechako White Sturgeon Recovery Initiative	Participating in development of an environmental stewardship plan as part of the Nechako Sturgeon Recovery Initiative
	Forest and Range Interim Measures Agreement (2003)[2]	Forestry interim measures agreement provides for SFN participation in the forestry sector and revenue-sharing and forest tenure opportunities
Stellat'en First Nation	Stellat'en First Nation Forest Consultation and Revenue Sharing Agreement (expired 2014)	Defined StFN forest revenue sharing contribution and consultation process.
Ulkatcho First Nation	Ulkatcho Forest Consultation and Revenue Sharing Agreement	Establishes a process for UFN to obtain economic benefits based on harvest activities in their traditional territory.
Nazko First Nation	Nazko Forest Consultation and Revenue Sharing Agreement (2011)	Establishes a process for NFN to obtain economic benefits based on harvest activities in their traditional territory.
	Incremental Treaty Agreement (2012)	Provides treaty benefits in advance of a Final Agreement based on the strength of a completed Agreement-in-Principle.
Skin Tyee Nation	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 process for STN to obtain economic benefits based on harvest activities in their traditional territory.
	Skin Tyee Natural Gas Pipeline Benefits Agreement (Coastal Gaslink Pipeline Project) (2014)	Establishes framework for participation in liquefied natural gas (LNG) opportunities which include 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.

(continued)

[2] Forest and Range Agreements have now been replaced with Forest Consultation and Revenue Sharing Agreements.

Table 1.1-1. Aboriginal Agreements (completed)

Aboriginal Group	Title and Date	Description of Plan or Agreement
Tsilhqot'in National Government	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 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.

1.2 ETHNOHISTORICAL CONTEXT

Aboriginal groups with asserted territories overlapping the Project area include the Carrier/Dakelh (including LDN, NWFN, SFN, StFN, UFN and STN) and Tsilhqot'in (TNG). The CSTC is a political organization that represents eight Aboriginal groups, including the NWFN, SFN and StFN. LDN and UFN are members of the Carrier Chilcotin Tribal Council, a partnership of four southern Carrier and Tsilhqot'in Aboriginal communities. The Skin Tyee are northern Carrier and are members of the Office of the Wet'suwet'en. The Métis have identified land and resource use in the Project area.

Carrier/Dakelh

The Carrier people are referred to as "Southern Carrier/Dakelh" in the literature (Poser 2004) (Gessner 2003). Dakelh belong to the Athapaskan ethnolinguistic division (Brown 2002; Clare 2000). Brown (2002) identifies LDN, NWFN, SFN, StFN, UFN and NFN as speakers of Carrier language. In their own language the Dakelh refer to themselves as Dakelh-ne or Yinka Dene. The name Dakelh translates to "people who travel upon water" (Carrier Sekani Tribal Council 2011). The Skin Tyee speak Witsuwit'en (First Peoples' Language Map of British Columbia n.d.).

Dakelh people have been self-governing and self-reliant for thousands of years, using a bahlats and keyoh system. The Bahlat system was the institution through which keyoh ownership, management and protection was governed. The keyoh provided the material, cultural and spiritual basis for sustaining life; some keyohs have several traplines in them. The word keyoh means trapline in the Carrier language and is also used to mean "land" or "family territory" (Dewhirst, 2013). The Keyoh system was impacted by the provincial trapline system in that the original keyoh boundaries were adjusted by the province (Carrier Sekani Tribal Council 2006). The boundaries of keyoh are respected and managed through permission. Anyone entering another person's keyoh for hunting or fishing must seek permission of the Hereditary Chief, as the Chief's first obligation is to their own extended family members. Each clan or settlement owns and controls a distinct keyoh (or exclusive traditional use areas) (Carrier Sekani Tribal Council 2006). Keyohs sustained each clan and were used for traditional use activities including hunting, trapping, fishing, and plant harvesting (refer to Section 14 and Section 15 of the Application/EIS). Boundaries of each keyoh typically correlate to physical landscape features such as mountains, rivers, creeks, lakes, and other natural features.

Dakelh were semi-nomadic people, moving throughout their traditional territory with the seasonal changes in their resources (Clare 2000)(Brown 2002). Anthropologists have referred to this way of life as the "annual round" or the "seasonal round." Typically, this was dictated by the availability of primary food sources, such as salmon and other fish, moose, caribou, deer, small game, and nuts and berries (Hudson 1983). The Carrier relied on salmon fished in the Fraser, Stewart, Bulkley, and Nechako river systems. An extensive network of trails, referred to as the "grease trails" and waterways were used for trading (Brown 2002). Seasonal round activity peaked in the summer, when berries were gathered and processed, and fish, especially salmon, were caught and preserved.

The seasonal round largely relates to the patterns of game, furbearers and salmon. The seasonal round included, but was not limited to, the following travel and harvesting pattern (Firelight Group 2015):

- Spring: People returned from trapping, bringing back dried beaver meat, geese, and swan. Pooldooz ducks (fish ducks), suckerfish, trout and ling cod were also harvested at this time. Birch and willow bark was gathered, along with edible roots and wild celery, cow parsnip, wild rhubarb and fireweed. 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.
- Summer: Fishing and fish processing was undertaken in the summer. In late summer, hunting for groundhogs and caribou occurred from the lowlands to the mountains. Berries gathered in higher drier locations (e.g., Saskatoon, huckleberries, and soapberries) were preserved. During this time, bahlats regarding governance of the territories occurred.
- Fall: Fishing for char, whitefish and late run salmon was undertaken on rivers and lakes. Food was preserved and hides tools were prepared by Aboriginal members in preparation for the winter months.
- Winter: Aboriginal people hunted trapped moose, caribou, elk, deer, beaver, muskrats, mink, lynx, fox and bear.

Water resources were 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).

Grandfather's Trails (*Atsiyan Buhati*) were networks that connected to grease trails where the Dakelh would meet coastal Aboriginal groups to trade for oolichan and coastal goods (Firelight Group 2015). The Cheslatta Trail (or Tset'ladak t'seti in Carrier) was 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 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, which forced the Cheslatta people from their lakeside villages. From Nadleh, the trail would have passed through Beaumont Provincial Park and across Highway 16, then south of Drywilliams Lake (Snipview.com 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* (FlSe-2 and variant FlSe-15).

Tsilhqot'in

Traditionally, the Tsilhqot'in people occupied and used 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. Elk, deer, caribou, mountain goats, and sheep were primarily hunted, though moose has replaced elk more recently. Trapped species include marmot, hare, beaver, muskrats and porcupine. They also harvested ducks, geese, ptarmigan, and grouse. Tsilhqot'in people fish for 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. Plants were important diet supplements, and berries and roots were gathered in sufficient quantities for winter storage. Important sources of Tsilhqot'in ethnography include Teit (Teit 1909), Farrand (Farrand 1899, 1910), Ray (Ray 1942) and Lane (Lane 1954, 1981).

Métis

Métis people are of mixed First Nations and European ancestry, and are recognized as a distinct Aboriginal population in Canada (Métis Nation British Columbia n.d.). Métis people trace their descent to the 18th century fur trade, which resulted in the intermarrying of European men and Aboriginal women. Their children, a mixed-race population, grew and formed separate communities distinct from both other Aboriginal groups and Europeans. The collective Métis groups refer to themselves as the Métis Nation. The Métis population in BC numbers approximately 59,000 across the province. The majority of BC Métis people reside in urban areas, and they represent approximately 30% of the total Aboriginal population in British Columbia (Métis Nation British Columbia n.d.).

The Métis Nation BC (MNBC) is the governing Nation for Métis people living in British Columbia, and represents one of five governing members of the Métis National Council. MNBC provides governance and support for 35 Chartered Communities in seven regions: Vancouver Island, Lower Mainland, Thompson/Okanagan, Kootenays, North Central, Northwest, and Northeast. A Regional Director leads each region.

In the North Central Region of BC, where the Project is located, there are four Métis Chartered Communities: the Cariboo Chilcotin Métis Association, North Cariboo Métis Association, Prince George Métis Community Association, and the New Caledonia Métis Association. Métis Nation British Columbia (MNBC) reports that the Métis have had a presence in parts of BC since the earliest explorers arrived in the 1800s (MNBC, 2014). Historically, Fort St. James was 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. 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 involvement in the fur trade industry went beyond trapping. Métis activities include hunting and trapping deer, elk, moose, bear, birds, bison caribou, sheep and small game. Métis activities included fishing, gathering medicinal and food plants, making pemmican, and canoe manufacturing (BC Hydro 2013).

1.3 ENVIRONMENTAL AND HERITAGE CONTEXT

1.3.1 Vegetation

The Project area spans two ecoregions (the Fraser Plateau and Fraser Basin), and three ecosections (the Nazko Upland, Bulkley Basin and Nechako Lowland) (Section 5.4.5 and Section 5.4.6 of the Application/EIS).

There are seven biogeoclimatic (BGC) units within the ecosystem composition RSA: Dry Cool Sub-Boreal Spruce subzone (SBSdk), Stuart Dry Warm Sub-Boreal Spruce variant (SBSdw3), SBSmc2 (Babine Moist cold Sub-Boreal Spruce variant (SBSmc3), Kluskus Moist Cold Sub-Boreal Spruce variant (SBSmc3), Nechako Moist Very Cold Engelmann Spruce-Subalpine Fir variant (ESSFmv1), Nechako Moist Very Cold Engelmann Spruce-Subalpine Fir Parkland variant (ESSFmv1p) and Undifferentiated Boreal Altai Fescue Alpine subzone (BAFAun).

There are three types of sensitive ecosystems in the Project area: riparian, old growth forest and sparsely vegetated. Riparian areas and old growth forest are present in all project components whereas sparsely vegetated areas only occur in the mine site local study area (LSA). Upland ecosystems at risk occur along the proposed transmission line and existing Kluskus Forest Service Road (FSR).

A total of 159 plant species at risk are potentially occurring within the Project area: one conifer, one deciduous shrub, two ferns or fern allies, 65 forbs, 28 graminoids, and 62 mosses. Five plant species at risk were documented within the Project area: whitebark pine, meesia moss, sickleleaf tomentypnum moss, small-flowered lousewort and swollen beaked sedge (Appendix 5.1.3.3A of the Application/EIS). The history of forest harvesting and mineral development, and the associated road development in the region, has resulted in the loss and fragmentation of wildlife habitat.

1.3.2 Wildlife

Wildlife found in the Project area includes water birds, forest and grassland birds, moose, caribou, grizzly bear and furbearers (Section 5.4.8 to 5.4.13 of the Application/EIS). Bats, invertebrates and amphibians are also found in the area. Water birds include migratory waterfowl, pelicans, grebes, cormorants, loons, gulls, and shorebirds. Moose, caribou, grizzly bear, fur bearers are year-round residents within the Project area and are dependent upon upland and lowland habitats. Creation of abundant young forest through logging in the region has created suitable feeding habitat for moose, which has been offset by increased access for predators and hunters, and loss of thermal habitat. The Southern Mountain caribou population is protected under the *Species at Risk Act* (SARA) (2002c), and the recovery and survival of this population are identified in the Caribou Recovery Strategy for the Woodland Caribou, Southern Mountain Population in Canada (Environment Canada 2014). Grizzly bear is a provincially blue-listed species and federally designated as a species of special concern but is not listed under the *Species at Risk Act (*2002c*)*.

Pre-existing wildlife habitat loss and fragmentation due to logging and road development has altered the habitat within the Project area. Mineral exploration in the area has increased the number of access roads. The mountain pine beetle (MPB) infestation has affected large areas of mature pine forest in the region.

1.3.3 Fish

The aquatics regional study area (RSA) encompasses the Chedakuz Creek watershed and part of the Fawnie Creek Watershed (Section 5.1.2 of the Application/EIS). It includes Kuyakuz Lake, Tatelkuz Lake, Top Lake, Laidman Lake, Williamson Lake and Mathews Creek. Davidson Creek flows from Mount Davidson north-east to the lower Chedakuz Creek.[3]

Twelve species of fish were identified in the aquatics LSA including kokanee, rainbow trout, mountain whitefish, northern pike minnow, slimy sculpin, longnose sucker, brassy minnow, largescale sucker, white sucker, lake chub, longnose dace and burbot. Tatelkuz Lake supports ten species of fish including kokanee, rainbow trout, mountain whitefish, northern pike minnow, slimy sculpin, longnose sucker, brassy minnow, largescale sucker, white sucker, and burbot. Kokanee and rainbow trout are the most numerous fish in Tatelkuz Lake. Rainbow trout, kokanee and whitefish use littoral zone habitat in Tatelkuz Lake for feeding and rearing. Rainbow trout and kokanee are stream spawners.

The white sturgeon (*Acipenser transmontanus*), a species of concern, is known to be present in the Nechako River (Section 5.2.6.1.3.2.2 of the Application/EIS), which will be crossed by the transmission line, but not by any transmission line access roads. White sturgeon was listed under the *Species at Risk Act* (*SARA*) in 2006. The Nechako white sturgeon population was red-listed by the province in 2010. A second fish species of conservation concern, the brassy minnow (*Hybognathus hankinsoni*) was captured in shallow water areas of Tatelkuz Lake in 2013 and may be present in other areas. The only other blue-listed aquatic species that is known to be present in the mine site LSA is the Rocky Mountain Capshell (*Acroloxus coloradensis*).

1.3.4 Physical and Cultural Heritage

There are seven recorded archaeology sites within the area of the proposed transmission line: the Cheslatta Trail (FlSe-2) heritage trail, GaSf-47 with cultural depressions (10 cache pits), GaSf-48, with cultural depression (1 cache pit), a Culturally Modified Tree (CMT) site located on both sides of an access road to be upgraded, a route variant of the Cheslatta Trail, FhSe-60, a cultural depression (housepit), and subsurface lithic scatter site. There are two recorded historic sites within the area of the proposed transmission line: 1) a wooden memorial roadside cross marker to "William Scott" located in a cleared right of way (ROW) beside Francois Lake Road, and 2) a cabin, inferred as a temporary sawmill camp. There are also 12 cultural heritage resource sites (CHR 17, CHR 31-41) (Section 8 of the Application/EIS).

[3] Upper Chedakuz Creek is the major inlet to Kuyakuz Lake, middle Chedakuz Creek runs from the outlet of Kuyakuz Lake to the inlet of Tatelkuz Lake, and lower Chedakuz Creek runs from the outlet of Tatelkuz Lake to the Nechako Reservoir.

The Messue Wagon Trail passes through the Mills Ranch transmission line re-route. There are also two cultural resources, a blaze and a bark-stripped tree. There are no historical sites along the Mills Ranch re-route.

There are four archaeological sites within the Stellako transmission line re-route: GaSf-43, GaSf-44, GaSf-45, and GaSf-46, each consisting of a single cache pit. There are four CMTs. There are remnants of a cabin, previously identified (GaSf-10).

1.4 CONSULTATION WITH ABORIGINAL GROUPS

The Proponent initiated consultations with Aboriginal groups related to the Project in 2011. The Proponent recognizes consultation must respect Aboriginal knowledge, culture, processes, and views. Ongoing dialogue between the Proponent and Aboriginal groups is important, and the Proponent is committed to open and transparent communication and the continued enhancement of positive relationships with Aboriginal groups. To date, traditional land use (TLU) studies, funded by the Proponent, have been completed and submitted by:

- LDN: Ethnohistory of Lhoosk'uz Dene Nation Traditional Territory (Dewhirst 2013);
- UFN: Traditional Land Use and Ecological Knowledge of the Proposed New Gold Inc. Blackwater Project, Final Report (DM Cultural Services Ltd. 2013);
- StFN: Stellat'en First Nation Land and Resource Use Study Report for New Gold Inc., October 2014 (Triton 2014)
- SFN: Traditional Land and Occupancy Study for the New Gold Blackwater Project, (Thomas 2015); and
- STN: Skin Tyee Traditional Land Use Study for New Gold Inc.'s Proposed Blackwater Project (DM Cultural Services Ltd. 2015).

To date, TLU studies have not been completed for NWFN, TNG or NFN. Metis have not provided information about their use of lands or resources within the current use LSA or RSA.

Since initiating consultations with NWFN related to the Project in 2012, the Proponent has attempted to collect information about the Nation's current use, and NWFN issues, concerns, and interests in relation to potential impacts of the Project on the Nations' Current Aboriginal Use. The Proponent has been unable to arrange community meetings and interviews with community members to discuss NWFN land and resource use. Attempts to convey project information, obtain traditional use information, and understand NWFN concerns, issues and interests related to the Project are summarized in Appendix 3.1.3B and Appendix 3.1.3C. At a July 9, 2015 meeting with CSTC Chiefs and the Proponent to discuss opportunities to work together on the Project, the Proponent discussed Traditional Knowledge (TK)/Traditional Land Use (TLU) and socio-economic studies with NWFN.

The Proponent is committed to working with Aboriginal groups to understand Current Aboriginal Use in relation to project components and activities, and to integrate relevant information into the Project design and execution, management plans, permitting and monitoring. In the absence of primary data, the Proponent has made reasonable efforts to collect information related to Current

Aboriginal Use from secondary sources. Table 2-1 identifies secondary sources reviewed for the Application/EIS and this memorandum.

Consultation with Aboriginal groups during the Application/EIS review stage will be tailored to meet the requirements of the BC EAO section 11 Order (BC EAO 2014) and the CEA Agency's Guidelines (EIS Guidelines) (CEA Agency 2013), which are intended to meet the goals of:

- continuing to engage Aboriginal groups potentially affected by the Project;
- involving Aboriginal groups in assessing the results of environmental studies and effects assessments;
- gaining further understanding of TK and TLU in the Project area and incorporating this information into the Project design, management, and monitoring plans;
- involving Aboriginal groups in assessing proposed mitigation;
- gaining input into culturally appropriate approaches to avoid, reduce, mitigate, or otherwise accommodate adverse effects; and
- continuing to identify opportunities for long-term participation in economic, employment, training, and other capacity-building interests.

1.4.1 Summary of Issues Raised by Aboriginal Groups

Interests, issues and concerns raised by Aboriginal Groups in the TLU studies and information gathered through the consultation process with each of the three groups to date have informed the assessment of effects on Current Aboriginal Use and proposed mitigation measures. Key interests and issues raised by Aboriginal groups related to Current Aboriginal Use are summarized below.

1.4.1.1 Lhoosk'uz Dene Nation

LDN has raised concerns related to the potential effects of the Project to wildlife (particularly ungulates), as well as the effects of the mine on water quality and flows. Concern was raised about potential effects of the Project on drinking water quality. LDN indicated that the Project may affect traditional hunting and gathering, and that there may be contamination to country foods. Trapline tenure holder TR0512T014 (held by LDN member) expressed concern about effects the Project on his tenure including concerns about ground disturbance. 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." LDN elders noted that moose population has substantially declined since their childhoods (LDN Elders, pers. comm.). Historically, caribou were also hunted, but interviewees noted that not as many people hunt caribou since it is 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. LDN indicated that cutting large trees may affect marten habitat. LDN also expressed concern that the Project may facilitate increased access to the area for hunting and fishing by non-Aboriginal people, and well as may introduce increase levels of garbage. LDN expressed concern about identification of sacred sites and expressed an interest in archaeological findings.

The Proponent has met several times with the holder of trapline TR0512T014 to gain an understanding of 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.

The Proponent met on March 21, 2013 with LDN to discuss the LDN ethnohistory report and treatment of confidential information in the Application/EIS.

1.4.1.2 Nadleh Whut'en First Nation

NWFN has raised concerns related to the potential effects of the Project to migratory birds, wildlife, fish and fish habitat, including Davidson Creek fisheries, as well as the effects of the mine on surface water quality and flows. NWFN have raised issues related to potential effects to wetlands and the ecological function that wetlands provide to species such as birds. NWFN are concerned about potential cumulative effects on wildlife (Triton 2014), and noted potential impacts of habitat fragmentation on moose and caribou. NWFN are concerned about road and increased hunting pressures on moose, and ungulate harvesting, and other wildlife. NWFN also discussed potential effects on medicinal plant harvesting (due to increased access from cattle and grazing activities). NWFN noted perceived risks and socio-cultural stigma related to electromagnetic field (EMF) exposure along the proposed 230kV transmission line, together with other effects, which may result in NWFN harvesters avoid using the area under the transmission line.

1.4.1.3 Saik'uz First Nation

SFN has raised concerns related to the potential effects of the Project related to trapline holders and traditional land owners, wildlife, including moose, deer and black bear populations, medicinal plants and berry-gathering areas, traditional harvesting, and SFN access to fish camps, as well as the effects of the mine on surface water quality and flows. SFN are concerned about potential cumulative effects on wildlife. Land use values identified by the SFN potentially affected by the Project include water quality, archaeology sites, fish and wildlife habitat, food and medicinal plants, plant and animal harvesting areas, burial sites, birth sites, spiritual sites, hunting and fishing sites, traplines, gathering places, places of habitation, travel routes (water and land), culturally modified trees (CMTs), historical sites, areas associated with oral accounts, and rare and endangered species. SFN indicated that members have experienced resource conflicts co-related to increased traffic as a result of the forest service road usage. SFN trapline holders interviewed noted they harvest a wide range of plants for medicinal and food purposes in their respective traplines. SFN raised concerns about effects on medicinal plants that may be downstream of the Project, although specific sites of concern were not identified. SFN has recommended that the transmission line route be optimized through discussions with Saik'uz.

On June 29, 2015 met with SFN to discuss the traditional use study, and obtaining site-specific current use information. At the meeting, SFN committed to provide shapefiles related to the sites identified in the TLU map included in the report, as well as a legend to the map to identify sites. Based on the recommendations identified in Section 6.2 of the SFN report, the Proponent agreed to explore the feasibility of adjusting the transmission line alignment to address interests and concerns of the SFN.

1.4.1.4 Stellat'en First Nation

StFN has identified land and resource use values that may be potentially affected by the Project, including water quality, archaeological sites, fish and wildlife habitat, food and medicinal plants, plant and animal harvesting areas, burial sites, birth sites, spiritual sites, hunting and fishing areas, traplines, gathering places, places of habitation, travel routes (water and land), CMTs, historical sites, and areas associated with oral accounts, in addition to any cultural practice related to these resources. StFN is concerned about potential effects on rare or endangered species (Triton 2014). StFN has raised concerns related to the proposed transmission line crossing of the Stellako River, including potential associated effects on wildlife habitat and water quality.

On October 15, 2014, June 26, 2014 and March 3, 2015, the Proponent met with StFN to discuss traditional land use, and potential conflicts with the transmission line alignment and StFN interests.

1.4.1.5 Ulkatcho First Nation

Through consultation UFN has raised concerns related to the potential effects of the Project to wildlife, vegetation, fish and cultural land use sites. UFN indicated that traffic from the project may affect current use of the land. UFN raised concerns relating to changes in drainage patterns, flows and volumes of water, redirection of watercourses and waterbodies, degradation of water quality (and related effects on fish, fish habitat, potable water users, and wildlife). UFN expressed concern that the Project may affect traditional hunting and gathering, and that there may be contamination to country foods. UFN expressed concern for impacts on ungulates, particularly caribou and preservation of caribou herds, since they would like to continue to hunt in the Project area. UFN indicated that improved access to the area as a result of the Project and improvements to the Kluskus FSR may introduce increased use of the area by recreational users including hunters. UFN is concerned about areas used for fishing, especially Blackwater River and Kuyakuz Lake. UFN expressed concern about effects on water levels in Tatelkuz Lake and the amount of water that will be removed from the lake for the Project. UFN expressed concern about impacts on mushrooms and their ability to continue harvesting mushrooms in the area. UFN also expressed concern regarding the introduction of invasive species, damage to rare and endangered species, loss of understory vegetation as well as food and medicinal plants and materials. UFN are concerned about changing mature forests to low shrub plant communities. UFN are concerned about homesteads of their elders in the vicinity of the Project property. UFN expressed concern about protecting cultural and traditional sites and historic areas, and expressed concern about potential effects of the Project to Mount Kuyakuz, which is considered to be a sacred site. Additionally, UFN indicated unmarked gravesites in the area may be affected by the Project. UFN requested the opportunity to continue to access the land for traditional purposes, including ceremonial use. UFN indicated the Project should consider cumulative impacts of development on the ability for Aboriginal groups to exercise rights. There is a concern that the Project may affect their ability to continue to transfer knowledge from elders to youth. Concerns were raised regarding environmental damage from chemical spills or leaching. The Ulkatcho requested a 5 km buffer along the length of the Nuxalk-Carrier Grease Trail to prevent damage to cultural and spiritual sites (DM Cultural Services Ltd., 2013).

1.4.1.6 Nazko First Nation

Issues raised by the NFN include potential effects of the Project on fish, wildlife and water, and on traditional land uses. Concern was expressed about the flow of water from the Project to the Nechako reservoir to Euchiniko River and into NFN traditional territory. NFN are concerned about potential effects on wildlife movement and mortality, particularly moose and caribou. NFN expressed concern about the potential Project effects on Chinook salmon. NFN expressed concern for potential acid rock drainage contamination. NFN are also concerned about dust emissions impacting medicinal plants, watersheds and fish. NFN identified that there may be risks associated with the FSR through Nazko territory.

1.4.1.7 Skin Tyee Nation

With respect to current use activities, STN indicate the Project has potential impacts on wildlife including increased fish mortality and behaviour shift of wildlife populations. STN expressed concern about the quality of harvestable resources, including contamination of food sources, or change in soil structure or composition. STN indicated that the Project may result in a change in access and /or timing of harvesting activities including restricted access to harvesting areas, spiritual and historic areas. STN identified a concern related to loss of sense of place and place names and loss of traditional knowledge and skills (DM Cultural Services Ltd., 2015). STN indicate these issues need to be considered within the context of cumulative effects of the loss of traditional use and access throughout their territory.

1.4.1.8 Tsilhqot'in Nation

TNG has raised concerns related to potential impacts on caribou.

1.4.1.9 Métis

MNBC has expressed concerns about the effect of the Project on Métis Rights and Traditional Land Uses and possible impacts to these rights and title. Discussions with the MNBC are taking place to identify hunting, trapping, and plant gathering rights that may be affected by the Project.

2. CURRENT CONDITIONS FOR CURRENT ABORIGINAL USE

2.1 INFORMATION SOURCES ON CURRENT CONDITIONS

Information sources include primary data from interviews with individuals or groups (see Section 17), LDN (Ethnohistory of Lhoosk'uz Dene Nation Traditional Territory) (Dewhirst, 2013), the UFN (Traditional Land Use and Ecological Knowledge of the Proposed New Gold Inc. Blackwater Project, Final Report) (DM Cultural Services Ltd., 2013), the Stellat'en First Nation Land and Resource Use Study Report (StFN LRUS) (Triton 2014), Stellat'en First Nation Socio-economic Baseline Study (Firelight Group 2015), and the SFN Traditional Land Use and Occupancy Study (TLUOS) (Thomas 2015).

Primary information was gathered using in the following ways (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; and
- Site tours with key community representatives including elders.

Secondary data sources including ethno-historical and ethnographic literature (e.g., Carrier Sekani Tribal Council 2006) as well as information summarized in relevant environmental assessment (EA) Applications (e.g., Coastal GasLink EA Application and Pacific Trails Pipeline EA Application). This report includes information from the Supplemental Report on Transmission Line Access Roads for the Blackwater Gold Project (New Gold Inc. 2015), which assesses the potential effects of transmission line access roads. Secondary sources are listed in Table 2-1. Correspondence with Aboriginal groups also yielded information about TK/TLU. Subsequent to the September 2014 submission of the Application/EIS for evaluation against the AIR (May 2014), SFN and NWFN provided additional information related to their Aboriginal interests (e.g., amphibians).

Lhoosk'uz Dene Nation

The Ethnohistory of Lhoosk'uz Dene Nation Traditional Territory (Dewhirst, 2013) focuses on aboriginal ownership, occupancy and use of the LDN traditional territory. The study relied on interviews, and interviewees were sited locations on maps. The study also includes ethnographic research on Lhoosk'uz Dene social organization, genealogy, land ownership and inheritance is also presented. The study used a "direct historical approach" and includes information on social organization, family territories and land tenure practices. Publically available secondary sources are referenced. The land and resource use data focuses on season round use of the land and includes discussion of harvesting and trapping locations. The study describes how historically, the LDN territories were owned by four primary family descent groups (sadeku) and 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).

Table 2-1. Secondary Sources Reviewed

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(continued)

Table 2-1. Secondary Sources Reviewed (continued)

Sources Reviewed for Section 7.2.7 of the Application/EIS
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Table 2-1. Secondary Sources Reviewed (continued)

Additional Sources Reviewed for Memo/Update to Section 7.2.7
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Stellat'en First Nation

The StFN produced two versions of the land and resource use study (LRUS): a StFN version, which includes information about their indigenous knowledge and territorial land use and occupancy, and a Proponent version, which does not include elements deemed confidential or sensitive. The LRUS was conducted in two phases: the background document review phase (undertaken in the summer and fall of 2013) and an interview phase including forty-one interviews (undertaken between February and August 2013). The report gathered indigenous knowledge and historical and contemporary land and resource use and occupancy. The land and resource use data includes, but is not limited to, locations having habitation value, spiritual value, valued gathering places and meeting areas, and water or land travel routes. Biotic resources identified include water, fish, mammals, birds, as well as flora and all associated habitat. The Proponent version includes a map illustrates the extent and number of areas referenced in background research, and it does not identify details relating to activities and values associated with these areas.

The Stellat'en First Nation Socio-economic Baseline Study (July 2015) provides a socio-economic baseline for Stellat'en First Nation members living on- and off-reserve, with a focus on current harvesting practices, food security, and workforce readiness. The report also investigates the potential perceived and actual project interactions of the Project for a range of community-identified socio-economic valued components. The study includes both primary and secondary research,

results of a Stellat'en community survey, partially funded by New Gold, as well as meetings and verification sessions.

Ulkatcho First Nation

The Ulkatcho Traditional Land Use and Ecological Knowledge of the Proposed New Gold Inc. Blackwater Project, Final Report (DM Cultural Services Ltd., 2013) presents UFN knowledge of lands and resources in relation to the Project. The study was developed in three phases: background research; oral interviews and site mapping; and ground truthing, reporting and map finalization. The TK/TLU information includes results from two Grease Trail Community Plan meetings with Ulkatcho community members where site specific information was mapped. The study emphasizes the seasonal round with respect to resources and the focus on trade with Coastal peoples. The TK/TLU 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 TK/TLU study identified 66 traditional land use sites historically and currently used by the Ulkatcho within the Proponent's tenure area, including hunting, fishing, trapping, and gathering sites, as well as use of trails, transportation corridors, dwelling, and spiritual and cultural sites. The study indicates that many members continue to supplement their incomes and feed their families through careful use of the food resources surrounding Anahim Lake, outside the current use RSA.

Skin Tyee First Nation

The STN TLUS (September 2015) presents STN knowledge of lands and resources in relation to the Project. The study included three phases: background research; oral interviews and site mapping; and ground truthing, reporting and map finalization. The report includes the results of 16 biographical interviews conducted with Elders and other community members. The report presents current hunting, trapping, medicinal plant harvesting and berry gathering practices, and also focuses on the transportation routes and trails, campsites, gathering and cultural sites. Transportation corridors include routes between Tatelkuz Lake and Kuyakuz Lake, as well as within the region between Johnny Lake and Fawnie Dome. The report identifies a total of 20 TLU sites fully or partially located within the Blackwater Project footprint.

2.2 LHOOSK'UZ DENE NATION CURRENT USE

The LDN traditional territory covers approximately 1,405,246 ha (Figure 2.2-1), which is overlapped by components of the Project including the mine, airstrip, and the transmission line. The LDN has seventeen Indian Reserves (IR) totalling approximately 1,648 hectares and members reside at Kluskus 1 and Sundayman's Meadow 3. Tatelkuz Lake Indian Reserve (IR) 28, located at the northern end of Tatelkuz Lake, is occupied by one LDN family. Approximately 44 km of the Kluskus FSR and 52 km of the transmission line cross through LDN traditional territory.

Seasonal Round

LDN members follow a seasonal round of activities within their keyoh. The LDN has characterized the seasonal round in the following manner:

Spring: In late winter and early spring, trapping beaver and muskrat occur. In areas where fish enter creeks to spawn during this period, LDN fish for trout, suckers, kokanee, Dolly Varden and whitefish. Trapping ends around May when beavers start to have their young. Plants, such as lodgepole pine and wild onion, are harvested in late spring.

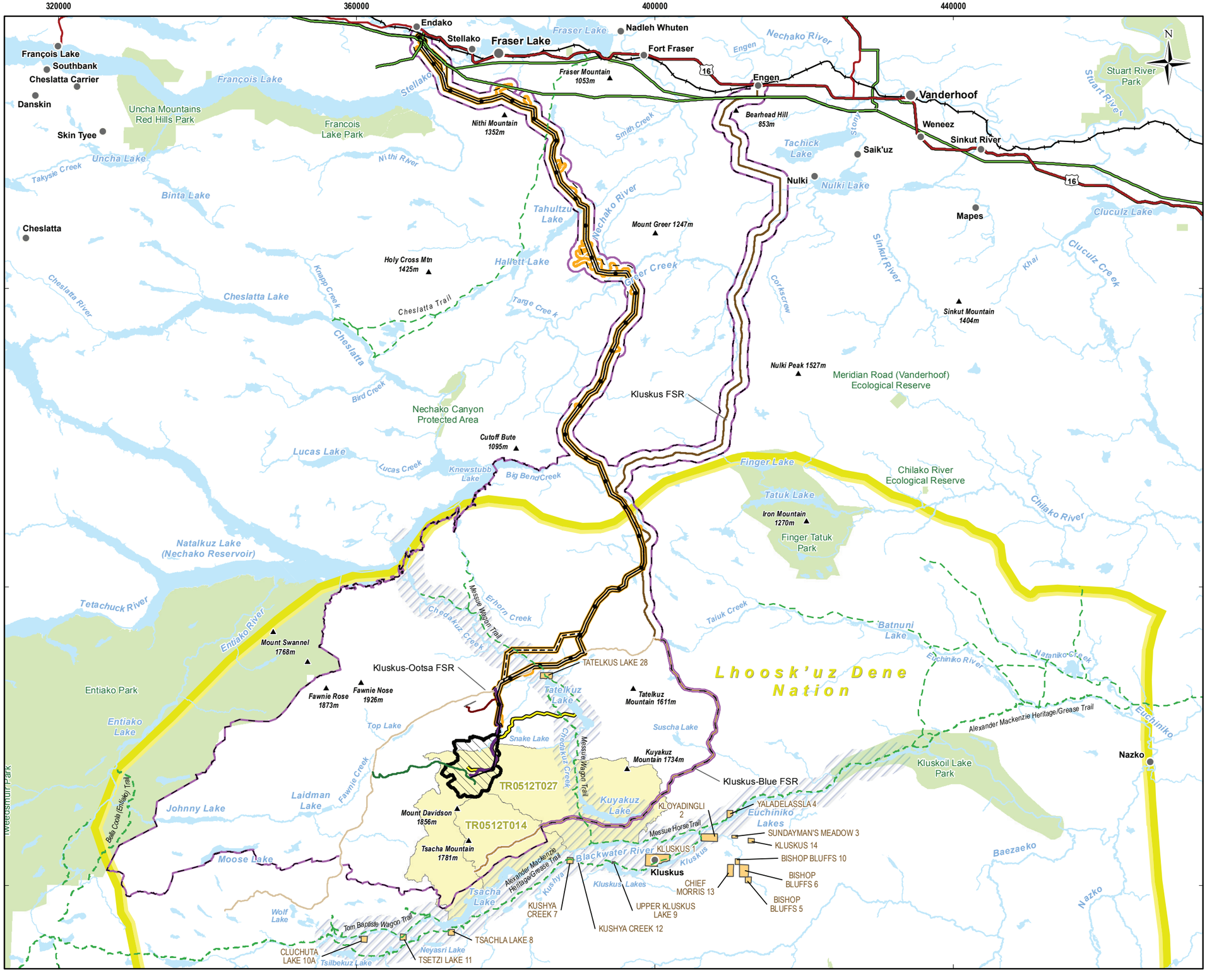
Summer: Hunting, fishing and plant gathering are important activities in the summer. Cariboo, deer and moose are hunted for food, and some of the meat is dried and cached for winter. Summer salmon are fished in areas north of Kuysha IR 7, Lhtako Dene IR 2 and other areas in the region. Berries, including blueberries, raspberries, huckleberries strawberries, soapberries and Saskatoon berries are harvested in areas including hillsides with southern and western exposures. A range of medicinal plants are harvested. Food and other resources are prepared and preserved for the winter.

Fall: During the fall, LDN fish, hunt and complete their preparations for the winter. Fishing at this time occurs at the outlets of lakes and near creeks. Kokanee, trout, whitefish, char and suckers are caught at this time. Big game hunting occurs in the fall and historically focused on caribou, although moose is now the dominant ungulate that is hunted. Traplines are laid in lowland swamps and meadows near lakes to trap small furbearers such as marten, beaver, mink, muskrat and squirrel.

Winter: Trapping is an important winter activity. Species that are trapped include muskrat, beaver, otter, lynx, fisher, wolverine, fox and coyote. These species are used for fur as well as for food. Caribou and moose are hunted in the winter. In the winter, caribou tend to move to lower elevations where they are more accessible, while moose are often near swamps and meadows (until February or March, depending on the year). LDN also fish at Tatelkuz Lake and Tsacha Lake.

Current Hunting and Trapping

LDN harvest moose, deer, beaver, duck, grouse and smaller animals, such as squirrel, muskrat and rabbits. Caribou is also hunted, but accessing caribou range is more costly, so fewer LDN participate in this hunt, and caribou is now considered a delicacy (Trapline TR0512T014 pers. Comm; LDN Comments, 2014). LDN has identified that hunting occurs throughout its traditional territory including on the south side and summit of Mount Davidson (within the LSA) and other mountain ranges. LDN hunt near Chedakuz Creek and Tatelkuz Lake. 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.).



Legend

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

Lhoosk'uz Dene Nation

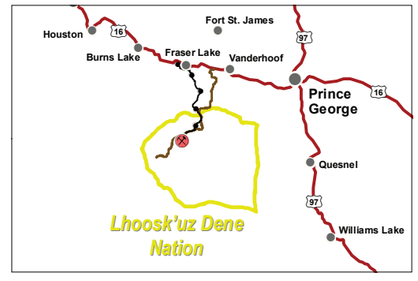
- LDN Territory
- LDN Reserves
- LDN Traplines
- Intensive Historic and Current Use Areas

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

- Original Local Study Area (LSA)
- Expanded LSA
- Original Regional Study Area (RSA)
- Expanded RSA



Scale: 1:505,000

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: newgold™

PROJECT: Blackwater Gold Project

Lhoosk'uz Dene Nation Traditional Territory and Study Areas

DATE: July, 2015	ANALYST: WR	**Figure 2.2-1**
JOB No: VE52242	QA/QC: LR	PDF FILE: 15-100-022_TLU-LhooskuzFN_v2.pdf
GIS FILE: 15-100-022_TLU-LhooskuzFN_v2.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	amec

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LDN trap beaver, bear and marten. Two provincially registered traplines (TR0512T014 and TR0512T027) held by LDN members overlap the Project area. These traplines are associated with larger historic keyohs. Trapline TR0512T014 is currently used. It was noted that LDN members historically accessed trapline TR0512T014 from the north, however consultation efforts did not indicate if this is currently a preferred route (i.e., access from Tatelkuz Lake IR 28, crossing over Mount Davidson from the north side). 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 (Trapline TR0512T027 pers. comm.). Information regarding LDN's trapping outside of provincially registered traplines was not available at the time of writing. LDN continue to use hides to create traditional clothing (Indigenous Work Force, 2013).

Current Fishing

LDN fish for trout, kokanee, and suckers in Tatelkuz Lake, as well as fishing for kokanee in Davidson Creek. They noted that Tatelkuz Lake is a preferred location to fish for trout, since trout caught in rivers "taste muddy" (LDN Elders, pers. comm.). Other fishing locations include Kuyakuz Lake, middle Chedakuz Creek (the portion of Chedakuz Creek between Kuyakuz and Tatelkuz Lake) and lower Chedakuz Creek, the Twin Lakes (location unknown), and a little creek (not named) near km 104 of the Kluskus FSR. LDN representatives also noted the presence of a fish trap on Chedakuz Creek. West Kluskus Lake (also known as Squirrel Lake) has historical fishing camps that have been used for hundreds of years. LDN rely 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, and fish is dried for consumption throughout the year (Interviews with Lhoosk'uz Dene Elders, 2013). LDN use a range of fishing techniques, including using moose heart as bait for larger rainbow trout (Indigenous Work Force 2013). For the one family that resides at Tatelkuz Lake IR 28, fish, including rainbow trout, suckers, and kokanee from Tatelkuz Lake, lower Davidson Creek, and lower and middle Chedakuz Creek, are an important source of food. (Interviews with Lhoosk'uz Dene Elders, 2013).

The Blackwater River and its tributaries (i.e. Tsacha Lakes) were identified as critical fishing areas for LDN. The Proponent made a conscious effort to avoid siting the Project or components in the vicinity of the Blackwater River drainage given its importance to Aboriginal groups.

Current Gathering

Plants gathered by LDN include soapberries, spruce pitch and tips, pine, willow (green and red), strawberry runners, kinnikinnick, Oregon grape, bear berries, poplar bark, and poplar buds (LDN Elders, pers. comm.). Plants gathered by LDN as food sources include wild celery, wild onion, soapberries, huckleberries, raspberries, strawberries, Saskatoon berries, cranberries and blueberries (LDN Elders, pers. comm.). Berries are preserved for use later in the year. LDN gather wild mushrooms, other wild plant foods, and plant medicines during this time (Indigenous Work Force, 2013; LDN Elders, pers. comm.).

LDN pick plants around the east of Tatelkuz Lake and at Kuyakuz Lake. An abundance of berries and medicinal plants exist on the south and south-east sides of Tatelkuz Lake, within the current use LSA. Plant harvesting is done 'as needed'. Plant gathering is also conducted along trails, including the Messue Wagon Trail within the current use LSA. Interviewees noted that sometimes balsam and

spruce bark are harvested near Vanderhoof (outside of the current use RSA and LSA) (LDN Elders, pers. comm.). The holder of trapline TR0512T027 indicated that plants and medicines are collected in the trapline area.

Other Current 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 Aboriginal people. Two sacred sites, Kuyakuz Mountain and an area on the northeast shore of Tatelkuz Lake, are located within the current use LSA (Andrew Leach & Associates 2008); LDN Elders, pers. comm.), and both are areas where ceremonial activities may occur. 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 consider the site at the east end of Tatelkuz Lake to be a sacred place, particularly for praying.

LDN use historic trails including the Messue Wagon Trail that connects Tatelkuz Lake 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 fish, hunt, and gather food while using the trail.

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). Canoeing and boating were popular activities on Tatelkuz Lake (LDN Elders, pers. comm).

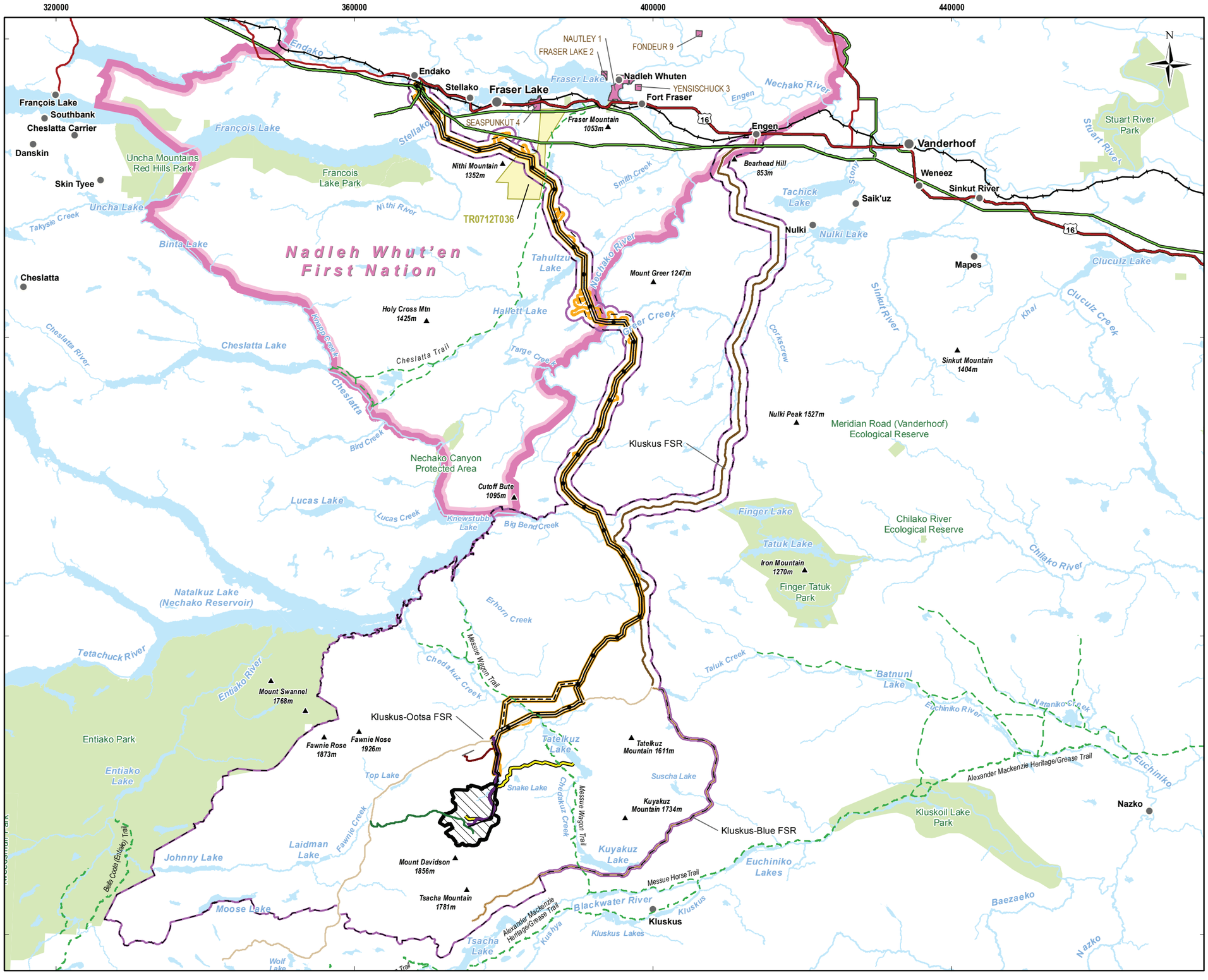
LDN have indicated that Davidson Creek is a source of drinking water for the members living on Tatelkuz Lake IR 28.

2.3 NADLEH WHUT'EN FIRST NATION CURRENT USE

The NWFN traditional territory covers approximately 534,479 ha (Figure 2.3-1). The NWFN has seven Indian Reserves totalling 969 hectares and members reside on the banks of the Nadleh Bun (Fraser Lake) near Fort Fraser. Approximately 48 km of the proposed transmission line cross through NWFN traditional territory.

Seasonal Round

No information about NWFN seasonal round has been provided to the Project. When information is shared, the Project with consider incorporating relevant information into Project design, execution, management plan development, permitting, and monitoring.



Legend

- Populated Place
- 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

- Original Local Study Area (LSA)
- Expanded LSA
- Original Regional Study Area (RSA)
- Expanded RSA

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: newgold™

PROJECT: Blackwater Gold Project

Nadleh Whut'en First Nation Traditional Territory and Study Areas

DATE: July, 2015	ANALYST: WR	**Figure 2.3-1**
JOB No: VE52242	QA/QC: JB	PDF FILE: 15-100-028_TLU-NadlehWhutenFN_v2.pdf
GIS FILE: 15-100-028_TLU-NadlehWhutenFN_v2.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	

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Current Hunting and Trapping

Animals hunted by NWFN include moose, deer, bears and small game (Hudson 1983; Cranny 1986; Carrier Sekani Tribal Council 2006; PTP ASEP Training Society 2010a). NWFN direct a high degree of hunting effort in areas to the north of Highway 16 (north and outside of the current use RSA), including the Sutherland River Valley and Ormond Lake (Carrier Sekani Tribal Council 2006; Firelight Group 2014). Ormond Lake, for example, was a traditional winter hunting and trapping location (Bouchard and Kennedy 2007), and is currently an important camping, hunting, trapping and fishing area (Pacific Trails Pipelines LP 2005). The area is also the site of an NWFN culture camp (Firelight Group 2014).

NWFN trap throughout their traditional territory. NWFN trap in areas around the Sutherland River Valley (Coastal Gaslink 2014). Traplines typically follow the edges of waterways and shorelines where game travel (Hudson 1983). Trapping activity, as part of the seasonal round, is typically carried out in the winter (Carrier Sekani Tribal Council 2006). An NWFN member holds a provincially-registered trapline (TR0712T036) which is overlapped by transmission line and access roads by 0.67%. Based on individual interviews with the son and daughter of the trapline holder on 29 November 2012 and 30 April 2013 respectively, both noted the trapline is currently dormant and not used, however the trapline may be in use by other NWFN members. NWFN advised the information collected by the Proponent with respect to TR0712T036 does not represent Nation's use of their traditional territory for trapping purposes.

Current Fishing

Fish, specifically sockeye salmon, is a staple traditional food for NWFN (Hudson 1983; Cranny 1986; PTP ASEP Training Society 2010a). Species fished by NWFN members include salmon, steelhead trout, Dolly Varden trout, and rainbow trout. NWFN members use food preservation techniques such as drying, freezing and canning in order to consume fish throughout year. In 2009, 100% of women and 94% of men reported consuming salmon on a regular basis, the bulk of which was harvested from NWFN territory (Firelight Group 2014).

Secondary data sources indicate NWFN fish in lakes and rivers to the north and outside of the current use RSA (Pacific Trails Pipelines LP 2005; Carrier Sekani Tribal Council 2006; Bouchard and Kennedy 2007; Coastal Gaslink 2014). For example, NWFN harvest salmon, steelhead trout, Dolly Varden trout and rainbow trout in the Sutherland River (Coastal Gaslink 2014). The Nautley River (to the north and outside of the current use RSA) is identified as an important salmon fishing area for NWFN (the river also contains trout, kokanee, and White Sturgeon). Secondary research indicates NWFN are concerned about the existing population of white sturgeon in the Nechako River (Carrier Sekani Tribal Council 2006).

Several NWFN IRs are located north of Highway 16 at historical fish harvesting sites, including Canyon Lake 7, Ormonde Creek 8, Fraser Lake 2, Nautley 1, and Seaspunkut 4. These sites are outside the current use LSA and RSA.

Current Gathering

NWFN members gather plants, primarily berries, to help sustain them over the winter (Carrier Sekani Tribal Council 2006; PTP ASEP Training Society 2010a; Coastal Gaslink 2014). Berries harvested include raspberries, soapberries, black currents, Saskatoon berries, thimble berries and huckleberries (Carrier Sekani Tribal Council 2006). Service berries are a mainstay but other plants are collected for their leaves, bulbs and roots (Hudson 1983). Other plants harvested include, but are not limited to, fir, aspen, red willow, sage, fireweed, wild rose. Many of these plants are used for medicinal purposes (Carrier Sekani Tribal Council 2006).

Based on publically-available information, NWFN gather at sites to the north and outside of the current use RSA, including Fraser Lake, Barlow Road, Ormond Creek, Ormond Lake, Sutherland River/Valley, Angly Lake, and Top Lake (Carrier Sekani Tribal Council 2006; Coastal Gaslink 2014).

Other Current Cultural and Traditional Uses of the Land

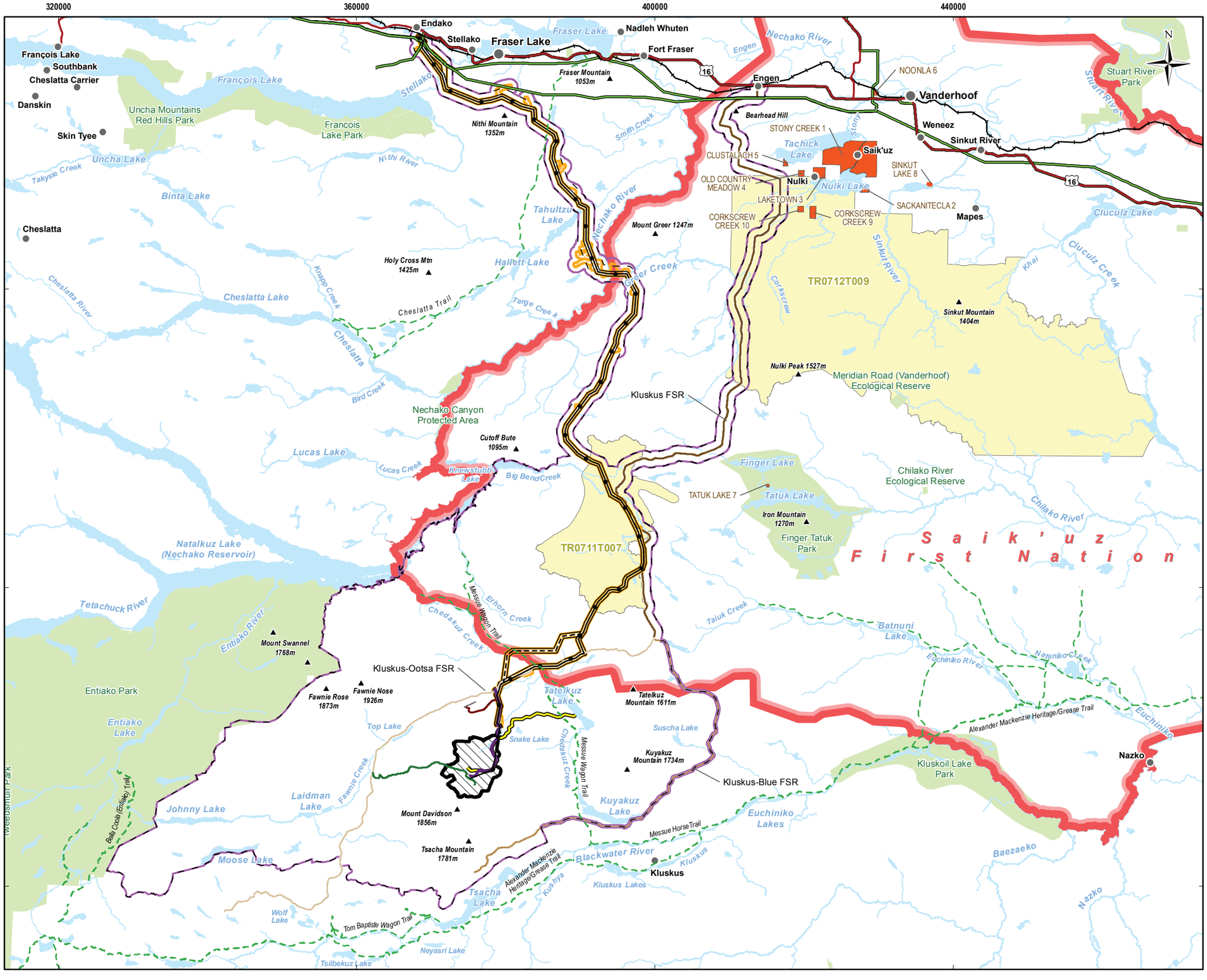
NWFN use trails, habitations, and sacred sites to the north and outside of the current use RSA (Coastal Gaslink 2014). The Cheslatta Trail (or Tset'ladak t'seti in Carrier) crosses through NWFN traditional territory.

2.4 SAIK'UZ FIRST NATION CURRENT USE

The SFN traditional territory covers approximately 982,510 ha (Figure 2.4-1). There are ten SFN reserves totalling 3,235 ha and members reside primarily on Stony Creek 1, located 9 km southeast of Vanderhoof. Tatuk IR 7 has been developed as the SFN cultural camp and a location for training SFN youth. Approximately 72 km of the proposed transmission line cross through SFN traditional territory.

The SFN Traditional Land Use and Occupancy Study (TLUOS) provides a "robust preliminary description of the use of the lands and resources by the SFN's members" (Thomas 2015). The SFN TLUOS identifies 4,753 interconnected sites within the TLUOS study area, which include the following:

- 620 overnight sites (cabins, lean to, boat, tent, camper trailer, breakdowns, under open sky and other);
- 2,812 animal kill sites [including 275 trapping kill sites, 1,057 fish kill sites (Char, Dolly Varden, Kokanee, whitefish, course fish, trout, Arctic grayling, salmon, ling cod, sturgeon and other fish), 1,069 mammal kill sites (moose, elk, black bear, porcupine, shot muskrat, deer, caribou, rabbit, shot beaver, shot lynx, other mammal), 408 bird kill sites (grebes, geese, ducks, grouse, eggs and other bird), 3 other animal kill sites];
- 968 plant and wood collecting sites (berries, medicine plant, construction wood, food plant, specialty wood, firewood, and other plant/wood);
- 129 earth material collecting sites (earth material and drinking water); and
- 224 fixed cultural sites (burial, death sites, gathering places, cache pits, sacred site, birth sites, settlement, cottonwood – canoe site, ceremony, and other cultural sites).



Legend

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

Saik'uz First Nation

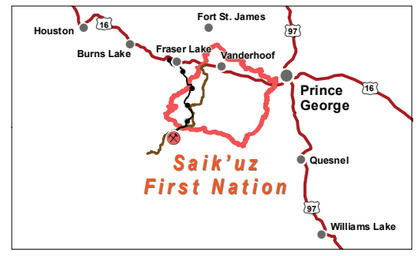
- SFN Territory
- SFN Reserves
- SFN Traplines

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

- Original Local Study Area (LSA)
- Expanded LSA
- Original Regional Study Area (RSA)
- Expanded RSA



Scale: 1:505,000

0 5 10 20

Kilometres

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:	ANALYST:	Figure 2.4-1
July, 2015	WR	
JOB No: VE52277	QA/QC: JB	PDF FILE: 15-100-025_TLU-SaikuzFN_v2.pdf
GIS FILE: 15-100-025_TLU-SaikuzFN_v2.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	amec

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The SFN TLUOS indicates that each current use activity (e.g., hunting, gathering) includes the act itself, as well as other associated cultural practices and regimes. These practices and regimes are not described in the TLUOS. The absence of information about practices does not represent the absence of that particular practice.

The map provided in the SFN TLUOS does not include a legend so it is not possible to identify site locations within the current use LSA and RSA. During the June 29, 2015 meeting to discuss the TLUOS, SFN informed the Proponent that the red diamonds on the map represent moose kill sites and red circles are berry picking sites. It is difficult to discern the different sites due to their concentration and map quality. Based on the map, SFN current use sites are concentrated around SFN IRs and to the south of the reserves. There are also current use sites along the Kluskus FSR and Kenny Dam Road, and around Tatelkuz Lake. At the June 29, 2015 meeting, SFN agreed to provide a map legend to assist with the Proponent's understanding of SFN current uses in relation to project components and activities.

Seasonal Round

The SFN TLUOS notes that the life on the keyoh consisted of fishing, hunting and gathering during the season. Each family had their own keyoh that they had to look after (Thomas, 2015). No additional seasonal round information has been provided. When additional information is shared, the Project with consider incorporating relevant information into Project design, execution, management plan development, permitting, and monitoring.

Current Hunting and Trapping

Based on the TLUOS and SFN consultations, SFN members hunt and trap throughout their traditional territory. Animal kill sites identified in the TLUOS include moose, caribou, elk, deer, black bear, porcupine, muskrat, rabbit, beaver and lynx. Based on the map in the TLUOS, densities of moose kill sites appear to occur around and to the south of SFN reserves, as well as along waterways, including Greer Creek, within the current use RSA. The kill sites represent only a portion of the larger habitat required to maintain healthy wildlife populations (Thomas 2015). Caribou used to be harvested but they are no longer in the area (SFN Elder pers. comm.). A SFN member noted that hunting of calves has placed additional pressure on populations. Grouse, geese, grebes, ducks are also harvested, along with the eggs of these birds. Interviewees noted the moose and deer populations are being affecting by increased hunting pressure from non-Aboriginal hunters.

Finmoore and Wedgewood, near the confluence of the Nechako and Stewart rivers, (to the north and outside of the current use RSA) are locations frequented for a variety of current use activities. SFN members hunt moose, deer, and bear at Finmoore and bear along the Nechako River (Carrier Sekani Tribal Council 2006). The Stony Creek area (outside the current use RSA) is noted as a valuable moose hunting area (SFN member pers. comm.).

Based on the TLUOS and SFN consultations, SFN members trap throughout their traditional territory. The TLUOS identifies 275 trapping sites, and based on missing shapefile information and map quality, it is difficult to determine if specific locations are identified within the current use RSA or LSA. Different species are harvested depending on the season, and include beaver, mink, lynx,

marten, muskrat, wolverine, rabbit, porcupine and squirrel. Animals trapped within one SFN keyoh include marten, squirrel, lynx, black bear, muskrat, rabbit, fisher, wolf, coyote, and weasels.

In addition to general trapping areas undertaken throughout SFN traditional territory, two provincially-registered traplines (TR0711T007 and TR0712T009) held by SFN members overlap with the current use LSA. The SFN have advised the Proponent that there are community traplines (raised at June 29, 2015 meeting). The transmission line overlaps these traplines by 0.61% and 0.05% respectively. Registered trapline (TR0711T007) and larger keyoh (approximately 77 km^2 in size) is located near Big Bend 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.

Species harvested from TR0711T007 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.

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

Current Fishing

Based on the TLUOS and SFN consultations, SFN members fish throughout their traditional territory. The TLUOS identifies 1,057 fish kill sites, and although the TLUOS map legend or shapefiles have not been shared with the Proponent, however, symbols representing fish appear occur within the current use LSA and RSA, including Tatelkuz Lake. Species fished include char, Dolly Varden, kokanee, whitefish, trout, Arctic grayling, salmon, ling cod, and sturgeon.

During interviews, SFN representatives noted that fishing is an important traditional practice and dietary source. This knowledge is used when deciding what, when, and where to fish, and is shared and taught to the community's youth.

Although salmon fishing has slowed down due to poor salmon returns and regulatory limitations, salmon (particularly sockeye) continue to be a species of importance to SFN (SFN Chief and Council representatives pers. comm.; SFN Elders pers. comm.). Elders and youth fish for spring, sockeye and pink salmon at Wedgewood and Finmoore (to the north and outside of the current use RSA). One SFN member owns a salmon fishing camp at Wedgewood.

The SFN identified fishing for spring salmon on the Nechako River. The SFN have indicated they have a fish camp along the Nechako River and there are currently no roads to the camp (June 29, 2015 meeting). The fish camp is located in an area that would be under the proposed transmission line. The SFN indicated to the Proponent that they would prefer the fish camp remain remote. SFN also fish in Greer Creek, and a keyoh holder noted the presence of a family fish trap on the portion where the

proposed transmission line would cross Greer Creek. The SFN TLUOS identifies that Tatelkuz Lake is used for fishing.

The SFN also identified fishing in Swanson Creek and Big Bend Creek as well as Tatuk Lake, Lavoy Lake and Finger Lake. Other fishing locations include Ormond Lake, Oona Lake, Fraser Lake and Nautley River (all to the north and outside of the current RSA (Carrier Sekani Tribal Council 2006; Coastal Gaslink 2014). Fishing for whitefish, trout, suckers, and char was reported to occur in and around Cluculz Lake (to the east and outside of the current RSA) in the mid-1980s (Cranny 1986). Kokanee is fished in a variety of lakes (e.g., Kokanee is available in Takuk Lake in the fall). Some ice fishing occurs during the winter. Trout is the major species, and there are other types that are consumed as well.

The SFN TLUOS map legend or shapefiles have not been shared with the Proponent, however, symbols representing fish occur within the current use LSA and RSA.

Current Gathering

Based on the TLUOS and consultations with SFN, SFN members gather plants throughout their traditional territory. The TLUOS identifies 968 plant and wood gathering sites, and based on the map, some plant gathering locations occur within the current use LSA and RSA. The TLUOS identifies berry picking, and other TLU sites around Tatelkuz Lake. 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, birch and alder are harvested. These plants must be harvested from areas that are untouched, and a smudge ceremony must be held before these plants can be picked. Cottonwood is harvested for cottonwood for canoes. 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. Wood is also collected and used for construction, firewood and other purposes.

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

Plant gathering for huckleberries, soapberries, bear berries, strawberries, raspberries, and blueberries is undertaken in the keyoh associated with trapline TR0711T007. 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 (SFN member pers. comm.). SFN raised concerns about effects on medicinal plants that may be downstream of the Project, although specific sites of concern were not identified.

The keyoh holder associated with trapline TR0712T009 noted that the land has 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 Beatle (MPB), which has disturbed areas within the current use LSA.

Based on the map in the TLUOS, plant gathering locations occur within the current use LSA or RSA.

Other Current Cultural and Traditional Uses of the Land

The SFN TLUOS identifies 224 fixed cultural sites, including but not limited to birth sites, settlements, burial sites, death sites, gathering places, cache pits, Cottonwood-canoe sites, ceremonial sites and sacred sites.

Areas near Corkscrew Road, to the west of Nulki Lake, are considered to have sacred water for spiritual cleansing, as well as drinking water.

SFN believe forestry resources that have been untouched should be preserved for the future. Cottonwood is important for canoes as it long lasting; they are sunk to the bottom of rivers to preserve them over winter. Birch is also important to SFN.

A total of 620 overnight areas are noted in the SFN TLUOS report which include cabins, lean-tos, boat areas, tents, camper trailers, open sky and other overnight areas.

Keyoh holders conduct a number of spiritual and cultural ceremonies in their keyoh. 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 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.

SFN members engage in medicine gathering and culture camps at Wedgewood and Finmoore (to the north and outside of the current use RSA) (Carrier Sekani Tribal Council 2006). There is a camp at Tatuk IR 7 for training youth.

A number of historic trails are located to the north and outside of the current use RSA, including a trail from Vanderhoof airport north to Stuart River Trail from Laketown IR 3 to Tatuk Lake, a trail from Nulki Lake to Bella Coola (Grease Trail), a trail from Nulki Lake to Cluculz Lake to Fort George, and a trail from Tatuk Lake to Bobtail Lake (Coastal Gaslink 2014).

The SFN TLUOS identifies 129 earth material collection sites and drinking water sites, although specific locations are not identified.

The SFN TLUOS indicates there is use within the current use LSA or RSA that may include cultural and traditional land use sites, but specific locations have not been shared with the Proponent.

2.5 STELLAT'EN FIRST NATION CURRENT USE

StFN traditional territory covers approximately 700,000 ha, and lies approximately 157 km west of Prince George (Triton 2014; Figure 2.5-1). The Stellat'en currently reside on lands around Francois and Fraser Lakes and extending south to the Nechako Reservoir and north between Stuart and Babine Lakes (Triton 2014). StFN members occupy two reserves (Stellaquo or Stella IR 1 and Binta Lake IR 2). Approximately 48 km of the transmission line cross through StFN traditional territory.

Seasonal Round

The StFN LRUS discusses StFN seasonal round and describes use of trails and waterways by clans and extended families. Five seasons are discussed:

- Early spring: StFN harvest roots and shoots, and some trapping and hunting activities occur. Beaver, small game and migrating birds, such as ducks and geese are harvested. StFN ice and open water fish for suckers, burbot and trout at this time.
- Late Spring-Early Summer: StFN focus on collection and preparation of resources for the coming year. This includes harvesting fish, game and birds, and a strong emphasis on plant collection.
- Summer-Late Fall: Late summer is a time for hunting both small game and ungulates. Chinook and Sockeye salmon are fished in rivers. This is also an important time for berry preservation.
- Late Fall-Early Winter: During the late fall to early winter, fur bearing animals are trapped. Whitefish (and other species) are harvested.
- Winter: Ungulates are hunted in the winter, in addition to hare, grouse and other small game. Trapping continues throughout the winter.

Current Hunting and Trapping

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). Species hunted by StFN include moose, deer, and black bear (Triton 2014); (Firelight Group 2015). 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 by non-Aboriginal users (Triton 2014). StFN members reported reduced consumption of traditional food, including moose meat, as a result of contamination concerns (Firelight Group 2015).

Interviews conducted with the holder of trapline TR0712T039 (which overlaps with the LSA along the northern section of the proposed transmission line alignment) indicate that some StFN members continue to trap. Economic benefits from trapping are low, but representatives noted that it provides

opportunities to engage in traditional and cultural activities (Holders of trapline TR0712T039 pers. comm.) and Trapline TR0712T039 may be linked to keyah system of land stewardship (Triton 2014).

Beaver and muskrat are trapped in marshy areas and are used as food and for fur; wolverine is trapped for fur (Triton 2014). Ducks and geese, in addition to small game, are also trapped (Triton 2014).

The StFN LRUS (Proponent Version; Triton 2014) identifies uses within the current use LSA or RSA but it is not possible to identify the types of use based on the maps provided on the StFN LRUS.

Current Fishing

The StFN TLUS notes that there were more references by StFN to fishing than to hunting, which supports the importance and wealth of waterways and fishing resources in the area. StFN indicated that their subsistence food fishery is dependent upon the health of fish habitat, and water quality is necessary for watersheds to sustain fish (Triton 2014).

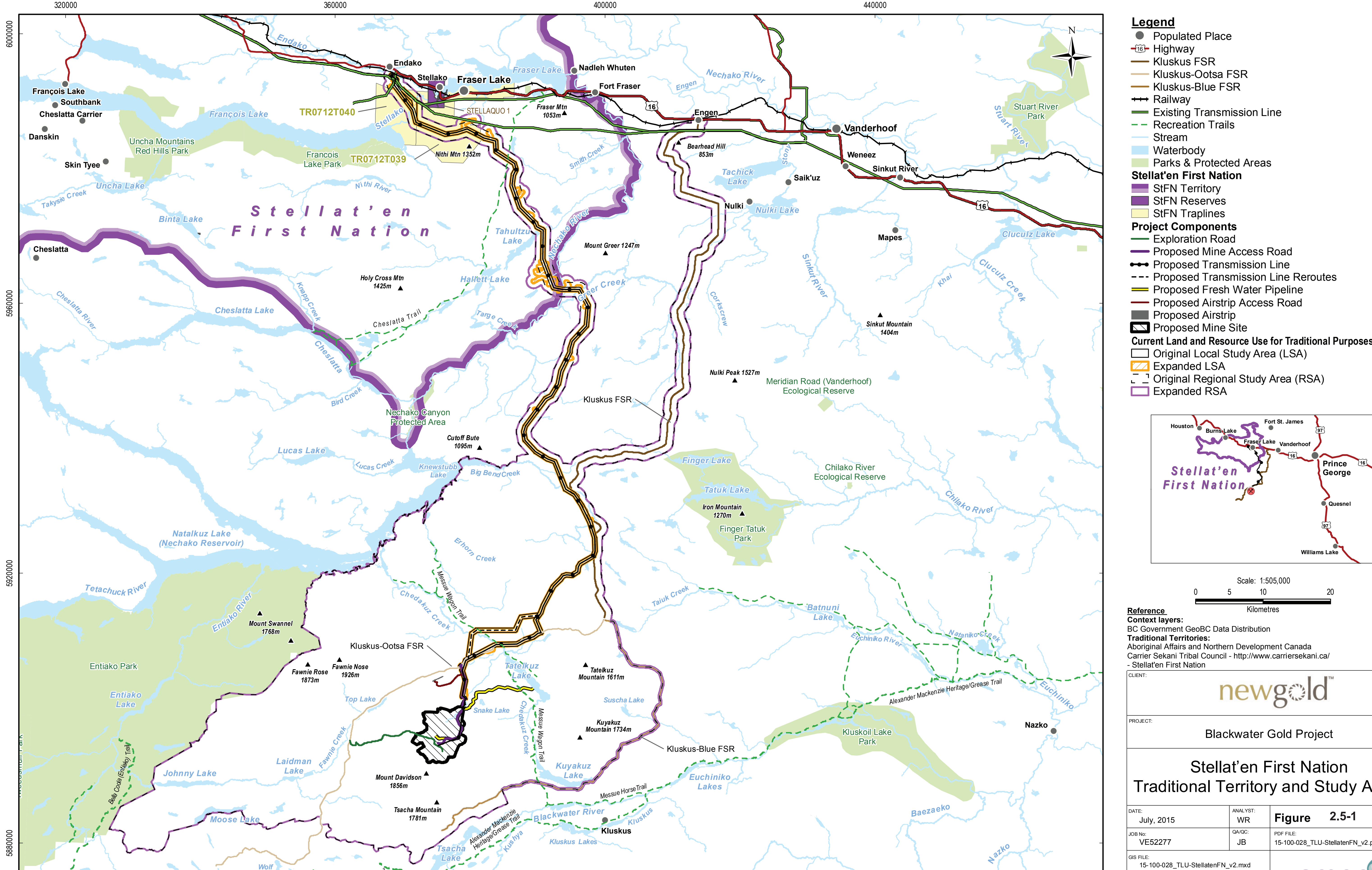
StFN members use a variety of fishing practices (e.g., hook and line fishing, netting, traps, barricades). StFN harvest many different species of fish including salmon, halibut, char, whitefish and trout – with salmon being the most important (Firelight Group 2015). Other species (e.g., suckers and minnows) are also harvested for bait or food for domestic animals. StFN communities rely on rivers (e.g., the Nechako, the Endako and Stellako rivers) and lakes (e.g., Fraser and Francois lakes) to support fishing practices (Triton 2014). Members have reported reduced consumption of traditional food, particularly salmon, as a result of contamination concerns (Firelight Group 2015).

The StFN LRUS (Proponent Version; Triton 2014) identifies uses within the current use LSA or RSA but it is not possible to identify the types of use based on the maps provided in the report.

Current Gathering

Plants are an important resource for 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, strawberries, 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). Tea plants are also consumed (Firelight Group 2015). 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."

StFN members report traditional foods are harvested by individuals or with family members, primarily within the StFN traditional territory or in combination with other areas (Firelight Group 2015). Although many StFN members participate in the non-traditional economy, fish, game, and berries constitute a major portion of their diet, and the StFN reported they do not get enough traditional foods on a regular basis (Firelight Group 2015).



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Stellat'en First Nation
Endako
Stellako
Fraser Lake
Nadleh Whuten
Fort Fraser
Engen
Vanderhoof
Weneez
Sinkut River
Saik'uz
Nulki
Mapes
François Lake
Southbank
Cheslatta Carrier
Danskin
Skin Tyee
Cheslatta
Nazko
Kluskus
TR0712T040
TR0712T039
STELLAQUO 1
Uncha Mountains Red Hills Park
Francois Lake Park
Stuart River Park
Nechako Canyon Protected Area
Meridian Road (Vanderhoof) Ecological Reserve
Chilako River Ecological Reserve
Finger Tatuk Park
Entiako Park
Kluskoil Lake Park
Fraser Mtn 1053m
Nithi Mtn 1352m
Bearhead Hill 853m
Mount Greer 1247m
Holy Cross Mtn 1425m
Sinkut Mountain 1404m
Nulki Peak 1527m
Cutoff Bute 1095m
Iron Mountain 1270m
Mount Swannel 1768m
Fawnie Rose 1873m
Fawnie Nose 1926m
Tatelkuz Mountain 1611m
Kuyakuz Mountain 1734m
Mount Davidson 1856m
Tsacha Mountain 1781m
Kluskus FSR
Kluskus-Ootsa FSR
Kluskus-Blue FSR
Cheslatta Trail
Alexander Mackenzie Heritage/Grease Trail
Messue Wagon Trail
Messue Horse Trail
Endako
François Lake
Stellako
Fraser Lake
Nechako River
Engen
Stuart River
Uncha Lake
Nithi River
Smith Creek
Tachick Lake
Nulki Lake
Takysie Creek
Binta Lake
Tahultzu Lake
Nechako River
Cluculz Lake
Cluculz Creek
Khai
Sinkut River
Corkscrew
Hallett Lake
Greer Creek
Targe Creek
Cheslatta River
Knapp Creek
Cheslatta Lake
Cheslatta
Bird Creek
Lucas Lake
Lucas Creek
Knewstubb Lake
Big Bend Creek
Finger Lake
Tatuk Lake
Chilako River
Erhorn Creek
Natalkuz Lake (Nechako Reservoir)
Tetachuck River
Entiako River
Chedakuz Creek
Taiuk Creek
Batnuni Lake
Nataniko Creek
Euchiniko River
Euchiniko
Tatelkuz Lake
Top Lake
Snake Lake
Suscha Lake
Entiako Lake
Laidman Lake
Fawnie Creek
Johnny Lake
Kuyakuz Lake
Euchiniko Lakes
Blackwater River
Kluskus
Kluskus Lakes
Moose Lake
Tsacha Lake
Kushya
Baezaeko
Nazko
Wolf Lake
Bella Coola (Entiako) Trail
Legend
Populated Place
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
Original Local Study Area (LSA)
Expanded LSA
Original Regional Study Area (RSA)
Expanded RSA
Houston
Burns Lake
Fort St. James
Fraser Lake
Vanderhoof
Prince George
Quesnel
Williams Lake
Stellat'en First Nation
Scale: 1:505,000
0 5 10 20
Kilometres

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: July, 2015	ANALYST: WR	Figure 2.5-1	
JOB No: VE52277	QA/QC: JB	PDF FILE: 15-100-028_TLU-StellatenFN_v2.pdf	
GIS FILE: 15-100-028_TLU-StellatenFN_v2.mxd			
PROJECTION: UTM Zone 10	DATUM: NAD83	amec	

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The StFN LRUS (Proponent Version; Triton 2014) identifies uses within the current use LSA or RSA but it is not possible to identify the types of uses based on the maps provided in the report.

Other Current Cultural and Traditional Uses of the Land

There are a number of sacred sites in the StFN traditional territory listed on their website (Stellat'en First Nation n.d.), including:

- The Grandfather's Trails (Atsiyan Buhati) are described as trails suitable for catching salmon, char, and whitefish, and where camping occurred. Portions of these trails are believed to be in the LSA in the northernmost section of the transmission line right of way. The Grandfather Trail network represents sustained use of the land, and is used by recreational users today (Proponent Version; Triton 2014)
- The Women's Song Place (Tse Koo Shun K'ut) 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 current use LSA and RSA.
- The Red Rock (Tselkin K'ut), near the Women's Song Place (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.
- Binta Lake is 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 current use RSA.

The StFN LRUS 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 CMT 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 crosses through StFN traditional territory and the StFN LRUS indicates that the Trail was an important travel, information sharing and trade route (Proponent Version; Triton 2014; Figure 7.2.7-6).

The StFN LRUS (Proponent Version; Triton 2014) identifies uses within the current use LSA or RSA but it is not possible to identify the types of use based on the maps provided in the report.

2.6 ULKATCHO FIRST NATION CURRENT USE

The UFN traditional territory covers approximately 3,030,687 ha (Figures 2.6-1). There are twenty-one UFN reserves totalling approximately 3,246 ha. The UFN traditional territory boundary that appears on Project figures was developed based on from publicly available sources and was not outlined in the TK/TLU. UFN traditional territory is overlapped by components of the Project including the mine, airstrip, and 14 km of the transmission line.

Figure 2.6-2 shows the TK/TLU "intensity of use map" (DM Cultural Services Ltd. 2013: 42) overlaid on the current use LSA and RSA, including Project components. These areas have been numbered and are indicated in the following way throughout the document: e.g., grid 93F.015.3 of the UFN TK/TLU.

Seasonal Round

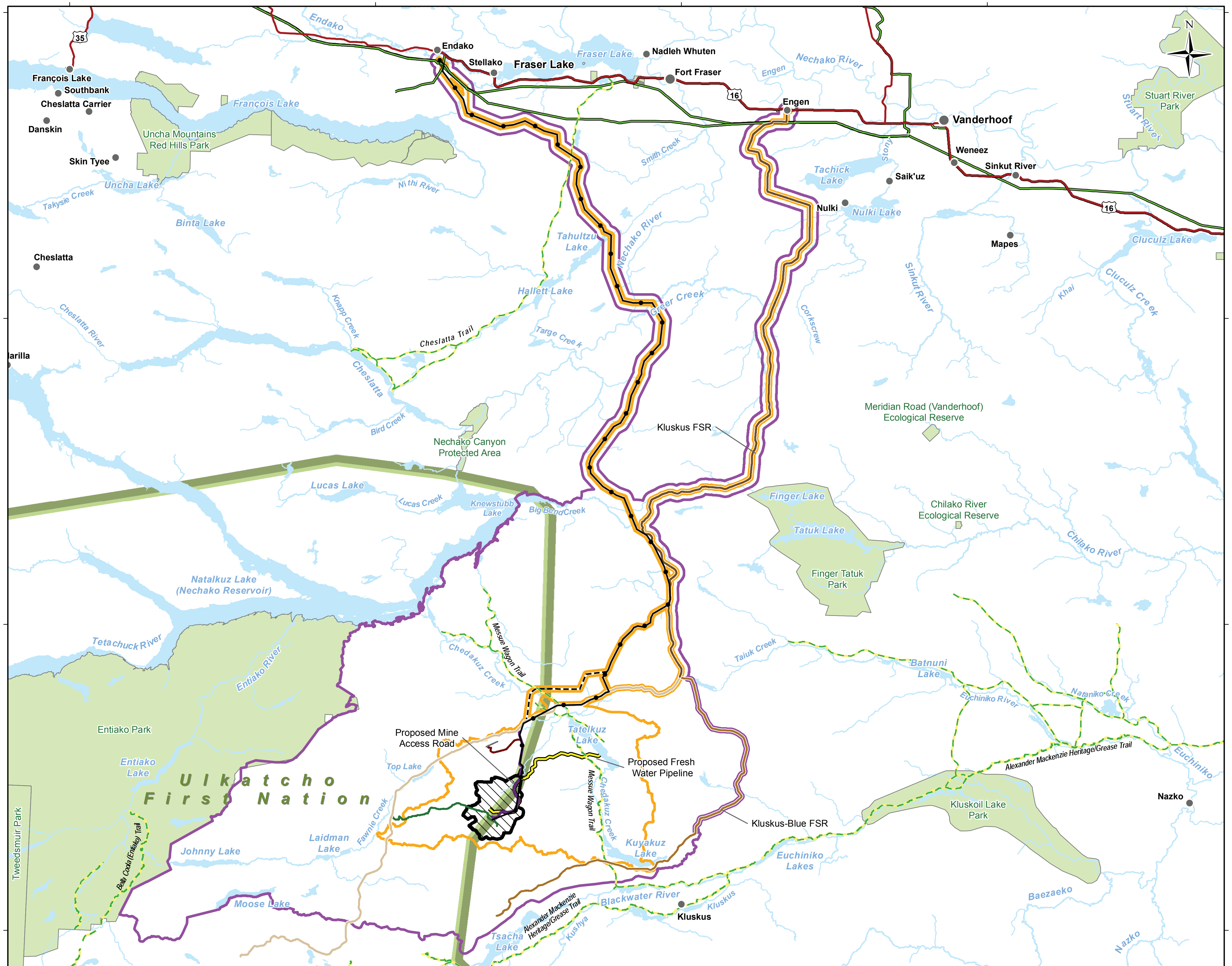
The UFN seasonal round includes travelling north to Burns Lake and Ootsa Lake, south towards Bute Inlet, Nemiah Valley and Chilko Lake, eastward to the Fraser River and west to Bella Coola, Kitimat and Kimsquit. The seasonal round includes four seasons, as described in the UFN TK/TLU (DM Cultural Services 2013):

Spring: During the spring, UFN trap otter, beaver and muskrat, and fish for suckers and trout in creeks. Ice fishing also occurs. In late spring, UFN travel west to Bella Coola to start hunting. Some plants are harvested in the spring, including avalanche lily, cow-parsnip and stinging nettle.

Summer: During the summer, UFN gather berries, fish and hunt. Hunting for deer occurs in the south near the Chilcotin Mountains, and UFN travel to Ulkatcho and Rainbow Mountains (near Tweedsmuir South Provincial Park) to hunt mountain goat, groundhog, bear and deer. Fishing for spring and summer salmon occurs on the Dean River (north of Bella Coola) and Tanya Lakes (near Tweedsmuir South Provincial Park). Several weeks are dedicated to preserving fish (e.g., salmon and steelhead) by smoking or drying. Plants and berries, such as blueberries, black currents, strawberries, thimble berries and mint, are gathered in the summer.

Fall: The fall is the time for preparing trapping material and travelling to areas typically used for hunting and trapping. Trapping is done on family-owned traplines. UFN hunt and trap caribou, marmots, beaver, muskrats, wolves, bears, rabbits and deer.

Winter: UFN continue to hunt and trap in the winter; winter is the main season for hunting caribou. UFN gather at Ulkatcho village around Christmas time for potlaching and gatherings with relatives, although some UFN travel to Bella Coola to join family living in that area. There are harvesting opportunities in the Bella Coola area at this time. Ice-fishing for carp in frozen lakes and creeks occurs in the winter.



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Stellako
Fraser Lake
Nadleh Whuten
Fort Fraser
Engen
Vanderhoof
Weneez
Sinkut River
Saik'uz
Nulki
Mapes
François Lake
Southbank
Cheslatta Carrier
Danskin
Skin Tyee
Cheslatta
Uncha Mountains Red Hills Park
Stuart River Park
Nechako River
Tachick Lake
Nulki Lake
Cluculz Lake
Binta Lake
Uncha Lake
Tahultzu Lake
Hallett Lake
Cheslatta Trail
Nechako Canyon Protected Area
Meridian Road (Vanderhoof) Ecological Reserve
Kluskus FSR
Lucas Lake
Finger Lake
Tatuk Lake
Finger Tatuk Park
Chilako River Ecological Reserve
Natalkuz Lake (Nechako Reservoir)
Tetachuck River
Entiako Park
Entiako Lake
Messue Wagon Trail
Batnuni Lake
Proposed Mine Access Road
Proposed Fresh Water Pipeline
Tatelkuz Lake
Kluskus-Blue FSR
Ulkatcho First Nation
Johnny Lake
Laidman Lake
Kuyakuz Lake
Alexander Mackenzie Heritage/Grease Trail
Kluskoil Lake Park
Nazko
Euchiniko Lakes
Blackwater River
Kluskus
Moose Lake
Tsacha Lake
Baezaeko
Tweedsmuir Park

Legend

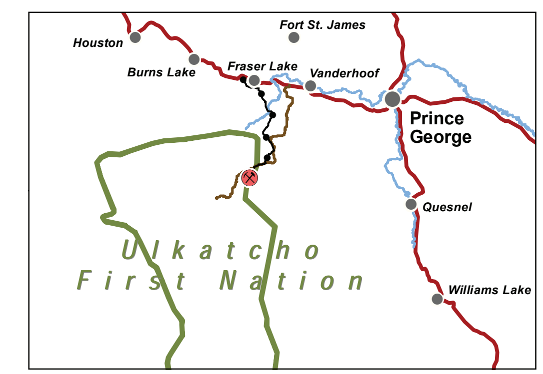
- Populated Place
- Highway
- Kluskus FSR
- Kluskus-Ootsa FSR
- Kluskus-Blue FSR
- Railway
- Existing Transmission Line
- Stream
- Waterbody
- Parks & Protected Areas
- Ulkatcho First Nation Territory

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



Scale: 1:500,000

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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/
- Ulkatcho First Nation

CLIENT: newgold

PROJECT: Blackwater Gold Project

Ulkatcho First Nation Traditional Territory and Study Areas

DATE:	ANALYST:	
March, 2014	WR	**Figure 2.6-1**
JOB No: VE52277	QA/QC: LR	PDF FILE: 15-100-021_TLU-UlkatchoFN.pdf
GIS FILE: 15-100-021_TLU-UlkatchoFN.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	amec

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Endako
Stellako
Fraser Lake
Nadleh Whuten
Fort Fraser
Engen
Vanderhoof
Weneez
Sinkut River
Saik'uz
Nulki
Mapes
François Lake
Southbank
Cheslatta Carrier
Skin Tyee
Cheslatta
Uncha Mountains Red Hills Park
Francois Lake Park
Stuart River Park
Fraser Mountain 1053m
Nithi Mountain 1352m
Bearhead Hill 853m
Holy Cross Mtn 1425m
Mount Greer 1247m
Sinkut Mountain 1404m
Nulki Peak 1527m
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Fawnie Rose 1873m
Fawnie Nose 1926m
Tatelkuz Mountain 1611m
Kuyakuz Mountain 1734m
Mount Davidson 1856m
Tsacha Mountain 1781m
Natalkuz Lake (Nechako Reservoir)
Uncha Lake
Takysie Creek
Binta Lake
Nithi River
Stellako
Smith Creek
Tachick Lake
Stuart River
Nulki Lake
Tahultzu Lake
Nechako River
Greer Creek
Hallett Lake
Knapp Creek
Targe Creek
Cheslatta Trail
Cheslatta River
Cheslatta
Bird Creek
Corkscrew
Sinkut River
Khai
Cluculz Lake
Cluculz Creek
Euchiniko
Nechako Canyon Protected Area
Lucas Lake
Lucas Creek
Knewstubb Lake
Big Bend Creek
Kluskus FSR
Meridian Road (Vanderhoof) Ecological Reserve
Finger Lake
Tatuk Lake
Chilako River Ecological Reserve
Finger Tatuk Park
Chilako River
Tetachuck River
Entiako River
Chedakuz Creek
Kluskus-Ootsa FSR
Entiako Park
Entiako Lake
Tatelkuz Lake
Top Lake
Snake Lake
Suscha Lake
Kuyakuz Lake
Messue Wagon Trail
Fawnie Creek
Laidman Lake
Johnny Lake
Moose Lake
Wolf Lake
Tsacha Lake
Neyasri Lake
Tsilbekuz Lake
Bobs Creek (Entiako) Trail
ULKATCHO 6
SALMON RIVER MEADOW 7
Tom Baptiste Wagon Trail
Alexander Mackenzie Heritage/Grease Trail
Kluskus-Blue FSR
Blackwater River
Kluskus
Kluskus Lakes
Kluskus Lake
Kluskoil Lake Park
Euchiniko Lakes
Euchiniko River
Batnuni Lake
Taluk Creek
Natanko Creek
Baezaeko
Nazko
Ulkatcho First Nation

N

Legend

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

Ulkatcho First Nation

- UFN Territory
- UFN Reserves

Project Components

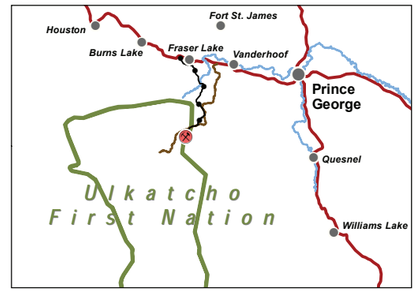
- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- Proposed Transmission Line Reroutes
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access Road
- Proposed Airstrip
- Proposed Mine Site

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



Scale: 1:505,000

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/
- 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:	ANALYST:	**Figure 2.6-2**
March, 2014	WR	
JOB No: VE52277	QA/QC: MK	PDF FILE: 15-100-023_TLU-UlkatchoTUS.pdf
GIS FILE: 15-100-023_TLU-UlkatchoTUS.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	amec

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Current Hunting and Trapping

The UFN hunt and trap within their traditional territory. The UFN TK/TLU study identifies general areas where hunting and trapping occur. The UFN TK/TLU study identifies hunting and trapping activities in the Project Site (i.e., grids 93F.016.3, 93F.016.4, 93F.026.1, 93F.026.2 in the UFN TK/TLU)[4], and identifies hunting along the transmission line ROW and the Mills Ranch Re-route (i.e., grids 93F.026.4 and 93F.037.1 in the TK/TLU) and near Tatelkuz Lake (i.e., grids 93F.027.2 – 4 in the TK/TLU). UFN hunt and trap for moose, deer, and caribou, lynx, squirrel, timber wolf, rabbit, and beaver, as well as ducks and geese. Hunting and trapping areas were also identified near Kuyakuz Lake, Chedakuz Creek, Mount Davidson (referred to as *Tillie* by UFN), and near Moose Lake, as well as near Kluskus Lake. Geese and ducks are hunted along Chedakuz Creek and near Kuyakuz Lake. No traplines registered to UFN members were identified in the current use LSA or RSA.

Current Fishing

UFN indicated that they fish at Chedakuz Creek (i.e., grids 93F.026.2 and 93F.027.3 of the UFN TK/TLU), and Tatelkuz Lake (i.e., grid 93F.027.4 of the UFN TK/TLU), Kuyakuz Lake (i.e., grid 93F.017.4 of the UFN TK/TLU), Moose Lake and Johnny Lake. Fishing also occurs in the Klukus Lake area (including Squirrel Lake, Euchiniko and near Klukus IR 1). The UFN have a fish camp at the north end of Kuyakuz Lake. Species fished include suckers, lingcod, salmon, and trout. Steelhead is also fished at the Blackwater River, outside of the RSA.

The Blackwater River and its tributaries (i.e. Tsacha Lake) were identified as critical fishing areas for UFN. The Proponent avoided the Blackwater River drainage in consideration of its importance to Aboriginal groups.

Current Gathering

UFN gather berries, medicinal and food plants along the Messue Wagon Trail (i.e., grids 93F.027.2; 93F.017.4 of the UFN TK/TLU), at Kuyakuz Lake (i.e., grid 93F.017.4 of the UFN TK/TLU), Moose Lake, Tatelkuz Lake (i.e., grids 93F.027.2 and 93F.027.3 of the UFN TK/TLU), and Tsacha Lake, Johnny Lake. The UFN have specifically identified wild celery, raspberries and blueberries as gathered within the current use RSA. Mushroom picking is an important gathering activity. Specific locations where species are collected were not provided as the information is sensitive either cultural or economically.

Other Current Cultural and Traditional Uses of the Land

UFN identified sites of spiritual and cultural significance within the current use LSA and RSA. A trail, campsite, and a place name were identified within the area of the Project Site (i.e., grid 93F.026.2 of the UFN TK/TLU). The precise locations of the trail and campsite have not been determined. Culturally Modified Trees (CMTs) associated with the trail have been recorded however dates recorded from CMTs sampled do not indicate current use.

[4] Grid numbers are provided in the UFN TK/TLU and have been used as reference points for areas where Current Aboriginal Use activities occur. Several components may be contained within one grid area in the TK/TLU.

A trail in the vicinity of Tatelkuz Lake has been identified in the TK/TLU, and may refer to the Messue Wagon Trail, although it is not named in the TK/TLU. A trail on the east side of Tatelkuz Lake has also been identified, which connects with the Messue Wagon Trail.

Additionally, the Nuxalk-Carrier Grease Trail, also referred to as Alexander Mackenzie Heritage Trail, is identified as a historic and currently used trail for the UFN. This trail spans 300 km between southern Carrier territory and the coastal villages of the Nuxalk (DM Cultural Services Ltd., 2013). The trail connects homesteads, fishing camps and hunting and trapping territories of the Carrier people (Furniss, 2004), and is currently used by the UFN and is considered to be a spiritual site. This trail is south of the current use RSA. The UFN requested a 5 km buffer along the length of the Nuxalk-Carrier Grease Trail to prevent damage to cultural and spiritual sites (DM Cultural Services Ltd., 2013).

Mount Davidson, named *Tillie* by the UFN, includes trails and campsites considered by UFN to be sensitive either cultural or economically (DM Cultural Services 2013).

The Kluskus Lakes area is identified having historic land use sites, and there are currently several gathering sites, spiritual sites, gravesites and place names in this area (DM Cultural Services 2013).

2.7 NAZKO FIRST NATION CURRENT USE

The NFN traditional territory is approximately 1,548,894 ha (Figure 2.7-1) and is crossed by the Kluskus FSR. There are twenty-two NFN reserves, totalling approximately 1,973 ha, located around the community of Nazko, BC.

Limited NFN Current Use information has been shared with the Project. In a letter to the BC EAO in 2013 (Nazko First Nation 2013), the NFN indicates that Nazko people have a long-standing history of use in the northwest corner of their traditional territory.

Seasonal Round

No information about NFN seasonal round has been provided to the Project. When information is shared, the Project with consider incorporating relevant information into Project design, execution, management plan development, permitting, and monitoring.

Current Hunting and Trapping

NFN members hunt within their traditional territory. Moose are hunted, although NFN noted that the population has declined. NFN also trap within their traditional territory and identified trapping locations around Titetown Lake (east of the Project and outside the current use RSA). NFN-held traplines are also located in this area (Nazko First Nation 2013). It is not currently unknown if NFN-registered traplines overlap with the current use LSA and RSA.

320000 360000 400000 440000

5960000 5920000 5880000

François Lake
Southbank
Cheslatta Carrier
Danskin
Skin Tyee
Uncha Mountains Red Hills Park
François Lake
Francois Lake Park
Stellako
Uncha Lake
Takysie Creek
Binta Lake
Cheslatta
Nithi River
Nithi Mountain 1352m
Fraser Mountain 1053m
Smith Creek
Tahultzuh Lake
Nechako River
Mount Greer 1247m
Holy Cross Mtn 1425m
Hallett Lake
Knapp Creek
Cheslatta Trail
Targe Creek
Fraser Creek
Cheslatta River
Cheslatta
Bird Creek
Nechako Canyon Protected Area
Cutoff Bute 1095m
Lucas Lake
Lucas Creek
Knewstubb Lake
Big Bend Creek
Engen
Bearhead Hill 853m
Vanderhoof
Weneez
Sinkut River
Saik'uz
Tachick Lake
Stony
Nulki
Nulki Lake
Mapes
Stuart River Park
Stuart River
Cluculz Lake
Cluculz Creek
Khai
Sinkut Mountain 1404m
Corkscrew
Sinkut River
Nulki Peak 1527m
Meridian Road (Vanderhoof) Ecological Reserve
Kluskus FSR
Finger Lake
Tatuk Lake
Iron Mountain 1270m
Finger Tatuk Park
Chilako River Ecological Reserve
Chilako River
Natalkuz Lake (Nechako Reservoir)
Tetachuck River
Entiako River
Mount Swannel 1768m
Entiako Park
Entiako Lake
Fawnie Rose 1873m
Fawnie Nose 1926m
Kluskus-Ootsa FSR
Top Lake
Snake Lake
Fawnie Creek
Laidman Lake
Johnny Lake
Bob Quick (Entiako) Trail
Moose Lake
Wolf Lake
Tom Baptiste Wagon Trail
Tsilbekuz Lake
Neyasri Lake
Tsacha Mountain 1781m
Mount Davidson 1856m
Tsacha Lake
Alexander Mackenzie Heritage/Grease Trail
Messue Wagon Trail
Chedakuz Creek
Erhorn Creek
Tatelkuz Lake
Tatelkuz Mountain 1611m
Kuyakuz Mountain 1734m
Kuyakuz Lake
Kluskus-Blue FSR
Blackwater River
Kluskus
Kushya
Kluskus Lakes
Suscha Lake
Natalkuz Lake
Batnuni Lake
Taiuk Creek
Euchiniko River
Nataniko Creek
Euchiniko Lakes
Kluskoil Lake Park
Alexander Mackenzie Heritage/Grease Trail
EUCHINICO CREEK 19
TROUT LAKE JONNY 15
Nazko
EUCHINICO CREEK 17
EUCHINICO CREEK 18
TROUT LAKE ALEC 16
Euchiniko
Baezaeko
Nazko
COGLISTIKO RIVER 29
REDWATER CREEK 30
Nazko
LOWER FISHPOT LAKE 24A
BAEZAEKO RIVER 25/26/27
NAZKO 20
FISHPOT LAKE 24
NAZKO 21
Nazko
Nazko First Nation

N

Legend

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

Nazko First Nation

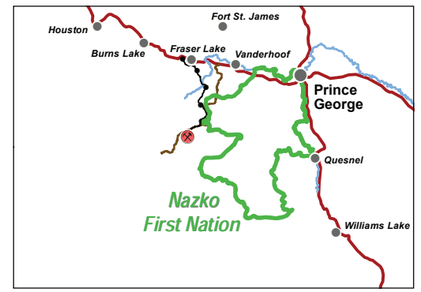
- NFN Territory
- NFN Reserves

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



Scale: 1:505,000

0 5 10 20

Kilometres

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**	**2.7-1**
JOB No: VE52277	QA/QC: LR	PDF FILE: 15-100-026_TLU-NazkoFN.pdf	
GIS FILE: 15-100-026_TLU-NazkoFN.mxd			
PROJECTION: UTM Zone 10	DATUM: NAD83	amec	

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Current Fishing

Within the NFN traditional territory, there are seven rivers and many productive, year-round fishing lakes. NFN members actively fish within their traditional territory, specifically identifying kokanee as a key species. The Euchiniko and Blackwater watersheds (to the south and east of the current use RSA) are areas used by NFN people, as noted in a letter to the BC EAO in 2013 (Nazko First Nation 2013).

Current Gathering

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

Other Current Cultural and Traditional Uses of the Land

There are a number traditional land use sites in the northwest area of NFN's traditional territory, including spiritual sites and sites or features important to traditional ecological knowledge (such as place names). The Nuxalk Carrier Grease Trail, located to the south and outside of the current use RSA, is also in the NFN territory.

It is not currently known if NFN use traditional or cultural sites within the current use LSA and RSA. If information on cultural sites becomes available, the Proponent will integrate relevant information into the Project design, execution, management plans, permitting and monitoring.

2.8 SKIN TYEE FIRST NATION CURRENT USE

The STN traditional territory is approximately 3,824,861 ha (Figure 2.8-1). There are six STN reserves located in the Bulkley/Nechako Region, that have a combined area of 396.6 ha (DM Cultural Services Ltd., 2015). The STN traditional territory is overlapped by the current use LSA and includes the mine site, FSS and proposed transmission line. The STN TLUS includes an "intensity of use map" (DM Cultural Services Ltd. 2015) overlaid on the current use LSA and RSA. These areas have been numbered and are indicated in the following way: e.g., grid 93F.037.3 of the STN TLUS) and have been considered in the understanding of current use activities.

Seasonal Round

The STN follow seasonal round that divides the year into five seasons (DM Cultural Services 2015):

- Fall dry meat: In the early fall, STN hunt large game such as moose and dear. Fish, mountain sheep, mountain goat, bear, elk and caribou are also harvested.
- Early winter hunting and trapping: Traplines are disbursed in the early winter. STN trap for beaver, muskrat, otter and lynx.
- Late winter hunting and trapping: Trapping and hunting continues throughout the winter, both for food as well as for fur collection.

- Spring beaver hunting: Trapping for beaver and other furbearers occurs in the spring. This is also a time to fish for salmon, char, trout, whitefish and sturgeon.
- Summer slack: Berry picking and plant harvesting is conducted in the summer, primarily between July and September. Fishing also occurs, and fish are dried and stored for winter use.

Current Hunting and Trapping

The STN TLUS (DM Cultural Services 2015) identifies up to six hunting areas[5] within the Project Site (i.e. grids 93F016.3.4, 93F.016.4.3 - 4.4, 93F.026.2.1 - 2.2 of the STN TLUS), where STN hunt for bull moose, moose and deer. Within the southern area of the transmission line STN hunt moose, deer and grizzly bear (i.e., grids 93F.026.2.2, 93F.026.2.4, 93F.026.4.2, 93F.026.4.4, 93F.036.2.2 and 93F.036.1.1 of the STN TLUS). STN hunt around Davidson Creek and Chedakuz Creek (i.e., grids 93F.26.2.4, 93F.027.3.1, 93F.027.3.3 and 93F.037.1.1 of the STN TLUS). Near Tatelkuz Lake, STN hunt moose, deer and grizzly bear (i.e., grids 93F.027.2.4, 93F.027.4.1-4.2, 93F.027.3.4 and 93F.037.1.2 of the STN TLUS). Other areas for hunting include Tsacha Lake, Johnny Lake, Moose Lake, Top Lake, Laidman Lake, and Klukus Lake (DM Cultural Services Ltd., 2015). Regions in the western and southern shores of Tatelkuz Lake support several land use sites. STN indicate that deer and moose are hunted in the region between Tatelkuz Lake and Laidman Lake. The STN TLUS indicates that STN also hunt and trap lynx, badger, coyote, fox, rabbit, beaver and otter (DM Cultural Services Ltd., 2015). It is common practice to share meat among members. In addition to providing food, community members use animal hides to create moccasins and other crafts. No STN registered traplines were identified in the current use LSA or RSA. STN representatives noted that, while fish are important, the STN "are more moose people than fish people" (STN representatives pers. comm.).

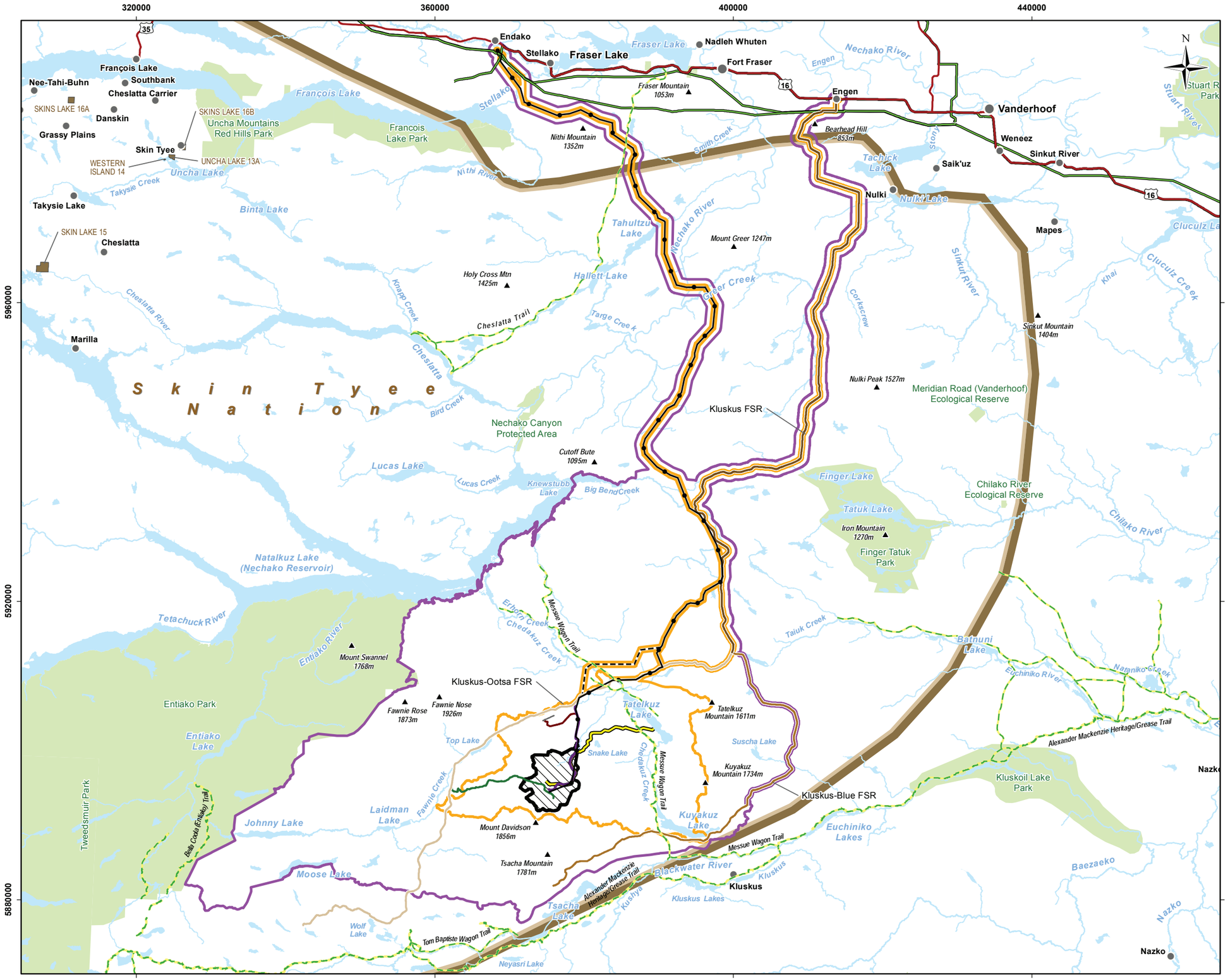
It has been noted by STN that trapping is no longer a viable livelihood due to the decline of furbearers and this activity has decreased substantially (Enbridge. 2010; Interviews with STN representatives pers. comm.).

Current Fishing

STN members fish in the Morice River and its tributaries, northwest and outside of the current use RSA or LSA (Enbridge, 2010). The STN TLUS also identifies fishing locations at Nadina River and Owen Creek. At Uncha Lake (not within the current use RSA or LSA), nets are used to catch char (STN representatives pers. comm.). The STN TLUS notes that Tsacha Lake and Johnny Lake are fishing areas. No fishing areas are identified in the STN TLUS map (DM Cultural Services Ltd 2015).

Fish harvested by STN include, but are not limited to, bull trout, lake trout, char, Chinook, Kokanee and Coho salmon, Dolly Varden, ling cod, rainbow trout, steelhead, suckers, northern pikeminnow, prickly sculpin, slimy sculpin and whitefish (DM Cultural Services Ltd., 2015). STN indicated that spring salmon are caught with nets, and that trout fishing is done with rods or nets. Fish are typically preserved by drying, canning, or smoking (STN representatives pers. comm.).

[5] The TLUS indicates that many of the sites overlap and may be displayed in multiple grids, therefore it is not possible to get an accurate number of recorded sites.



Legend

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

Skin Tyee Nation

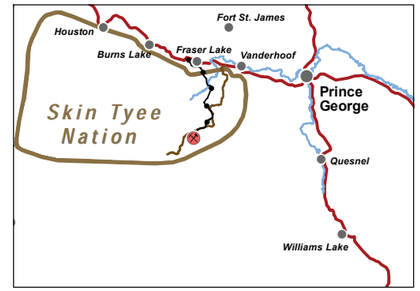
- STN Territory
- STN Reserves

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



Scale: 1:505,000

0 5 10 20

Kilometres

Reference

Context layers:
BC Government GeoBC Data Distribution

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

CLIENT: newgold

PROJECT: Blackwater Gold Project

Skin Tyee Nation Traditional Territory and Study Areas

DATE:	ANALYST:	Figure 2.8-1
March, 2014	WR	
JOB No: VE52277	QA/QC: MK	PDF FILE: 15-100-027_TLU-SkinTyeeFN.pdf
GIS FILE: 15-100-027_TLU-SkinTyeeFN.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	amec

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Current Gathering

STN gather plants throughout their traditional territory. The STN TLUS indicates that STN gather berries and medicinal plants around Davidson Creek and Chedakuz Creek (i.e., grids 93F.26.2.4, 93F.027.3.1, 93F.027.3.3 of the STN TLUS) and near Tatelkuz Lake (i.e., grids 93F.027.2.4, 93F.027.4.1-4.2, 93F.027.3.4 and 93F.037.1.2 of the STN TLUS). Transportation routes are also sites of food and medicinal plant gathering. STN gather soapberry, huckleberry, silkberry, blueberry, raspberry, strawberry, gooseberry, high bush cranberry, wild rice, wild onion, cow parsnip, black tree lichen, and rosehips for food (STN representatives pers. comm.; Enbridge. 2010; DM Cultural Services Ltd., 2015). Plants used for medicine include birch, thistle, Labrador tea, juniper, kinnikinnick, chokecherries, devil's club, spruce gum/pitch, pine, bulrushes, Sitka alder, red alder or mountain alder, mountain ash, yarrow, bearberry or black twinberry, tamarack, fireweed, strawberry, raspberry, red willow, spruce, moss, yellow hemlock, and Indian hellebore (Enbridge 2010; DM Cultural Services Ltd., 2015). Plants used for other cultural purposes include cottonwood, red willow, spruce, poplar, birch, and moss.

Other Current Cultural and Traditional Uses of the Land

The STN TLUS identifies sacred and gathering places as well as historic and currently used trails. The report notes that transportation routes are an intrinsic part in the trapping, hunting and seasonal harvesting. The transportation corridors include overland routes as well as routes via rivers, lakes and creeks.

The STN TLUS describes a transportation route between Tatelkuz Lake and Kuyakuz Lake (i.e., grids 93F.017.2.1-2.4; 93F.027.2.1-2.4 of the STN TLUS), as well as between Johnny Lake and Fawnie Dome. The STN TLUS indicates that transportation routes near Tatelkuz Lake are used to access moose hunting areas in the southern part of the STN traditional territory. Other transportation routes are noted in areas around Davidson Creek (i.e., grids 93F.026.4.1-4.4; 93F.027.3.1-3.4 of the STN TLUS).

Trails and transportation routes are also noted around Moose Lake, Laidman Lake, Euchiniko Lake, Top Lake and Tsacha Lake. Historic tails are identified near these lakes as well as near Kuyakuz Lake, Tatelkuz Lake, Mount Kuyakuz, and Fawnie Creek.

Campsites and gathering areas are identified around Tatelkuz Lake (i.e., grids 93F.027.4.1-4.2 of the STN TLUS), Tsacha Lake, Johnny Lake and Top Lake, Fawnie Dome and Mount Tatelkuz. The STN TLUS indicates that fishing and hunting occur near campsites and gathering locations.

One culturally significant named place[6] in the southern portion of the Project Site is noted in the STN TLUS, although the location is not included in the STN TLUS map (DM Cultural Services, 2015). STN TLUS indicated that resource development may isolate, displace or eliminate placenames, resulting in their removal from the collective memory of the community. None of the specific locations or routes of trails, campsites, gathering areas, and placenames are noted in the STN TLUS.

[6] Once a space or geographic area receives a placename that is connected to a person, event, story or legend, it is recognized within the cultural landscape of the STN TLUS (DM Cultural Services Ltd., 2015).

2.9 TSILHQOT'IN NATION CURRENT USE

The Tsilhqot'in National Government (TNG) represents the Tsilhqot'in communities of Tl'etinqox (Anaham), ?Esdilagh (Alexandria), Yunesit'in (Stone), Tsi Deldel (Alexis Creek), Tl'esqox (Toosey) and Xeni Gwet'in (Nemiah) (TNG, 2014). Tsilhqot'in traditional territory covers approximately 9,668,294 ha and is overlapped by the mine site and 28 km of the transmission line (Figure 2.9-1).

Important sources of Tsilhqot'in ethnography include J. Teit (1909), L. Farrand (1899, 1910), V. F. Ray (1942), and R. B. Lane (1953, 1981). Traditionally, the Tsilhqot'in people occupied and use lands and resources in the Chilcotin River drainage and the upper reaches of the Homalco, Klinaklini, and Dean Rivers (R. B. 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. Trapped species include marmot, hare, beaver, muskrats and porcupine. They also harvested ducks, geese, ptarmigan and grouse. Important fish for TNG communities include trout, whitefish, suckers, and Kokanee and sockeye salmon. The sockeye salmon run on the Chilcotin River occur 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 the Tsilhqot'in practice, to varying degrees, their traditional subsistence lifestyle based on hunting, fishing, and gathering.

To date there is no publically available evidence of Tsilhqot'in use of lands and resources in the current use RSA. Current use of lands and resources in the Xeni Gwet'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 Ltd. 2009). No information about TNG seasonal round has been provided to the Project.

If Current Aboriginal Use information becomes available, the Proponent will consider integrating it into Project design, execution, management plan development, permitting, and monitoring in subsequent stages of the Project development.

2.10 MÉTIS NATION BRITISH COLUMBIA CURRENT USE

The MNBC also submitted a letter to BC EAO on 8 November 2013 providing general information about their use of Northern BC.

Current Hunting and Trapping

Métis hunt and trap deer, elk, moose and small game. Consultation efforts with MNBC to date have not identified specific Métis hunting locations in the current use LSA or RSA. If this information becomes available, the Project will consider integrating it into Project design, Project design, execution, management plans development, permitting, and monitoring.

320000 360000 400000 440000

5960000 5920000 5880000

Endako
Stellako
Fraser Lake
Nadleh Whuten
Fort Fraser
Fraser Lake
Fraser Mountain 1053m
Engen
Nechako River
Engen
Vanderhoof
Stuart River Park
Stuart River
Bearhead Hill 853m
Weneez
Sinkut River
Saik'uz
Tachick Lake
Nulki
Nulki Lake
Mapes
Cluculz Lake
Cluculz Creek
Khai
Sinkut River
Corkscrew
Sinkut Mountain 1404m
Nulki Peak 1527m
Meridian Road (Vanderhoof) Ecological Reserve
Kluskus FSR
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Chilako River Ecological Reserve
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Iron Mountain 1270m
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François Lake
Southbank
Cheslatta Carrier
Danskin
Skin Tyee
Uncha Mountains Red Hills Park
François Lake Park
Uncha Lake
Takysie Creek
Binta Lake
Cheslatta
Cheslatta River
Nithi River
Nithi Mountain 1352m
Stellako
Smith Creek
Tahultzu Lake
Nechako River
Mount Greer 1247m
Greer Creek
Holy Cross Mtn 1425m
Hallett Lake
Knapp Creek
Cheslatta Trail
Targe Creek
Cheslatta
Bird Creek
Nechako Canyon Protected Area
Lucas Lake
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Knewstubb Lake
Big Bend Creek
Cutoff Bute 1095m
Natalkuz Lake (Nechako Reservoir)
Tetachuck River
Entiako River
Mount Swannel 1768m
Entiako Park
Entiako Lake
Fawnie Rose 1873m
Fawnie Nose 1926m
Kluskus-Ootsa FSR
Top Lake
Fawnie Creek
Tweedsmuir Park
Bella Coola (Entiako) Trail
Laidman Lake
Johnny Lake
Moose Lake
Wolf Lake
Tom Baptiste Wagon Trail
Neyasri Lake
Tsilbekuz Lake
Tsacha Lake
Alexander Mackenzie Heritage/Grease Trail
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Kluskus Lakes
Kluskus
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Tsacha Mountain 1781m
Mount Davidson 1856m
Kuyakuz Lake
Kuyakuz Mountain 1734m
Kluskus-Blue FSR
Suscha Lake
Snake Lake
Chedakuz Creek
Messue Wagon Trail
Tatelkuz Lake
Tatelkuz Mountain 1611m
Erhorn Creek
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Tauk Creek
Batnuni Lake
Euchiniko River
Natanlko Creek
Euchiniko
Alexander Mackenzie Heritage/Grease Trail
Kluskoil Lake Park
Euchiniko Lakes
Nazko
Baezaeko
Nazko
Nazko
Tsilhqot'in National Government

Legend

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

Tsilhqot'in National Government

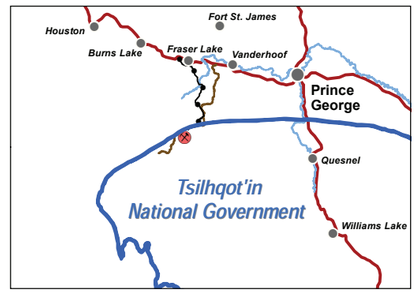
- TNG Territory

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



Scale: 1:505,000

0 5 10 20

Kilometres

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: newgold

PROJECT: Blackwater Gold Project

Tsilhqot'in National Government Traditional Territory and Study Areas

DATE:	ANALYST:	Figure 2.9-1
March, 2014	WR	
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	amec

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Current Fishing

It is not known if the Métis currently fish in any of the lakes, rivers, and streams in the current use LSA or RSA. If this information becomes available, the Project will consider integrating it into Project design, Project design, execution, management plans development, permitting, and monitoring.

Current Gathering

It is currently unknown if Métis gather plants in the current use LSA or RSA. If this information becomes available, the Project will consider integrating it into Project design, Project design, execution, management plans development, permitting, and monitoring.

Other Current Cultural and Traditional Uses of the Land

There is currently no information about current cultural and traditional site use by Métis in the current use RSA or LSA. If this information becomes available, the Project will consider integrating it into Project design, Project design, execution, management plans development, permitting, and monitoring.

3. SCOPE OF THE EFFECTS ASSESSMENT

3.1 ASSESSMENT BOUNDARIES

3.1.1 Temporal Boundaries

The temporal boundaries for each project phase are:

- 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.

3.1.2 Spatial Boundaries

The spatial boundaries for the effects assessment for Current Aboriginal Use VC are illustrated in Figure 1-1. Spatial boundaries include the Project Site, LSA and RSA.

The Project components include the mine site, mine access roads and airstrip, transmission line, freshwater supply system, and the Kluskus FSR (between Engen and the mine access road; Section 4.3.1.1 of the Application/EIS).

The Project Site includes the mine site (i.e., the open pit, ore processing facilities, tailings storage facility (TSF), waste rock dumps, water management facilities, borrow sites, offices, accommodation camps, warehouses and truck mechanical repair shop) and the airstrip, airstrip access roads and mine access road.

The LSA is the area within which current use activities may be directly affected by changes to the environment caused by the Project. It includes a representative area to allow for assessment of potential effects related to activities associated with the mine site, mine access roads, airstrip, transmission line, freshwater supply system, and the Kluskus FSR. The LSA includes the catchments where the mine site is proposed, and extends to the east to include the west facing slopes of Kuyakuz Mountain and buffers along the linear project components.

The RSA is the area within which current use activities may be indirectly affected by changes to the environment caused by the Project (i.e. effects related to displacement). The current use RSA boundary is based on the study areas for other VCs, including aquatics, terrestrial vegetation (ecosystem composition), and wildlife.

3.1.3 Administrative and Technical Boundaries

The assessment is not influenced by administrative boundaries.

Technical boundaries for the assessment relate to data limitations, confidentiality, and the success of Aboriginal engagement efforts to date. The Proponent has obtained traditional land use data from five Aboriginal groups considered in this assessment (i.e., from LDN, UFN, STN, StFN and SFN). Confidentiality agreements signed with LDN, UFN, StFN and SFN with regard to the TK/TLU reports prevents the Proponent from reproducing confidential information. The Proponent's engagement efforts to date with NWFN have been unsuccessful in obtaining information about the Nation's current use.

3.2 IDENTIFICATION OF POTENTIAL EFFECTS ON CURRENT ABORIGINAL USE

The Project has the potential to adversely affect Current Aboriginal Use by causing changes to the environment that result in adverse effects to:

- the ability of Aboriginal groups to access lands and resources currently used for resource harvesting and other cultural practices;
- the amount of resources harvested per species in areas potentially changed by the Project;
- the quality of resources harvested per species in areas potentially changed by the Project; and
- the quality of Aboriginal peoples' experience while hunting, trapping, fishing, gathering, and/or undertaking other cultural practices in areas potentially changed by the Project.

Table 3.2-1 identifies potential effects to Current Aboriginal Use and the indicators used to measure potential Project effects.

Table 3.2-1. Potential Effects to Current Aboriginal Use and Measurement Indicators

Potential Effects	Measurement of Potential Effects
Change in access to current use sites	• Presence of Project-related obstructions (including traffic) on roads, trails, and waterways used to access current use sites within the Project Site and LSA. • Change in effort (time and expense) required to access alternate current use sites within the RSA.
Change in amount of wildlife, fish, and plants harvested by Aboriginal peoples	• Change in the quantity of harvestable resources within the Project Site and LSA resulting from Project-related changes in: fish, wildlife, and plant habitat; fish and wildlife mortality; and wildlife movement patterns.
Change in quality of wildlife, fish, plants, and water harvested by Aboriginal peoples	• Quantitative change in contaminants of potential concern in water and country foods.
Change in quality of experience of Aboriginal peoples while undertaking current uses	• Qualitative change in visual quality experienced by Aboriginal peoples while undertaking current use activities. • Quantitative change in noise levels experienced by Aboriginal peoples while undertaking current use activities. • Change in number of non-Aboriginal people encountered while undertaking current use activities.

Note: There is no assessment on the quantity or quality of other cultural and traditional land uses; the assessment addresses access and the quality of experience of using other cultural and traditional land use sites.

3.3 POTENTIAL PROJECT INTERACTIONS

3.3.1 Aboriginal Groups and Current Aboriginal Uses that have the Potential to Interact with the Project

The proposed Project is located within the traditional territories of LDN, NWFN, SFN, StFN, UFN, NFN, SFN and TNG (Figure 1-1). Table 3.3-1 identifies Current Aboriginal Uses, for each Aboriginal group that have the potential to interact with environmental changes caused by the Project. The purpose of the table is to screen the Aboriginal groups and Current Aboriginal Uses to be carried forward into the assessment. Where, for a given Aboriginal group, no interactions are identified for any Current Aboriginal Uses, no further assessment is undertaken for that Aboriginal group. Where, for a given Current Aboriginal Use, no interactions are identified for any Aboriginal group, no further assessment is undertaken for that Current Aboriginal Use.

The following information was considered in the screening process:

- the location of each Aboriginal group's traditional territory in relation to the RSA;
- the location of each Aboriginal group's primary community in relation to the Project and the RSA;
- baseline Current Aboriginal Use information (summarized in Section 2), including any indication that the RSA is currently used by the Aboriginal group; and
- any feedback received from Aboriginal groups in relation to the Project, baseline information, and/or the assessment of potential effects.

Table 3.3-1. Current Aboriginal Uses Potentially Interacting with the Project

Current Aboriginal Use	Description	LDN	NWFN	SFN	StFN	UFN	NFN	STN	TNG	MNBC
Hunting and Trapping	Hunting and/or trapping activities occur in areas that have the potential to interact with environmental changes caused by the Project	●	●	●	●	●	○	●	○	○
Fishing	Fishing activities occur in areas that have the potential to interact with environmental changes caused by the Project	●	●	●	●	●	○	○	○	○
Gathering	Gathering activities occur in areas that have the potential to interact with environmental changes caused by the Project	●	●	●	●	●	○	●	○	○
Other Cultural and Traditional Land Uses	Other cultural and traditional land use activities occur in areas that have the potential to interact with environmental changes caused by the Project	●	●	●	●	●	○	●	○	○

Notes:
○ = *an interaction is not expected, no adverse effect anticipated and no further assessment is warranted.*
● = *an interaction is expected, and may result in an adverse effect requiring active management, mitigation and/or monitoring; warrants further consideration.*

No Current Aboriginal Uses that have the potential to interact with the Project have been identified for NFN, TNG and MNBC. Therefore, NFN, TNG and MNBC are not carried forward into the effects assessment.

Potential effects of the Project on fish and fish habitat are not anticipated to interact with STN fishing, and therefore potential effects of the Project on STN fishing are not carried forward into the effects assessment.

The Project is located in a region already highly impacted by industrial resource extraction including forestry, mining and transportation roads which have the capacity to affect Aboriginal people using land and resources.

3.3.2 Environmental Changes Caused by the Project that have the Potential to Interact with Current Aboriginal Use

The Project design considered input from Aboriginal groups and, where possible, the Project avoids interactions with the environment and Current Aboriginal Use by using existing infrastructure or areas that have been previously disturbed[7].

Project components and activities that have the potential to cause environmental changes that could affect Current Aboriginal Use include the following:[8]

- **Mine Site**: The mine site occupies approximately 4,400 ha, and accommodates all mine, ore processing, mine waste, water supply and management, and on-site infrastructure (i.e., includes the open pit, ore processing facilities, TSF, waste rock dumps, water management facilities, borrow sites, offices, accommodation camps, warehouses and truck mechanical repair shop.
- **Mine Access Road**: A new 16 km mine access road will replace the existing exploration access road to the Project Site. The mine access road will originate at KM 124.5 on the Kluskus-Ootsa FSR and extend south to the mine site (Figure 2.2.4-1 of the Application/EIS). Some sections of the freshwater supply pipeline and the transmission line will parallel the mine access road. The road ROW will therefore be wide enough to accommodate these structures. The freshwater supply pipeline joins the access road ROW approximately 7.2 km from the mine site, and the transmission line parallels the access road ROW all the way from the Kluskus-Ootsa FSR. The mine access road will be used for heavy traffic during mine construction and has been designed for year-round all-weather access. The road will be 10 m

[7] The Blackwater River and its tributaries (i.e. Tsacha Lakes) were identified as critical fishing areas for LDN and UFN. The Proponent made a conscious effort to avoid the Blackwater River drainage given its importance to Aboriginal groups.
[8] Section 2.2 of the Application/EIS provides detailed descriptions of Project components.

wide, two-lane, have a design speed of 60 km/h, and incorporate five bridges of varying lengths and types.

- **Airstrip:** An airstrip will be constructed approximately 15 km north of the process plant site, in a previous forestry cutblock area with existing service roads. The airstrip will be 1.7 km long and 100 m width wide. The proposed schedule is for three flights per week, 52 weeks/year during construction. No regular flights will be scheduled during operations or closure.
- **Freshwater Supply System:** water supply for the Project will be sourced from Tatelkuz Lake (approximately 20 km to the northeast of the mine site), delivered to the mine site by a pipeline. Based on consultations, the preferred location of the water intake is in a pre-existing forestry clearcut near the lake. The pipeline route from Tatelkuz Lake to the mine site will follow existing forestry roads to the maximum practical extent. The section of pipeline from the lake to the freshwater reservoir will be approximately 13.6 km long. The pipeline will be buried with a nominal cover of 600 mm of random fill, either by excavation or soil-mounding above grade. The water supply access road will parallel the freshwater supply pipeline for a total of 13.3 km, of which 1.6 km will be new construction and 11.7 km existing road. The remainder of the pipeline will parallel the mine access road. The finished road will be 6 m wide and gravel-surfaced, suitable for year-round access to the freshwater supply system.
- **Transmission Line**: a 140 km, 230 kV overland transmission line constructed to connect the Project to the BC Hydro grid at the Glenannan substation located near the existing Endako mine. The transmission line Right of Way (ROW) is 40 m wide for standard spans, 50 m for long spans, and 30 m within private parcels. Approximately 93 km of new roads and 41 km of existing roads requiring upgrades will be constructed at locations along the transmission line. Transmission line access roads will have a ROW of 20 m. Major watercourse crossings include the Nechako River, Stellako River, Greer Creek, Swanson Creek, Big Bend Creek, Chedakuz Creek, and Davidson Creek.
- **Kluskus FSR and Kluskus-Ootsa FSR**: The Kluskus FSR is a two-lane gravel road under the jurisdiction of the BC Forest Service. The road is used daily by logging trucks and light vehicles with the main season for hauling logs from June 1 to late March. Canfor Forest Products has primary responsibility for its operation, maintenance, and repair. The Proponent has entered into a Road Management Agreement with Canfor for the use and maintenance of the Kluskus FSR, and contributes to the recovery of these costs. Under this agreement, Canfor has the right to close or restrict the use of the FSR during spring break up; due to adverse weather conditions, forest closures, restrictions imposed by government authorities, or to minimize the costs of maintenance and repairs. The Proponent is proposing to re-align a 1.5 km long and 20 m wide section of the Kluskus-Ootsa FSR. Inbound truckload volumes using the Kluskus FSR during construction will average approximately 11 truckloads per day; this traffic will peak at about an average of 22 truckloads per day in the Q3 Year -2. An estimated 14 truck trips per day will carry nonhazardous cargo during the two years of construction and the first year of operations, including 175 oversized loads during the 2.5-year construction period, carrying machinery and process plant parts. Based on experience on other projects, peak daily volumes will be about twice the average number of truckloads per day. During operations, an average of six in-bound trucks per day will carry non-hazardous goods,

and one truck per day will backhaul waste to be disposed off-site. Company or contractor buses will transport most personnel. Construction contractors will also use pickups and light service vehicles. Private vehicles will be discouraged from using the Kluskus FSR. Buses will transit the Kluskus FSR to and from the Project Site daily during the construction phase.

- **Project Workforce:** the Proponent will preferentially hire locally and engage local services wherever possible as a means to create local direct and indirect economic benefits. The construction workforce is forecast to peak at about 1,500 people at Year 1. Construction workers will be housed in construction camps. The existing 250 person exploration camp will be expanded to accommodate 400 people. A second one storey camp will be established to house 1,000 construction workers. It will be located about 3 km east of the plant site, adjacent to the main access road. The Project is anticipated to employ approximately 500 people during operations. Hourly workers will work a 2-weeks-in and 2-weeks-out rotation, and senior management staff will work a 4-days-in and 3-days-out rotation. Buses will transport personnel to and from the Project Site via the Kluskus FSR. During construction, there will be up to three buses per day. During operations, there will be on average one bus per day. As a condition of employment, employees on the Project Site will not be allowed hunting and fishing. Firearms will not be allowed on site, and use of firearms on the mine site will be considered cause for dismissal.

Table 3.3-2 identifies potential interactions between Current Aboriginal Use and environmental changes caused by Project components and activities. The purpose of the table is to screen for Project interactions that are likely to result in effects that require additional mitigation.

Three types of interaction were identified based on guidance from (BC EAO 2013):

- Key interaction (●): an interaction is expected, and may result in an adverse effect requiring active management, mitigation and/or monitoring; warrants further consideration;
- Moderate interaction (◒): an interaction is possible, and may result in an adverse effect requiring active management, mitigation and/or monitoring, warrants further consideration; and
- No interaction (○): no or negligible adverse effect expected; no further consideration needed for the assessment.

3.3.2.1 Potential Interactions with Access to Lands and Resources

Access management is critical for safety and mine security. Only mine employees, contractors, and visitors on mine business will be allowed on the mine site. A security gatehouse will be located on the main access road at the entrance to the Project Site (section 2.2 of the Application/EIS).

The freshwater pipeline and transmission line will cross the Messue Wagon Trail and a trail near Tatelkuz Lake connecting with the Alexander Mackenzie Trail to the south. Crossing points with these trails, and any other unmarked human or animal trails, may be disturbed during construction of the transmission line, freshwater pipeline, and associated access roads. Land users would have to bypass areas undergoing active clearing and construction. Construction work at any particular

location of the transmission line will be temporary (i.e., weeks) as the construction crews will advance at a speed of approximately 2.5 km per week for a total duration of 12 months. Use of the trails will not be affected by the transmission line after construction. The freshwater pipeline will be buried and therefore no effects are anticipated after construction of the pipeline.

Table 3.3-2. Interaction of Environmental Changes Caused by Project Components/Activities with Current Aboriginal Use

			Interaction with Current Aboriginal Use			
	Project Phase	Anticipated Changes to the Environment	Change in access to current use sites	Change in harvesting success	Change in quality of harvested resources	Change in Experience of Current Aboriginal Use
Project Workforce	C, O	Influx of 1,500 workers (peak) during construction and approximately 500 workers during operations causing increased local hunting and fishing pressure, resulting in potential reduction in availability of wildlife and fish for Aboriginal harvesters.	○	◒	○	◒
Mine site (including open pit, ore processing facilities, TSF, waste rock dumps, water management facilities, borrow sites, offices, accommodation camps, warehouses and truck mechanical repair shop)	C, O, Cl, PC	Changes to the physical environment: • Installation of physical barriers (fences, gates) and signs around the perimeter the mine site resulting in impeded access. Changes to wildlife and wildlife habitat (Section 5.4.8 – 5.4.13 of the Application): • Vegetation clearing resulting in habitat loss or degradation for moose, caribou, grizzly bear, beaver and furbearers. Effects for moose and beaver are rated as not significant (negligible). Effects for grizzly bear and furbearers are rated as not significant (minor). Effects for caribou are rated as not significant (moderate). • Increased traffic collisions, accidental spills, and poaching resulting in direct mortality of moose, caribou, and beaver. Effects of mortality for caribou are rated as not significant (negligible), and effects for moose and beaver are rated as not significant (minor). • Sensory disturbance (noise and light) from mine operation activities (e.g., drilling, blasting, ore and waste rock loading, hauling and dumping, operation of mill facility; maintenance and equipment) resulting in displacement of moose. Effects on moose are rated as not significant (minor). • Vegetation clearing causing change in predator-prey dynamics (increased foraging habitat, predator populations, predator access), resulting in indirect mortality of moose, caribou, and beaver. Effects for moose and beaver are rated as not significant (minor). Effects for caribou are rated as not significant (minor). Changes to fish and fish habitat (Section 5.3.8 and 5.3.9 of the Application): • Development of mine site facilities resulting in permanent loss of upper reaches and headwater tributaries of Davidson Creek and Creek 661, as well as isolation of fish and fish habitat within upstream portions of Davidson Creek, its tributaries and Lake 01682LNRS. Effects on rainbow trout are rated as not significant (minor) largely because the lost habitat will be replaced by new fish habitat. • Enlargement of Lake 01682LNRS, resulting in increased mercury concentrations in rainbow trout. The effect on rainbow trout is rated as not significant (moderate). Human consumption of rainbow trout from Lake 01682LNRS is unlikely because the mine site will be off limits to the general public until at least 18 years after mine closure. Changes to traditional use plants (Section 5.4.5 and 5.4.6 of the Application): • Vegetation clearing, excavation, grading, and surface water diversion resulting in ecosystem loss of traditional use plant habitat during construction and operations. During post-closure, some traditional use plant habitat will be reclaimed. The effect on traditional use plant habitat (together with other ecosystem composition indicators, for all Project components) is rated as not significant (moderate). • Mine fleet emissions during vegetation clearing, excavation, grading, and mining operations, resulting in nitrogen deposition on traditional use plant habitat in the mine site during construction and operations. The effect on traditional use plant habitat (together with other ecosystem composition indicators, for all Project components) is rated as not significant (minor). • Vegetation clearing, excavation, grading, and revegetation, resulting in spread of invasive plants during all Project phases. The effect on traditional use plant habitat (together with other ecosystem composition indicators, for all Project components) is rated as not significant (minor). Changes to the sensory environment • Mine activities during construction, operations, and closure (e.g., drilling, blasting, ore and waste rock loading, hauling and dumping, operation of mill facility; maintenance and equipment) resulting in sensory disturbance (noise and light). Noise levels during construction and operations will be below 45 dBA (night time permissible sound pressure level) along the Project boundary. The only exceptions are blasting and aircraft noise. However, they would have an insignificant impact on equivalent sound pressure level (daytime Permissible Sound Level is 55 dBA), due to their short duration. Noise effects are rated as not significant (minor). • Mine site facilities (the open pit and the adjacent east and west waste rock dumps and the upper section of the Site D main dam of the TSF) will be visible but distant from locations holding high scenic and recreational values, including Tatelkuz Lake Southeast Recreation Reserve, Dykam Ranch, and Tatelkuz Lake IR 28, all approximately 15 km from the mine site in the vicinity of Tatelkuz Lake. Visual effects from these locations are rated as not significant (moderate).	●	◒	○	●

(continued)

Table 3.3-2. Interaction of Environmental Changes Caused by Project Components/Activities with Current Aboriginal Use (continued)

			Interaction with Current Aboriginal Use			
	Project Phase	Anticipated Changes to the Environment	Change in access to current use sites	Change in harvesting success	Change in quality of harvested resources	Change in Experience of Current Aboriginal Use
Freshwater Supply System (FSS)	C, O, Cl, PC	Changes to the physical environment: • Installation of the freshwater pipeline, potentially resulting in temporary interference of land users traversing the pipeline corridor, including along the Messue Wagon Trail, the Kluskus-Messue FSR, and any unmarked human and animal trails. Changes to wildlife and wildlife habitat (Section 5.4.8 – 5.4.13 of the Application): • Vegetation clearing resulting in habitat loss and degradation for moose, caribou, grizzly bear, furbearers, and beaver. Effects of habitat loss and degradation on moose and beaver are rated as not significant (negligible). Effects on caribou, grizzly bear, and furbearers are rated as not significant (minor). • Increased vehicle collisions, hunting and poaching resulting in direct mortality of moose, caribou, and grizzly bear. Effects on moose, caribou, and grizzly bear are rated as not significant (minor). • Vegetation clearing, roads, and traffic resulting in changes in movement patterns for moose. Effects on moose are rated as not significant (minor). • Vegetation clearing causing change in predator-prey dynamics (increased foraging habitat, predator populations, predator access), resulting in indirect mortality of moose, caribou, and beaver. Effects on caribou are rated as not significant (negligible). Effects on moose and beaver are rated as not significant (minor). Changes to fish and fish habitat (Section 5.3.8 – 5.3.9 of the Application): • Augmentation of water flows in Davidson Creek with water drawn from Tatelkuz Lake during operations and closure, resulting in disruption of rainbow trout and kokanee homing behaviour in Davidson Creek. Effects on rainbow trout and kokanee are rated as not significant (moderate). • Augmentation of water flows in Davidson Creek with Tatelkuz Lake water during operations, closure, and post-closure resulting in changes in juvenile rainbow trout growth rates due to higher water temperatures in the winter and lower water temperatures during the summer. Effects on rainbow trout are rated as not significant (minor) because the modified temperature regime is just as likely to produce positive effects on fish growth, survival and reproduction as negative effects. • Operation of FSS during operations and closure causing reductions in water surface elevation of Tatelkuz Lake, resulting in reduction in littoral fish habitat for rainbow trout and kokanee in Tatelkuz Lake. Effects on littoral habitat for kokanee and rainbow trout are rated as not significant (negligible). • Changes to traditional use plants (Section 5.4.5 and 5.4.6 of the Application): Changes to traditional use plants along the FSS were assessed together with changes to traditional use plants occurring along other linear Project components, including the mine access road, airstrip and airstrip road, transmission line (not including access roads), and Kluskus FSR. The effect on traditional use plant habitat (together with other ecosystem composition indicators, for all Project components) is rated as not significant (moderate). • Vegetation clearing, excavation, grading, and revegetation, resulting in spread of invasive plants during all Project phases. The effect on traditional use plant habitat (together with other ecosystem composition indicators, for all Project components) is rated as not significant (minor). Changes to sensory environment: • Operation of the Tatelkuz Lake pump station, resulting in noise (low-frequency hum) of 50 dBA near the pump building, attenuated in air to 30 dBA background value at the distance of 200 m over ground and 300 m over water. No residual effects are anticipated at sensitive receptors, including the Tatelkuz Lake (SE) Recreation Reserve. • The freshwater pipeline will be visible at its crossing point with the Messue Wagon Trail during construction prior to its burial. No residual effects are anticipated. The freshwater pipeline water intake on the shore of Tatelkuz Lake will be visible, but is located in an existing cut-block and uses a wet well design having underwater intake screens and underground intake pipelines. No residual effects are anticipated.	◒	◒	○	◒

(continued)

Table 3.3-2. Interaction of Environmental Changes Caused by Project Components/Activities with Current Aboriginal Use (continued)

Project Phase	Anticipated Changes to the Environment	Interaction with Current Aboriginal Use			
		Change in access to current use sites	Change in harvesting success	Change in quality of harvested resources	Change in Experience of Current Aboriginal Use
Transmission line ROW and associated access roads	C, O, Cl, PC	◒	◒	○	◒
	Changes to the physical environment: • Installation of the transmission line and clearing of the transmission line ROW, potentially resulting in temporary interference of land users traversing the transmission line corridor, including along the Messue Wagon Trail, the Cheslatta Trail, at river crossings, such as the Stellako River and Nechako River, as well as any unmarked human and animal trails. Changes to wildlife and wildlife habitat: • Vegetation clearing resulting in habitat loss and alteration for moose, grizzly bear, and furbearers (not including beaver). Effects on moose, grizzly bear, and furbearers (not including beaver) are rated as not significant (minor) • Increased vehicle collisions, hunting and poaching, resulting in increased mortality of moose, grizzly bear, and furbearers (not including beaver). Effects on moose and grizzly bear are rated as not significant (minor). Effects on furbearers (not including beaver) are rated as not significant (negligible). • Increased sensory disturbance, new access roads, increased vehicle traffic, and changes in habitat availability resulting in changes in movement patterns for moose. Effects on moose are rated as not significant (minor). • Vegetation clearing and revegetation causing a change in predatory-prey dynamics (increased foraging habitat, predator populations, predator access), resulting in indirect mortality of moose. Effects on moose are rated as not significant (minor). Changes to fish and fish habitat: • No residual effects to fish and fish habitat resulting from waterbody crossings are anticipated. Changes to traditional use plants: • Vegetation clearing resulting in ecosystem loss of habitats supporting traditional use plants. Traditional use plant ecosystems are expected to return to their former structure and potential use following decommissioning. The effect on traditional use plants is rated as not significant (minor). Changes to the sensory environment: • Noise caused by the use of mechanized equipment during installation of the transmission line, such as loaders, bulldozers, sidebooms, generators, and trucks during construction. Additional equipment for specific construction activities, like blasting, stream crossings, pipe welding, utility poles and power lines installation. The construction will be broken into manageable lengths (construction spreads). The effect of noise from construction of the transmission line is rated as not significant (minor). • Installation of the transmission line, resulting in visual effects at sites with high visual or recreational quality, (i.e., Stellako River crossing, Nechako River, Cheslatta Trail, Brewster Lake Recreation Site and Tatelkuz Lake) were assessed as not significant (minor to moderate). • Aboriginal groups have expressed that there is a perception that the transmission line will produce electromagnetic field (EMF) effects, which may result in Aboriginal people harvesting in new areas that are not under the transmission line.				
Kluskus FSR, Kluskus-Ootsa FSR, and Mine Access Road	Changes to the physical environment: • The Kluskus and Kluskus-Ootsa FSRs are existing roads. Upgrading of a 1.5 km portion of the Kluskus-Ootsa FSR has the potential to interfere with users of the road and for land users crossing this section of the road, if any, during construction. An increase in Project-related traffic (14 truck trips per day during construction and the first year of operations, including 175 oversized loads, and an average of six in-bound trucks per day during operations) could result in delays for users of the Kluskus and Kluskus-Ootsa FSRs. Peak daily volumes during construction will be about twice the average number of truckloads per day. • Construction of the mine access road could temporarily impede land users traversing the road, if any, along unmarked human and animal trails in the section between the Kluskus-Ootsa FSR and the restricted mine site.	◒	◒	○	◒

(continued)

Table 3.3-2. Interaction of Environmental Changes Caused by Project Components/Activities with Current Aboriginal Use (continued)

Project Phase		Anticipated Changes to the Environment	Interaction with Current Aboriginal Use			
			Change in access to current use sites	Change in harvesting success	Change in quality of harvested resources	Change in Experience of Current Aboriginal Use
Kluskus FSR, Kluskus-Ootsa FSR, and Mine Access Road *(cont'd)*		Changes to wildlife and wildlife habitat: • Vegetation clearing resulting in habitat loss and alteration for moose, caribou, grizzly bear, furbearers, and beaver. Effects on moose, grizzly bear, and beaver are rated as not significant (negligible). Effects on caribou and furbearers are rated as not significant (minor). • Increased vehicle collisions, chemical spills, hunting and poaching resulting in increased mortality of moose, caribou, and grizzly bear. Effects on caribou are rated as not significant (negligible). Effects on moose and grizzly bear are rated as not significant (minor). • Sensory disturbance, increased traffic, and changes in vegetation resulting in changes in movement patterns (displacement) for moose. Effects on moose are rated as not significant (minor). • Vegetation clearing causing changes in predator-prey dynamics (increased foraging habitat, predator populations, predator access), resulting in increased indirect mortality of moose, caribou, and beaver. Effects on moose, caribou, and beaver are rated as not significant (minor). Changes to fish and fish habitat: • No residual effects to fish and fish habitat are anticipated for the Kluskus and Kluskus-FSRs or the mine access road Changes to traditional use plants: • Changes to traditional use plants along the Kluskus FSR and mine access road were assessed together with changes to traditional use plants occurring along other linear Project components, including the freshwater supply system, airstrip and airstrip road, transmission line (not including access roads). The effect on traditional use plant habitat (together with other ecosystem composition indicators, for all Project components) is rated as not significant (moderate). • Vegetation clearing, excavation, grading, and revegetation, resulting in spread of invasive plants during all Project phases. The effect on traditional use plant habitat (together with other ecosystem composition indicators, for all Project components) is rated as not significant (minor). Changes to sensory environment: • Noise generated by mechanized equipment such as loaders, bulldozers, sidebooms, generators, and trucks during upgrading the Kluskus FSR and Kluskus Ootsa FSR, resulting in short-term noise effects. No noise effects assessment was undertaken for the FSRs. Because of low traffic volume (17 one-way trips per day), mitigated engine noise and negligible tire noise, increased traffic on the Kluskus and Kluskus-Ootsa FSRs on environmental acoustic will be low.	◒	◒	○	◒
Airstrip and Airstrip Access Road	C, O, Cl, PC	Changes to the physical environment: • Construction of the airstrip and airstrip access road could temporarily impede land users traversing the airstrip and road, if any, along unmarked human and animal trails. Changes to wildlife and wildlife habitat: • Vegetation clearing resulting in habitat loss and alteration for moose, caribou, grizzly bear, and furbearers. Effects on moose and beaver from the airstrip (assessed together with the transmission line – not including transmission line access roads – and the FSS), are rated as not significant (negligible). Effects on caribou, grizzly bear, and furbearers (not including beaver) from the airstrip (assessed together with the transmission line – not including transmission line access roads – and the FSS), are rated as not significant (minor). • Increased vehicle collisions, hunting and poaching resulting in direct mortality of moose, caribou, and grizzly bear. Effects on moose, caribou, and grizzly bear from the airstrip (assessed together with the transmission line – not including transmission line access roads – and the FSS) are rated as not significant (minor). • Increased sensory disturbance, new access roads, increased vehicle traffic, and changes in habitat availability resulting in changes in movement patterns for moose. Effects on moose from the airstrip (assessed together with the transmission line – not including transmission line access roads – and the FSS) are rated as not significant (minor). • Vegetation clearing and revegetation causing a change in predatory-prey dynamics (increased foraging habitat, predator populations, predator access), resulting in indirect mortality of moose, caribou, and beaver. Effects on moose and beaver from the airstrip (assessed together with the transmission line – not including transmission line access roads – and the FSS) are rated as not significant (minor). Effects on caribou from the airstrip (assessed together with the transmission line – not including transmission line access roads – and the FSS) are rated as not significant (negligible).	○	○	○	◒

(continued)

Table 3.3-2. Interaction of Environmental Changes Caused by Project Components/Activities with Current Aboriginal Use (completed)

			Interaction with Current Aboriginal Use			
	Project Phase	Anticipated Changes to the Environment	Change in access to current use sites	Change in harvesting success	Change in quality of harvested resources	Change in Experience of Current Aboriginal Use
Airstrip and Airstrip Access Road *(cont'd)*	C, O, Cl, PC	Changes in fish and fish habitat: • No residual effects to fish and fish habitat are anticipated for the airstrip and airstrip access road Changes in traditional use plant habitat: • Changes to traditional use plants along the airstrip and airstrip access road were assessed together with changes to traditional use plants occurring along other linear Project components, including the freshwater supply system, the Kluskus FSR and mine access road, and transmission line (not including access roads). The effect on traditional use plant habitat (together with other ecosystem composition indicators, for all Project components) is rated as not significant (moderate). • Vegetation clearing, excavation, grading, and revegetation, resulting in spread of invasive plants during all Project phases. The effect on traditional use plant habitat (together with other ecosystem composition indicators, for all Project components) is rated as not significant (minor). Changes to the sensory environment: • Potential visual effects of the airstrip and airstrip access road were not identified from any evaluation site. Based on sound exposure level and Noise Exposure Forecast (NEF) predictions, as well as the short-term durations of landings and takeoffs (no more than one flight per day), none of the sensitive receptors (e.g., Tatelkuz Lake Ranch Resort, Matthews Creek Ranch) will be exposed to noise levels above the permissible criteria, i.e., a daytime Permissible Sound Level of 45 dBA and Noise Exposure Forecast of 25.				

Notes:
○ = an interaction is not expected, no adverse effect anticipated and no further assessment is warranted.
◒ = an interaction is possible, and may result in an adverse effect requiring active management, mitigation and/or monitoring, warrants further consideration.
● = an interaction is expected, and may result in an adverse effect requiring active management, mitigation and/or monitoring; warrants further consideration.

Work to upgrade (realign) a 1.5 km portion of the Kluskus-Ootsa FSR and construction of the mine access road could impede land users crossing these roads. Additionally, an increase in Project-related traffic could result in delays for Aboriginal peoples using the Kluskus and Kluskus-Ootsa FSR to access land use sites. Inbound truckload volumes using the Kluskus FSR during construction will average approximately 11 truckloads per day, peaking at about an average of 22 truckloads per day in the Q3 Year -2. An estimated 14 truck trips per day will carry nonhazardous cargo during the two years of construction and the first year of operations, including 175 oversized loads during the 2.5-year construction period. Company or contractor buses will transport most personnel to and from the Project Site daily during the construction phase. Construction contractors will also use pickups and light service vehicles. Peak daily volumes during construction will be about twice the average number of truckloads per day. During operations, an average of six in-bound trucks per day will carry non-hazardous goods, and one truck per day will backhaul waste to be disposed offsite.

Construction and use of the airstrip and airstrip access road could impede land users crossing these components. The proposed airstrip is located in a current forestry cut-block, so the likelihood of its intersection with existing trails is low.

Aboriginal peoples currently use land and resources for traditional purposes in areas where the Project is anticipated to cause changes to the physical environment that impede access. Consequently, changes in the physical environment caused by the Project are anticipated to interact with Aboriginal peoples' access to lands and resources.

3.3.2.2 Potential Interactions with Harvesting Success

Potential Interactions with Hunting and Trapping Success

The mine site, freshwater supply system, transmission line, Kluskus and Kluskus-Ootsa FSRs, and Project workforce are anticipated to cause changes in the abundance and distribution moose, caribou, grizzly bears, and/or furbearers (Sections 5.4.10, 5.4.11, 5.4.12 and 5.4.13 respectively of the Application/EIS). Anticipated effects are due to:

- vegetation clearing resulting in habitat loss and alteration;
- mortality from increased vehicle collisions,
- predation, and hunting pressure;
- sensory disturbance resulting in changes in wildlife movement patterns; and
- changes in population dynamics resulting from altered predator-prey relationships.

All anticipated effects are limited to the local scale, with no significant regional effects on the overall viability of wildlife populations.

The airstrip and freshwater supply pipeline are located in areas that are already disturbed by forestry operations. The Kluskus and Kluskus-Ootsa FSRs already exist and proposed upgrades will result in negligible habitat loss. The mine access road will remove wildlife habitat (e.g., 30 ha of moderate to moderately high value summer/fall caribou habitat; 13 ha of moderate value late summer/fall grizzly bear habitat). The transmission line will span wetlands that are

important to moose in spring and summer. Additionally, new moose habitat will be created following the regrowth of deciduous vegetation. The risk of mortality from vehicle strikes, increased predation, and hunting pressure is low (not significant negligible to minor) (New Gold, 2015).

The Project design avoids any overlap with the caribou ungulate winter range on the south side of Mount Davidson to minimize effects to caribou, however potential residual effects of habitat loss or alteration on caribou at the mine footprint are anticipated.

Aboriginal peoples currently hunt and trap in areas within which wildlife effects are possible. Consequently, it is possible that Project components could cause changes to local wildlife populations that will interact with hunting and trapping success. A conservative approach is used in the assessment of Current Aboriginal Use (hunting and trapping) but Project interactions on local wildlife populations are expected to be minimal.

Potential Interactions with Fishing Success

Installation of facilities in the mine site will result in permanent loss of upper reaches and headwater tributaries of Davidson Creek and Creek 661, as well as isolation of fish and fish habitat within upstream portions of Davidson Creek, its tributaries and Lake 01682LNRS (Section 5.3.8 of the Application/EIS). No overall change in the abundance of rainbow trout (kokanee are not present) will occur, as the Proponent will compensate for the extirpation or reduction of rainbow trout populations at these sites by enhancing existing or creating new fish habitat.

Fish habitat losses in the upper reaches of Davidson Creek will be offset with 'in-kind' and 'out-of-kind' habitat restoration, enhancement, and creation. Fish salvage and translocation will also reduce loss of fish. 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 within UFN, LDN and STN traditional territories). After mitigation and compensation measures, it is expected that there will be gains in fish habitat. As a result of mitigation, no significant residual effects to fish availability are predicted.

The FSS may cause a change in the abundance of rainbow trout and kokanee in Davidson Creek as a result of water augmentation from Tatelkuz Lake (section 5.3.8 of the Application/EIS). After augmentation begins, changes in spawning behaviour (homing) could reduce the size of rainbow trout and kokanee runs. Over the long-term, the number of spawners is expected to return to baseline conditions (within the range of natural variability). Water temperature changes associated with water augmentation could affect rainbow trout growth rates, but in potentially opposite directions that would cancel each other out. The FSS is expected to result in a negligible change in the abundance of rainbow trout and kokanee in Tatelkuz Lake as a result of water drawdown affecting littoral fish habitat. However, the effect is rated as negligible because it is within the range of natural variation and it is unlikely that the predicted change (<3%) can be measured (Section 5.3.8 of the Application/EIS).

Aboriginal peoples currently fish in Davidson Creek, where the Project identified potential effects to salmonid homing due to changes in the olfactory nature of Davidson Creek. However, the disruption to salmonid identifying spawning grounds is not anticipated to have long-term effects as a result of the practice of maintaining some home-stream water in Davidson Creek and the "plastic nature" of salmonid homing which means the area will continue to attract rainbow trout and kokanee spawners after construction and during operations and closure of the Project. Consequently, the Project is not expected to interact with fishing success in Davidson Creek.

An increase in fishing pressure associated with influx of a peak of 1,500 workers during construction and approximately 500 workers during operations) could also reduce fish abundance in accessible water bodies.

The Project will implement DFO's *Measures to Avoid Causing Harm to Fish and Fish Habitat* (DFO, 2013), the guidelines set out in the *Fish-Stream Crossing Guidebook* (BC FLNRO 2012) for fish crossings and BC Hydro's *Approved Work Practices for Managing Riparian Vegetation* (BC Hydro 2003).

No other Project components, including the transmission line and access roads, are anticipated to interact with fish populations in such a way to affect fishing success.

Potential Interactions with Gathering Success

Site clearing and installation of mine facilities will cause the loss of traditional use plant habitat in the mine site and all linear components (transmission line, FSS, airstrip, Kluskus-Ootsa FSR, mine access road, and all other mine access roads) (section 5.4.5 of the Application/EIS). Revegetation during post-closure will minimize the amount of plants lost. Nitrogen deposition from fleet emissions may affect traditional use plants in the mine sites. Vegetation clearing, soil disturbance, and revegetation also have the potential to introduce and spread invasive species at all project components. None of these effects on traditional use plants are rated as significant. A residual effect was determined for Whitebark pine regeneration however no uses of this species have been identified by Aboriginal groups.

Aboriginal peoples currently gather plants in areas within which effects on traditional use plants are anticipated. Consequently, changes in the quantity of traditional use plants caused by the Project are expected to interact with plant harvesting success, particularly through construction, operations, and closure.

3.3.2.3 Potential Interactions with the Quality of Harvested Resources

The Project is not anticipated to degrade water quality (section 5.3.3 of the Application/EIS) or release contaminants that could be ingested or absorbed by wildlife, fish, or plants (section 9 of the Application/EIS).

Consequently, the Project is not expected to interact with the quality of harvested resources and the potential effect is not carried forward in the assessment.

Aboriginal peoples may perceive potential resource quality and health effects despite the findings of the human health risk assessment. To address potential concerns and to support the ongoing

management and monitoring of the Project, the Proponent has committed to develop a Country Foods Monitoring Plan, which includes participation by Aboriginal groups.

3.3.2.4 Potential Interactions with Quality of Experience

Mine activities will cause noticeable changes to baseline daytime and nighttime noise levels, but will not exceed permissible sound levels at any human receptor locations (Section 9 of the Application/EIS). Noise emanating from construction equipment is predicted to exceed daytime permissible sound levels (55 dBA) within 500 m of the equipment and nighttime permissible sound levels (45 dBA) within 1,000 m of the equipment (Section 5.2.2 of the Application/EIS). Lights from the mine site will be visible from sunset to dawn.

Disturbance along the transmission line will be limited to the section undergoing active construction, which will advance at a speed of approximately 2.5 km per week over approximately 12 months. Intermittent exposure to noise during northeast take-off of aircraft may cause limited annoyance for one LDN family residing at Tatelkuz Lake IR 28 (and three non-Aboriginal families at their residences) up to twice per week during the construction phase. However, they would have an insignificant impact on equivalent sound pressure level (daytime permissible sound level is 55 dBA), due to their short duration.

During operations, noise outside of the mine site is predicted to be 45 dBA or lower and will attenuate to the background level of 31 dBA at approximately 4 km to the east and west, and 6 km to the north and south of the mine site.

The FSS and transmission line will not cause noise during operations, aside from infrequent and temporary maintenance.

Operation of the Tatelkuz Lake pump station will cause noise (a low-frequency hum) of 50 dBA near the pump building, attenuated in air to 30 dBA background value at the distance of 200 m over ground and 300 m over water. No residual effects are anticipated at sensitive receptors. However, land users moving within 300 m on water or 200 m on land will experience noise at a level below the threshold of interference with human speech (55 dBA).

Traffic along the Kluskus and Kluskus FSRs and mine access road during construction and operations will cause noise. Low traffic volume, mitigated engine noise and negligible tire noise will result in an overall low impact on the acoustic environment due to traffic (Section 5.2.2 of the Application/EIS).

Aboriginal peoples currently undertake traditional land uses in areas within which noise effects are anticipated. Consequently, it is possible that construction activities at all Project components, Project traffic, and operation of the FSS intake pump will cause noise that interacts with the quality of Aboriginal land users' experience. Given the localized nature of the noise effects in relation to the size of the usable terrain within which the Project is situated, an interaction is not expected.

Mine site facilities (the open pit and the adjacent east and west waste rock dumps and the upper section of the Site D main dam of the TSF) will be visible but distant from locations holding high scenic and recreational values, including Tatelkuz Lake Southeast Recreation Reserve, Dykam

Ranch, and Tatelkuz Lake IR 28, all approximately 15 km from the mine site in the vicinity of Tatelkuz Lake. Visual effects from these locations are rated as not significant (moderate). The mine site may be visible from sites that are not considered to have high scenic or recreational values.

The freshwater pipeline will be visible at its crossing point with the Messue Wagon Trail during construction prior to its burial. Given the short period during which the pipeline will be visible on the trail, no residual effects are anticipated. The freshwater pipeline water intake will be visible from Tatelkuz Lake. The intake is located in an existing cut-block and uses a wet well design with underwater intake screens and underground intake pipelines. Given the visual context and mitigation measures, no residual effects on visual quality are anticipated.

The transmission line will cause visual effects at sites with high visual or recreational quality, including the crossing points at the Stellako River, Nechako River, and Cheslatta Trail as well as from Brewster Lake Recreation Site and Tatelkuz Lake. Visual effects are rated as not significant (minor to moderate). In addition, the transmission line will cross the Messue Wagon Trail and will be visible to users of the trail. Views of the transmission line will be intermittent, as it will be shielded by vegetation cover and undulating terrain. The effects will last from construction to closure, and will be reversible once the transmission line is removed.

Aboriginal groups have expressed a concern that the transmission line will produce electromagnetic field (EMF) effects, potentially resulting in avoidance of harvesting areas that are in the vicinity of the transmission line.

Aboriginal peoples currently undertake traditional land uses in areas within which noise effects are anticipated. Given the number of potential visual interactions and the duration of visual effects, visual changes caused by the Project are expected to interact with Aboriginal land users' quality of experience.

4. EFFECTS ASSESSMENT FOR CURRENT ABORIGINAL USE

The following section describes potential effects of the Project on Aboriginal Current Use for LDN, NWFN, SFN, StFN, UFN and STN.

Based on TLU information provided by the STN, no impacts to current fishing activities (Table 3.3-1) are anticipated, and therefore fishing is not considered further in the assessment of STN Current Aboriginal Use.

As previously noted, no Project components or activities interact with known current uses of NFN, TNG or MNBC within the current use RSA (Table 3.3-1), and therefore these Aboriginal groups have not been carried forward into the effects assessment.

The Project is not anticipated to cause changes in the quality of wildlife, fish and plants harvested and water collected by Aboriginal people (Section 3.3.2.3). Therefore, the effects assessment does not consider potential effects of the Project on quality of species or water harvested by Aboriginal groups.

4.1 EFFECTS ON LHOOSK'UZ DENE NATION CURRENT USE

4.1.1 Effects on Current Hunting and Trapping

LDN harvest moose, deer, beaver, ducks, and grouse. In the spring and fall, harvesting includes muskrat, beaver, and duck. LDN do not harvest caribou as much as they did in the past due to the low abundance of caribou (section 2.2). LDN has identified that hunting occurs throughout its traditional territory including on the south side and summit of Mount Davidson (within the LSA), as well as near Tatelkuz Lake, and trapping occurs along Chedakuz Creek. The mine site overlaps two LDN-registered traplines, TR0512T014 and TR0512T027, by 0.01% and 9.4% respectively. Trapline TR0512T014 is currently used to harvest species including marten and grizzly bear, while TR0512T027 has not been used for 20 years (section 2.2). The keyoh boundaries associated with trapline TR0512T014 are overlapped by the mine site by approximately 1.0%. LDN indicated that the development of the transmission line may make access easier for non-Aboriginal hunters, resulting in increased competition for wildlife species.

4.1.1.1 Changes in Access to Hunting and Trapping Areas

There will be no public access to the proposed mine site during construction, operations and into closure while the infrastructure is being dismantled. Consequently, LDN will not have access to hunting and trapping areas in the mine site area during these project phases.

The Project Site overlaps traplines TR0512T014 and TR0512T027, by 0.01% and 9.4% respectively. Consultation revealed that trapline TR0512T027 has not been used for 20 years, and therefore no impacts to trapping areas associated with trapline TR0512T027 are anticipated. However, should LDN members intend to use the trapline TR0512T027 in the future, access will be impacted by the Project Site. The Proponent does not anticipate affecting road access to Trapline TR0512T014. 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.

Off road or foot access to the south side of Mount Davidson from the Tatelkuz Lake IR 28, (i.e., crossing over Mount Davidson from the north side), will be impeded by the proposed mine site, however this has not been identified as a preferred route by LDN.

The construction of the southern 52 km of the transmission line, which passes through LDN traditional territory, could impede LDN access to hunting and trapping areas on either side of the proposed ROW. LDN members would have to bypass areas undergoing active clearing and construction. Construction activities, including clearing of the ROW and placement of poles and lines, will proceed at approximately 2.5 km per week.

Upgrading of a 1.5 km portion of the Kluskus-Ootsa FSR could interfere with access for LDN members crossing this section of the road. An increase in Project-related traffic, particularly oversized loads during construction (175 oversized loads during the 2.5-year construction period), could result in delays for LDN members using the Kluskus-Ootsa FSR to access Mount Davidson for hunting or trapping. Peak daily volumes during construction will be about twice the average number of truckloads per day. Approximately 44 km of the Klukus FSR pass through LDN traditional territory.

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 Site.

The Project is expected to prevent LDN access to hunting and trapping sites within the proposed Project Site, particularly in consideration of LDN-registered traplines in the area. Impeded access to the proposed Project Site would continue for the duration of the Project. Delays and potential detours along access routes intersected by the transmission line and Kluskus-Ootsa FSR are anticipated as a result of the Project. Interference along access routes would be spatially-limited and temporary.

4.1.1.2 Change in Hunting and Trapping Success

LDN members may hunt and trap in areas where Project components and activities are anticipated to affect wildlife abundance and distribution, including areas within and adjacent to the mine site, the transmission line, Kluskus-Ootsa FSR, mine access road, and landing strip.

Effects on wildlife populations to be not significant within the wildlife RSA, because (among other reasons): the Project components will remove a limited amount of high value habitat available to wildlife regionally; the overall amount of wildlife mortality from increased vehicle collisions and hunting pressure is anticipated to be low; sensory disturbances causing changes in movement patters will be temporary and intermittent; and increased predation is expected to be low. All anticipated effects are limited to the local scale, with no significant regional effects on the overall viability of wildlife populations. Nevertheless, localized changes in wildlife abundance may occur in

areas used by LDN hunters and trappers, due to localized changes in habitat availability, sensory disturbance, and increased presence of predators.

The success of LDN hunters and trappers is anticipated to be reduced in areas where localized effects to wildlife abundance are expected. This includes reduced hunting and trapping success in areas surrounding the mine site (due to sensory disturbance to wildlife during construction and operations) in areas adjacent to the Kluskus and Kluskus-Ootsa FSRs and mine access road (due to wildlife mortality from vehicle collisions), and in areas adjacent to the transmission line (due to sensory disturbance to wildlife during construction and increased access for hunters and predators).

LDN has commented that the development of the transmission line may make it easier for non-Aboriginal hunters to access new hunting areas, resulting in increased competition for wildlife.

There is potential for reduced hunting and trapping success by LDN harvesters as a result of the Project. Data gaps regarding current LDN harvest success rates and specific hunting and trapping sites, as well the lack of assessment of effects on wildlife abundance at specific sites, prevent quantification of Project effects on LDN hunting and trapping success. However, the overall low wildlife mortality and displacement anticipated suggest that the potential effect on LDN hunting and trapping success will be low in magnitude.

4.1.1.3 Changes in the Experience of Hunting and Trapping

LDN members hunt and trap in areas where Project components and activities are anticipated to cause noise and visual effects (Section 2.2). Noise effects are anticipated in the vicinity of the mine site during construction and operations and may be detected within the northern portion of Trapline TR0512T014. Lights from the mine site will be visible from sunset to dawn and will likely affect the experience of trapping or hunting in this area. The Project Site falls within LDN-held trapline TR0512T027, however it has not been used for 20 years (Section 2.2). At this time, the Proponent does not anticipate effecting quality of experience of using trapline TR0512T027, however if LDN members use the trapline for subsistence, clothing, and/or other current uses, the quality of experience may be impacted.

Noise is anticipated in the vicinity of the FSS and transmission line during construction, in the area adjacent to the airstrip during construction, along the Kluskus and Kluskus FSRs and mine access road during construction and operations, and near to the FSS water intake during operations. Visual effects related to the FSS water intake are anticipated from Tatelkuz Lake. Visual effects related to the transmission line are anticipated at the Brewster Lake Recreation Site, Cheslatta Trail, and Messue Wagon Trail. Project components may also be visible from locations other than those with high scenic and/or recreational value.

Reduced quality of experience for LDN members using lands and resources in areas affected by noise and visual changes is anticipated. Effects will be greatest within close visual range of the mine site and within 500 m of construction equipment and 200-300 m of the FSS water intake.

Beyond noise and visual effects, data gaps about the sensory or perceptual environment prevent further quantification of effects to LDN quality of experience. However, given that the Project components will be located in a region already highly impacted by industrial resource extraction

context of the effect and in consideration of the localized nature of noise and light effects suggest that the magnitude of the effect on LDN quality of experience will be low to moderate, depending on the phase of the Project.

4.1.2 Effects to Current Fishing

LDN fish at Tatelkuz Lake, Davidson Creek, Kuyakuz Lake, Chedakuz Creek, the Twin Lakes (location unknown), and a little creek near km 104 of the Kluskus FSR (section 2.2). LDN fish for trout, kokanee and suckers. The Blackwater River and its tributaries (i.e. Tsacha Lakes) have been identified as critical fishing areas for LDN.

4.1.2.1 Changes in Access to Fishing Areas

LDN members, and particularly the one LDN family that lives at Tatelkuz Lake IR 28, fish at Tatelkuz Lake. The installation and operation of the FSS at Tatelkuz Lake as well as the freshwater supply pipeline on the southwest shore of Tatelkuz Lake is not expected to impede LDN access to the lake for fishing.

The location where the transmission line crosses Chedakuz Creek is aligned with the existing Kluskus-Ootsa FSR. During construction of the transmission line, LDN may experience interference accessing fishing locations within the transmission line ROW, should LDN fish near these waterway crossing points. Construction of the transmission line will be temporary and limited in duration.

Access by LDN to lower portions of Davidson Creek will not be impeded by the construction, operations and closure of the Project.

Given the limited interference and knowledge of LDN fishing locations, the Project is not expected to impact LDN access to fishing sites.

4.1.2.2 Change in Fishing Success

Based on input by LDN, the Project was designed to avoid the lower reaches of Davidson Creek, which is an area where Kokanee salmon spawn and is considered to be of high value by LDN.

While operation of FSS may cause a change in the abundance of rainbow trout and kokanee in Davidson Creek, both fish species are expected to continue spawning in middle and lower Davidson Creek. Changes to fish habitat in Davidson Creek are within the range of natural variation (Section 5.3.8.4 of the Application/EIS) and can be managed during mine life. As a result, the Proponent does not anticipate any changes to fishing success by LDN in the lower reaches of Davidson Creek. Anticipated changes to fish and fish habitat for other fishing locations available to LDN fishers, including water bodies intersected by the transmission line are also predicted to be within the ranges of natural variation.

The operation of the FSS will reduce fish habitat at Tatelkuz Lake as a result of water drawdown. However, the effect is within the range of natural variation and reversible once pumping stops at the end of closure (Section 5.3.8 of the Application/EIS and Section 3.3.2 of this document). Consequently, the operation of the FSS is not anticipated to affect LDN fishing success in Tatelkuz Lake.

As a result of the introduction of workers to the area, there may be increased competition for fish, however the Proponent will introduce a no fishing policy for workers while they are resident at the work site.

Based on Project design and controlled mitigation measures, no impacts are anticipated on the success of LDN fishing.

4.1.2.3 Changes in the Quality of Experience of Fishing

LDN members fish in areas where Project components and activities are anticipated to cause noise and visual effects.

The visual assessment from Tatelkuz Lake indicated that from Tatelkuz Lake IR 28 and from the Tatelkuz Lake Southeast Recreation Reserve area, there is potential to view the Project (e.g., open pit, east and west waste rock dumps, and from the IR 28, also the upper section of the TSF), although the view will be constrained by the distance (about 15 km); the visual impact was rated as not significant (moderate) (Section 7.2.8 of the Application/EIS). Therefore, for users of the area, particularly for LDN residents of Tatelkuz Lake IR 28 fishing on Tatelkuz Lake, there will be ongoing visual disturbance. Additionally, low-level noise from the FSS will be detectable at the pumphouse on the southeast side of Tatelkuz Lake. Effects will be greatest for land users of the FSS water intake. Infrequent maintenance associated with the pumphouse may also produce minor noise disturbances. The freshwater pipeline will be buried and will not create visual disturbances around Tatelkuz Lake after construction.

LDN should not experience noticeable changes to noise levels around the transmission line, apart from during the construction phase (and during any necessary maintenance during operations). Should LDN fish near the area where the transmission line crosses Chedakuz Creek, noise during construction may disrupt the fishing experience. Construction of the transmission line will be temporary and limited in duration. From certain perspectives there may be intermittent views of the transmission line from construction until closure.

Noise from increased levels of traffic during construction along the Kluskus FSR to the mine site may be noticeable to LDN member harvesting fish on lower Chedakuz Creek.

Beyond noise and visual effects, there are data gaps about the sensory environment that contribute towards quantification of effects to LDN quality of experience. However, given that the Project components will be located in a region already highly impacted by industrial resource extraction and the localized nature of noise effects, the magnitude of effects on the quality of LDN fishing experience is anticipated to be low to moderate, depending on the Project phase.

4.1.3 Effects to Current Gathering

The LDN harvest a range of plants for food, medicine, and building materials throughout their traditional territory, with a concentration of gathering activities around Tatelkuz Lake, Kuyakuz Lake and along trails including the Messue Wagon Trail (section 2.2).

4.1.3.1 Changes in Access to Gathering Areas

There will be no access to the mine site for LDN plant gathering until after post-closure. The mine footprint was not identified as an area of LDN gathering.

The freshwater pipeline and transmission line will cross the Messue Wagon Trail and a trail near Tatelkuz Lake connecting with the Alexander Mackenzie Trail to the south. Access for LDN gathering near these crossing points may be interrupted during construction of the transmission line and freshwater pipeline. After construction, there will be no effect on access or use of these trails. After construction of the freshwater pipeline, access to Tatelkuz Lake from the south (i.e. from Kluskus IR 1 or the Alexander Mackenzie Trail) will not be impeded as the pipeline will be buried.

The Proponent will communicate the development schedule to LDN to enable members to avoid areas currently under development. Given the limited interference with access, the Project is not anticipated to affect LDN access to lands and resources for gathering.

4.1.3.2 Change in Gathering Success

Plant habitat in the ecosystem composition RSA that overlaps the current use RSA and the LDN traditional territory will be impacted during construction and operation of the Project, transmission line, and Kluskus FSR. Site clearance for the mine accounts for the majority of the plant habitat loss, however this area has not been identified by LDN as a gathering area. Vegetation clearing of the ROW for the transmission line, including where the ROW crosses the Messue Wagon Trail may affect the abundance of plants available for LDN members to harvest. Following decommissioning of the transmission line ROW, harvestable plants are expected to return to their former structure and potential use.

The Project will result in loss of plant habitat, however the extent of the effect is limited in LDN gathering areas, (e.g., along the Messue Wagon Trail, where it will be crossed by the transmission line ROW) and reversible. Therefore, no changes to the success of LDN harvesting are anticipated.

4.1.3.3 Changes in the Quality of Experience of Gathering

The construction, operations and closure phases associated with the Project, transmission line and FSS may affect the quality of LDN gathering experience due to noise and visual effects.

The visual assessment from Tatelkuz Lake indicated that from Tatelkuz Lake IR 28 and from the Tatelkuz Lake Southeast Recreation Reserve area, there is potential to view the Project (e.g., open pit, east and west waste rock dumps, and from the IR 28, also the upper section of the TSF), although the view will be constrained by the distance (about 15 km). The visual assessment for the Messue Wagon Trail anticipated that trail user may encounter the transmission line and pipeline along this route, and rated the incidental views of the transmission line a not significant (negligible). The mine site will not be visible from the trail as a result of the dense forest cover and undulating terrain. The freshwater pipeline will be buried to reduce visual disturbances around Tatelkuz Lake.

No noticeable changes to noise levels are expected to occur around the transmission line, apart from the construction phase (and during any necessary maintenance during operations). Noise from transmission line construction will be limited to the construction phase only (apart from any necessary maintenance during operations).

Low-level noise from the FSS will be detectable to LDN harvesters near the pumphouse on the southeast side of Tatelkuz Lake. Infrequent maintenance associated with the pumphouse may also produce minor noise disturbances.

There is a perception by Aboriginal groups that the transmission line will produce electromagnetic field (EMF) effects, which may result in LDN avoiding harvesting in areas under the transmission line. The Proponent is committed to further communication with LDN related to potential EMF effects.

Although disturbance during construction will be time-limited, visual effects and perceived EMF effects will continue through construction, operations and closure. The Project has the potential to affect the quality of LDN gathering experience.

4.1.4 Effects on Other Current Cultural and Traditional Uses of the Land

Kuyakuz Mountain and the north shore of Tatelkuz Lake were identified as sites of cultural importance to the LDN. Tatelkuz Lake is an important site for canoeing and boating. The Messue Wagon Trail and Alexander Mackenzie Trail are also culturally important trails to LDN. LDN indicated that residents at Tatelkuz Lake IR 28 source drinking water from Davidson Creek (Section 2.2).

4.1.4.1 Changes in Access to Other Cultural and Traditional Land Use Sites

There will be no public access to the proposed mine site during construction, operations and into closure. Consequently, LDN will not have access to the area for cultural and traditional uses, however at the time of writing, there is no known LDN use of these areas.

No interruption to access Davidson Creek to draw drinking water for LDN members residing at Tatelkuz Lake IR 28 is anticipated.

During construction of the southern portion of the transmission line, LDN could experience interrupted access to cultural and traditional land use areas on either side of the proposed ROW. Construction activities will be temporary. There are no known LDN uses of this area for other cultural or traditional purposes.

The construction of freshwater pipeline may temporarily interrupt access to other cultural and traditional land use areas, should LDN use the south bank of Tatelkuz Lake for other cultural or traditional land uses. The pipeline will be buried and will not interrupt access to other cultural and traditional areas following construction; it is being developed in an area already impacted by forestry operations. There are no known LDN uses of this area for other cultural or traditional purposes.

During construction, access to the Messue Wagon Trail at the crossing points of the transmission line and freshwater pipeline may be temporarily disturbed. The Proponent will communicate the construction schedule to LDN so that members can plan for any disruption.

Upgrading of a 1.5 km portion of the existing Kluskus-Ootsa FSR could temporarily interfere with access for LDN members crossing this section of the road, should they use the areas for cultural and traditional purposes. There are no known LDN uses of this area for other cultural or traditional purposes.

Navigation on Tatelkuz Lake will not be affected by the Project.

Given that the Project components will be located in a region already highly impacted by industrial resource extraction and the localized interference with access to cultural and traditional land use sites, the Project is not anticipated to affect LDN access to any known cultural or traditional land use sites.

4.1.4.2 Changes in Experience of Using Other Cultural and Traditional Lands

LDN members may use areas where Project components and activities are anticipated to cause noise and visual effects.

Noise and visual effects are anticipated in the vicinity of the mine site during construction and operations and may be detected from traplines TR0512T014 and TR0512T027 and associated keyoh users. Lights from the mine site will be visible from sunset to dawn. Should LDN members use the area for other cultural and traditional uses, their experience may be affected. However at the time of writing, there are no other known cultural and traditional uses in the area by LDN.

No noise or visual effects are anticipated for LDN members drawing drinking water from Davidson Creek.

Noise is also anticipated in the vicinity of the FSS and transmission line during construction, in the area adjacent to the airstrip during construction, along the Kluskus and Kluskus FSRs and mine access road during construction and operations, and near to the FSS water intake during operations. Visual effects related to the FSS water intake are anticipated from Tatelkuz Lake. The freshwater pipeline will be buried to reduce visual disturbances. Visual effects related to the transmission line are anticipated at the Brewster Lake Recreation Site, Cheslatta Trail, and Messue Wagon Trail. Project components may also be visible from locations other than those with high scenic and/or recreational value. No noticeable changes to noise levels are expected to occur around the transmission line, apart from the short-term construction time and during necessary maintenance of the line during operations. During operation, low-level noise from the FSS will only be detectable at the pumphouse on the southeast side of Tatelkuz Lake and pumphouse maintenance may also produce minor noise disturbances infrequently.

The Project is located in a region already highly impacted by industrial resource extraction which may affect LDN members' experience while using the land and resources for other cultural and traditional purposes. Limited information about other cultural and traditional land uses by LDN is available to the Proponent, however, a conservative approach has been applied given the number of

Project components and activities with LDN traditional territory; the Project may impact the quality of LDN experience of using cultural and traditional lands.

4.1.5 Conclusion

The Project may result in effects to LDN Current Aboriginal Use. The proposed Project Site will restrict access to hunting and trapping areas. There is potential for reduce hunting and trapping success. The Proponent anticipates potential effects to the LDN experience of using the land for hunting and trapping, fishing, gathering and other cultural and traditional purposes.

4.2 EFFECTS ON NADLEH WHUT'EN FIRST NATION CURRENT USE

4.2.1 Effects to Current Hunting and Trapping

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 0.67%. This trapline is currently dormant however other NWFN members may trap in the area (section 2.3). To date, the NWFN have not provided TK/TLU information or information on current hunting or trapping locations in the current use LSA and RSA. The NWFN are undertaking a TK/TLU study and once information is provided to the Proponent, it will be considered in the Project design, execution, management plans, permitting and monitoring.

4.2.1.1 Changes to Access to Hunting and Trapping Areas

The construction of the northern 47 km of the transmission line, which pass through NWFN traditional territory, and through NWFN-held trapline TR0712T036, could impede NWFN access to hunting and trapping areas on either side of the proposed ROW. This trapline is currently dormant however other NWFN members may trap in the area. Notwithstanding, should NWFN members hunt and trap in the area, NWFN would have to bypass areas undergoing active clearing and construction. Construction activities, including clearing of the ROW and placement of poles and lines, will proceed at approximately 2.5 km per week.

An increase in Project-related traffic, particularly oversized loads during construction (175 oversized loads during the 2.5-year construction period), could result in delays for NWFN members using the Kluskus FSR to access hunting or trapping areas. Peak daily volumes during construction will be about twice the average number of truckloads per day. Eight (8) km of the existing Kluskus FSR pass through NWFN traditional territory.

Based on available information and in consideration of the dormant state of the NWFN-held trapline as well as the limited temporal scope of the transmission line construction and the limited distance of the Kluskus FSR that passes through NWFN territory (i.e., 8 km), no changes are anticipated for NWFN to access hunting and trapping areas.

4.2.1.2 Change in Hunting and Trapping Success

NWFN may hunt and trap in areas within and adjacent to the transmission line and near the section of the Kluskus FSR that passes through NWFN traditional territory.

Potential effects on wildlife populations are anticipated to be not significant within the wildlife RSA, because (among other reasons): the Project components will remove a limited about of high value habitat available to wildlife regionally; the overall amount of wildlife mortality from increased vehicle collisions and hunting pressure is anticipated to be low; sensory disturbances causing changes in movement patters will be temporary and intermittent (e.g., during the construction of the transmission line); and increased predation is expected to be low. All anticipated effects are limited to the local scale, with no significant regional effects on the overall viability of wildlife populations. Nevertheless, localized changes in wildlife abundance may occur in areas used by NWFN hunters and trappers, due to localized changes in habitat availability, sensory disturbance, and increased presence of predators.

The success of NWFN hunters and trappers is anticipated to be reduced in areas where localized effects to wildlife abundance are expected. This includes reduced hunting and trapping success in areas adjacent to the transmission line, due to sensory disturbance to wildlife during construction and overall increased access for hunters and predators, and in areas surrounding the Kluskus FSR due to wildlife mortality from vehicle collision.

The NWFN has commented that the development of the transmission line may make it easier for non-NWFN hunters to access new hunting areas, resulting in increased competition for wildlife species.

There is potential for reduced hunting and trapping success by NWFN harvesters as a result of the Project. Data gaps regarding current NWFN harvest success rates and specific hunting and trapping sites, as well the lack of assessment of effects on wildlife abundance at specific sites, prevent quantification of Project effects on NWFN hunting and trapping success. However, the overall low wildlife mortality and displacement anticipated suggest that the potential effect on NWFN hunting and trapping success will be low in magnitude.

4.2.1.3 Changes in the Experience of Hunting and Trapping

The construction, operations and closure phases associated with the transmission line ROW may affect the quality of NWFN hunting and trapping experience due to noise and visual quality. Visual effects related to the transmission line within NWFN traditional territory are anticipated at the Nechako River and Stellako River crossing points and the Cheslatta Trail however the transmission may also be visible to hunters and trappers from locations other than those with high scenic and/or recreational value.

Although disturbance during construction will be time-limited, visual changes will continue through construction, operation and closure. The Project is located in a region already highly impacted by industrial resource extraction which may affect the experience of NWFN hunting and

trapping in the area. The Project has the potential to affect the quality of NWFN hunting and trapping experience, although the magnitude is anticipated to be low.

4.2.2 Effects to Current Fishing

Fish including sockeye salmon, as well as steelhead trout, Dolly Varden trout, and rainbow trout, is a staple food for NWFN. Secondary data sources indicate NWFN fish in lakes and rivers to the north and outside of the current use RSA including in the Sutherland River and the Nautley River (Section 2.3). NWFN raised concerns related to project effects on fishing (for salmon and white sturgeon) in the Nechako River.

4.2.2.1 Changes in Access to Fishing Areas

At the points where the transmission line crosses the Nechako River and Stellako River, NWFN may experience temporary disruption to accessing fishing locations within the transmission line ROW, should NWFN fish in these locations. Given the limited information of NWFN fishing locations on the Nechako River, and the temporary disruption during construction and closure, the Project is not expected to impact NWFN access to fishing areas.

4.2.2.2 Change in Fishing Success

As noted in Section 3.3.2.2, the construction, operation and closure of the transmission line is not anticipated interact with fish populations, and as such will not affect NWFN fishing success on the Nechako River or Stellako River. The Project will implement DFO's *Measures to Avoid Causing Harm to Fish and Fish Habitat* (DFO, 2013), the guidelines set out in the *Fish-Stream Crossing Guidebook* (BC FLNRO 2012) for fish crossings and BC Hydro's *Approved Work Practices for Managing Riparian Vegetation* (BC Hydro 2003).

The introduction of workers to the area may increase competition for fish, however this is not anticipated to affect the overall success of NWFN given the known fishing areas located outside the current use RSA. A no fishing policy will be implemented for workers while resident at the work site.

With the implementation of robust mitigation measures during the construction of the transmission line, the Project is not anticipated to affect NWFN fishing success.

4.2.2.3 Changes in the Quality of Experience of Fishing

The construction, operations and closure of the transmission line may affect the quality of NWFN fishing experience as a result of noise and visual effects near the transmission line crossing points of the Nechako River and Stellako River. During construction and closure of the transmission line (and during any necessary maintenance during operations), noise may disrupt NWFN should they fish within the transmission line ROW near these crossing points. Construction of the transmission line will advance by approximately 2.5 km per week, therefore disruption at this crossing point will be temporary and limited in duration. From certain perspectives there may be intermittent views of the transmission line from construction until closure. NWFN users of the Nechako River or Stellako River traveling by boat past these crossing points will view the transmission line however it will be a

short period of visibility as NWFN travel around river bends. The Proponent will communicate the upgrading schedule to NWFN so that members can plan for any disruption.

Beyond noise and visual effects, there are data gaps regarding the sensory environment that prevent the characterization or quantification of effects to NWFN quality of experience. However, given that the Project components will be located in a region already highly impacted by industrial resource extraction. The transmission line at the Nechako River and Stellako River crossing points will form a minor part of these landscapes, therefore the magnitude of effects on the quality of NWFN fishing experience will be low.

4.2.3 Effects to Current Gathering

NWFN harvest berries and other plants. Many of plants are harvested and used for medicinal purposes. Based on publically-available information, NWFN plant gathering sites are located the north and outside of the current use RSA (Section 2.3).

4.2.3.1 Changes in Access to Gathering Areas

The construction of the northern 47 km of the transmission line, which pass through NWFN traditional territory, could impede NWFN access to plant gathering areas on either side of the proposed ROW, should NWFN use these areas for harvesting. There is no information currently available indicating NWFN use areas within the transmission line route for plant gathering. Notwithstanding, should NWFN members gather in the transmission line ROW, NWFN would have to bypass areas undergoing active clearing and construction. Construction activities, including clearing of the ROW and placement of poles and lines, will proceed at approximately 2.5 km per week. The Proponent will communicate the upgrading schedule to NWFN so that members can plan for any disruption.

Given the limited interference with access and communication planned by the Proponent, the Project is not anticipated to affect NWFN access to lands and resources for gathering.

4.2.3.2 Change in Plant Gathering Success

Plant habitat in the ecosystem composition RSA that overlaps the current use RSA and the NWFN traditional territory will be impacted during construction of the transmission line, and during regular maintenance of the transmission line ROW. Clearing of the ROW for the transmission line may affect the abundance of plants available for NWFN members to harvest.

Transmission line will be revegetation through natural recovery, counting on preservation of the understorey. Following decommissioning of the transmission line ROW, harvestable plants are expected to return to their former structure and potential use.

Given current understanding of NWFN plant harvesting areas (e.g., sites to the north and outside of the current use RSA), no changes in NWFN plant harvesting success are anticipated as a result of the installation of the transmission line.

4.2.3.3 Changes to Experience of Using Plant Gathering Areas

The construction, operations and closure phases related to the transmission line may affect the quality of NWFN gathering experience due to noise and visual effects. The Proponent does not anticipate changes in noise levels around the transmission line, apart from the construction phase and during occasional maintenance during operations. The construction of the transmission line will last approximately 12 months and disturbance at a certain location will be temporary as the construction crews will advance at a speed of approximately 2.5 km per week. There are potential visual effects associated with overhead cables of proposed transmission line for NWFN harvesters, should they crossing through the transmission line ROW for harvesting purposes.

There is a perception by Aboriginal groups that the transmission line will produce electromagnetic field (EMF) effects, which may result in NWFN avoiding harvesting in areas under the transmission line. The Proponent is committed to further communication with NWFN related to potential EMF effects.

Although disturbance during construction will be time-limited, visual effects will continue until closure, and concerns about EMF may be ongoing with NWFN members. Although there is no known information about NWFN plant harvesting within the transmission line ROW, a conservative approach has been applied and determines that the Project has the potential to affect the quality of NWFN gathering experience.

4.2.4 Effects on Other Current Cultural and Traditional Uses of the Land

The Cheslatta Trail crosses through NWFN traditional territory and has cultural significance. Other trails, habitations, and sacred sites used by the NWFN have been identified to the north and outside of the current use RSA (Section 2.3). The proposed transmission line will cross the Cheslatta Trail in an area that has been logged and is now an overgrown, rutted service road.

4.2.4.1 Changes in Access to Other Cultural and Traditional Lands

During construction of the transmission line, NWFN could experience interrupted access to cultural and traditional land use areas on either side of the proposed ROW, including at the point where the transmission line crosses the Cheslatta Trail. Transmission line construction activities will be limited in duration and temporary. The Proponent will communicate the upgrading schedule to NWFN so that members can plan for any disruption. Given limited temporal interference, the Project is not anticipated to affect NWFN access cultural or traditional land use sites.

4.2.4.2 Change in Experience of Using Other Cultural and Traditional Lands

The construction, operations and closure of the transmission line may produce a change in the NWFN experience of using cultural and traditional land use sites, particularly related to noise and visual effects. The transmission line will cross the Cheslatta Trail and will be visible to users of the trail along a 300 m section. Views will be intermittent, as the transmission line will be shielded by vegetation cover and undulating terrain. The effects will last from construction to closure, and will be reversible once the transmission line is removed. Apart from the short-term construction time and

during necessary maintenance of the line during operations, users of the Cheslatta Trail will not experience noise disturbance from the transmission line where it crosses the Trail.

As a result of the visual effects of the transmission line at certain crossing points of trails used by NWFN, the Project may impact the quality of experience for NWFN using land for other cultural and traditional purposes, although the magnitude will be low and the effect will be reversible when the transmission line is removed.

4.2.5 Conclusion

Overall wildlife mortality and displacement may result in reduced NWFN hunting and trapping success. The Project may also result in reduced quality of NWFN experience related to hunting and trapping, fishing and gathering and use of other cultural and traditional lands, primarily due to intermittent views of the transmission line.

4.3 EFFECTS ON SAIK'UZ FIRST NATION CURRENT USE

4.3.1 Effects to Current Hunting and Trapping

The SFN TLUOS identifies that SFN members are engaged in hunting activities throughout their traditional territory. A total of 1,069 mammal kill sites were identified in the SFN TLUOS. Based on the map in the TLUOS, moose kill sites appear to be concentrated around and to the south of SFN IRs, as well as along waterways, including Greer Creek (section 2.4). Based on missing shapefile information and the quality of the map, it is difficult to identify the types of sites within the current use LSA or RSA.

One registered trapline held by a SFN member (TR0712T009) is overlapped by the Kluskus FSR. Trapline TR0712T009 has been affected by clear-cut logging and is no longer used for trapping but may be used for hunting and gathering. A second registered line (TR0711T007) held by another SFN member is overlapped by the proposed transmission line by 0.61%. Trapline TR0711T007 is currently used for trapping by the entire family and the trapline corresponds to a larger keyoh boundary.

4.3.1.1 Changes in Access to Hunting and Trapping Areas

SFN may experience interference with their access to hunting and trapping areas during construction of the 72 km of transmission line that pass through SFN traditional territory, including the area of Trapline TR0711T007. During construction, SFN hunting and trapping in this area would have to bypass areas undergoing active clearing and construction. Potential interferences to access land and resources for hunting and trapping are anticipated during the construction phase only. Construction activities, including clearing of the ROW, placement of poles and lines, will proceed at approximately 2.5 km per week.

A section of the Kluskus-Ootsa FSR will be upgraded for safety reasons, and during the upgrade construction period, SFN may experience interrupted access along this route. An increase in Project-related traffic, particularly oversized loads during construction (175 oversized loads during the 2.5-year construction period), could result in delays for SFN members using the Kluskus FSR to

access hunting or trapping areas. Peak daily volumes during construction will be about twice the average number of truckloads per day. Approximately 112 km of the Kluskus FSR pass through SFN traditional territory, including trapline TR0712T009, however this trapline is no longer used by the family for trapping, although hunting and plant gathering may occur in the area. The Proponent will communicate the upgrading schedule to SFN so that members can plan for any disruption.

During construction, SFN may experience interrupted access to hunting and trapping sites, however this will be limited temporally and the Proponent will communicate the development schedule to avoid interruptions, and therefore overall the Project is not expected to affect SFN access to hunting or trapping sites.

4.3.1.2 Change in Hunting and Trapping Success

SFN may hunt and trap in areas within and adjacent to the transmission line, including within the trapline TR0711T007, as well as near the Kluskus FSR. Potential effects on wildlife populations are anticipated to be not significant within the wildlife RSA, because (among other reasons): the Project components will remove a limited about of high value habitat available to wildlife regionally; the overall amount of wildlife mortality from increased vehicle collisions and hunting pressure is anticipated to be low; sensory disturbances causing changes in movement patters will be temporary and intermittent (e.g., during the construction of the transmission line); and increased predation is expected to be low. All anticipated effects are limited to the local scale, with no significant regional effects on the overall viability of wildlife populations. Nevertheless, localized changes in wildlife abundance may occur in areas used by SFN hunters and trappers, due to localized changes in habitat availability, sensory disturbance, and increased presence of predators.

The success of SFN hunters and trappers is anticipated to be reduced in areas where localized effects to wildlife abundance are expected. This includes reduced hunting and trapping success in areas adjacent to the transmission line, due to sensory disturbance to wildlife during construction and overall increased access for hunters and predators, as well as in areas adjacent to the Kluskus FSRs due to wildlife mortality from vehicle collisions.

Areas along the transmission line will cross through several areas that were previously not crossed by roads, increasing access of non-SFN hunters to these areas, and indirectly increasing outside competition for resources. This was raised as a concern by trapline/keyoh holders with traplines that intersect with Project components and activities.

There is potential for reduced hunting and trapping success by SFN harvesters as a result of the Project. Data gaps regarding current SFN harvest success rates and specific hunting and trapping sites, as well the lack of assessment of effects on wildlife abundance at specific sites, prevent quantification of Project effects on SFN hunting and trapping success. However, the overall low wildlife mortality and displacement anticipated suggest that the potential effect on SFN hunting and trapping success will be low in magnitude.

4.3.1.3 Changes in Quality of Experience of Hunting and Trapping

The construction, operations and closure phases associated with the transmission line ROW may affect the quality of SFN hunting and trapping experience due to noise and visual effects. Approximately 72 km of the transmission line pass through SFN traditional territory. SFN hunters and trappers will not hear noise related to the transmission line, apart from the construction phase and during any necessary maintenance during operations. There are potential visual effects associated with overhead cables of the transmission line. Visual effects are anticipated at the Nechako River and Stellako River crossing points, at the Cheslatta Trail crossing point and at Brewster Lake Recreation Site. Views of the transmission line will be intermittent due to vegetation cover. The transmission may also be visible to hunters and trappers from locations other than those with high scenic and/or recreational value.

The Project is located in a region already highly impacted by industrial resource extraction. Although disturbance during construction will be time-limited, visual changes will continue through construction, operation and closure, and will be reversible when the transmission line is removed. The Project is expected to impact the quality of SFN hunting and trapping experience.

4.3.2 Effects to Current Fishing

SFN fish throughout the region, including using the Nechako River within the current use RSA, and at Wedgewood and Finmoore, to the north and outside of the current use RSA. A keyoh holder indicated that there is an SFN fish trap at Greer Creek in the area crossed by the transmission line (section 2.4). The TLUOS map legend or shapefiles have not been shared with the Proponent, however, symbols representing fish appear occur within the current use LSA and RSA, including in Tatelkuz Lake (Thomas, 2015). Fish species targeted by SFN include salmon, trout, char, Dolly Varden, kokanee, whitefish, Arctic grayling, ling cod, and sturgeon. SFN have indicated they have a fish camp along the Nechako River, which would be under the proposed transmission line (Section 2.4). The SFN indicated to the Proponent that they would prefer the fish camp remain remote. The proposed transmission line will cross the Nechako River and Greer Creek, and in total there are seven (7) transmission line water crossings within the SFN traditional territory.

4.3.2.1 Changes in Access to Fishing Areas

Access to the SFN fish camp on the Nechako River and fish trap in Greer Creek will not be impeded by the proposed transmission line ROW, other than temporary disruption during construction. With respect to the Greer Creek transmission line crossing, the surrounding area is currently accessible via the Kenney Dam Road and the Greer Creek Recreation Site. The transmission line is expected to facilitate access to these areas.

The Proponent will follow up with SFN to address access to the fish camp on the Nechako River, if information about the location is made available to New Gold.

Given the limited temporary disruption, the Project is not expected to impact SFN access to fishing sites.

4.3.2.2 Changes in Fishing Success

As noted in Section 3.3.2.2, the construction, operation and closure of the transmission line is not anticipated interact with fish populations, and as such will not affect SFN fishing success on the Nechako River or Greer Creek. The Project will implement DFO's *Measures to Avoid Causing Harm to Fish and Fish Habitat* (DFO, 2013), the guidelines set out in the *Fish-Stream Crossing Guidebook* (BC FLNRO 2012) for fish crossings and BC Hydro's *Approved Work Practices for Managing Riparian Vegetation* (BC Hydro 2003).

The introduction of workers potentially fishing in these waterbodies and the development of the transmission line ROW may indirectly increase outside competition for fish due to greater accessibility. The Proponent will introduce a no fishing policy for workers while they are resident at the work site.

The operation of the FSS will reduce fish habitat at Tatelkuz Lake as a result of water drawdown. However, the effect is within the range of natural variation and reversible once pumping stops at the end of closure. Consequently, the operation of the FSS is not anticipated to affect SFN fishing success in Tatelkuz Lake.

Given the implementation of robust mitigation measures during the construction of the transmission line, and negligible effect to fish habitat in Tatelkuz Lake, no changes are anticipated to SFN fishing success.

4.3.2.3 Changes in the Quality of Experience of Fishing

The construction, operations and closure phases related to the transmission line may affect in the quality of SFN fishing experience due to noise and visual effects near watercourse crossings. The SFN reported they have a fish camp along the Nechako River, which would be under the proposed transmission line; the location of this fishing camp is not known at the time of writing. During construction and closure of the transmission line (and during any necessary maintenance during operations), noise may disrupt SFN fishing near transmission line crossing points (e.g., at the Greer Creek fish trap). Construction of the transmission line will advance by approximately 2.5 km per week, therefore disruption at crossing points will be temporary and limited in duration. From certain perspectives there may be intermittent views of the transmission line from construction until closure. SFN fishing on certain sections of the Nechako River or Greer Creek may view the transmission line, however it will be a short period of visibility as SFN travel around river bends.

The visual assessment from Tatelkuz Lake indicated that from the Tatelkuz Lake Southeast Recreation Reserve area, there is potential to view the Project (e.g., open pit, east and west waste rock dumps, although the view will be constrained by the distance of about 15 km). Therefore, for SFN fishing in at Tatelkuz Lake there will be ongoing visual disturbance. Additionally, low-level noise from the FSS will be detectable at the pumphouse on the southeast side of Tatelkuz Lake. Effects will be greatest for land users of the FSS water intake. Infrequent maintenance associated with the pumphouse may also produce minor noise disturbances. The freshwater pipeline will be buried and will not create visual disturbances around Tatelkuz Lake after construction.

The SFN TLUOS map legend or shapefiles have not been shared with the Proponent, however there appear to be fish sites located near Brewster Lake. SFN fishing near or at Brewster Lake may also experience intermittent views of the transmission line. Vegetation will limit the visibility of the transmission line from this recreation site's access road.

Low-level noise from the FSS will be detectable at the pumphouse on the southeast side of Tatelkuz Lake. Infrequent maintenance associated with the pumphouse may also produce minor noise disturbances for SFN fishing near the pumphouse on Tatelkuz Lake. The freshwater pipeline will be buried to reduce visual disturbances around Tatelkuz Lake.

Beyond noise and visual effects, there are data gaps regarding the sensory environment that prevent the characterization or quantification of effects to SFN quality of experience. Based on potential visual effects at the Nechako River and Stellako River transmission line crossings, and Brewster Lake, the Project may impact the quality of SFN members fishing experience and the magnitude is anticipated to be moderate considering the permanent view of the TSF from Tatelkuz Lake.

4.3.3 Effects to Current Gathering

The SFN TLUOS identifies 968 plant and wood gathering sites, and based on the map, some plant gathering locations occur around Tatelkuz Lake (section 2.4). SFN have indicated that plant gathering occurs in the keyoh containing SFN-held trapline TR0711T007. SFN have indicated that medicinal plants must be harvested from areas that are untouched, and a smudge ceremony must be held before these plants can be picked. SFN raised concerns about effects on medicinal plants that may be downstream of the Project, although specific sites of concern were not identified. Cottonwood is harvested for cottonwood for canoes. Plant gathering is important throughout the year, especially in the spring. The SFN keyoh holder associated with trapline TR0712T009 noted that the land has been devastated by clear-cut logging; noting that berry patches are no longer available. In addition, the region has been heavily impacted by the MPB.

4.3.3.1 Changes in Access to Plant Gathering Areas

The SFN may experience intermittent interference with their access to gathering areas during construction of the transmission line. Should SFN members gather in the transmission line ROW, including those gathering plants in the keyoh associated with SFN-held trapline TR0711T007, SFN would have to bypass areas undergoing active clearing and construction. Construction activities will proceed at approximately 2.5 km per week. The Proponent will communicate the development schedule to SFN to enable members to avoid areas currently under development.

After construction, the transmission line may facilitate access to gathering sites for SFN members, although consultation revealed that Aboriginal groups perceive effects of EMF from the transmission line and will not gather medicinal plants from disturbed areas, therefore SFN may avoid the transmission line ROW area.

A 1.5 km section of the Kluskus-Ootsa FSR will be upgraded for safety reasons. Should SFN members utilize or cross the Kluskus-Ootsa FSR to access lands and resources for gathering purposes, such access may be impeded during the upgrading. Traffic along the existing Kluskus FSR

may delay access to plant gathering areas, however at its peak during construction, traffic will increase by two trucks per hour.

The construction of the freshwater pipeline may temporarily affect SFN gathering near Tatelkuz Lake. After construction of the freshwater pipeline, access to and around Tatelkuz Lake will not be impeded as the pipeline will be buried. The Proponent will communicate the construction schedule to SFN so that members can plan for any disruption.

The Project is not anticipated to affect SFN access to known gathering areas.

4.3.3.2 Change to Plant Gathering Success

Plant habitat in the ecosystem composition RSA that overlaps the current use RSA and the SFN traditional territory will be impacted during construction and regular maintenance of the transmission line ROW. Clearing of the ROW for the transmission line may affect the abundance of plants available for SFN members to harvest.

SFN harvest plants, including medicinal plants and berries, in the keyoh associated with SFN-registered trapline TR0711T007. Medicinal plants must be harvested from areas that are untouched. The transmission line overlaps trapline TR0711T007 by 0.61%. Should SFN harvest plants within the keyoh in an area that is crossed by the transmission line, there may be reduced harvesting success. For some plant species, SFN may consider gathering in these locations following construction, however the SFN have indicated that following decommissioning, ecosystems may not return to their former properties. Once disturbances have occurred to medicinal plant gathering sites, the areas are not used for medicine harvesting any longer.

The installation of the freshwater supply pipeline will remove vegetation potentially harvested by SFN members. Harvestable plants are expected to return to their former structure and potential use following decommissioning of the transmission line ROW and freshwater pipeline.

The construction of the Project will impact plant habitat in localized areas, however the geographic extent is limited and reversible, and therefore no changes are anticipated to the overall success of SFN plant harvesting.

4.3.3.3 Change to Experience of Using Land and Resources

The construction, operations and closure phases related to the transmission line may affect SFN gathering experience due to noise and visual effects. The Proponent does not anticipate changes in noise levels around the transmission line, apart from the construction phase and during regular maintenance. The construction of the transmission line will be temporary and limited in duration as construction crews will advance at a speed of approximately 2.5 km per week. There are potential visual effects associated with overhead cables of proposed transmission line for SFN harvesters. Seventy-seven kilometers (77) of the transmission line pass through SFN traditional territory.

There is a perception by Aboriginal groups that the transmission line will produce EMF effects, which may result in SFN avoiding harvesting in areas under the transmission line. The Proponent is committed to further communication with SFN related to potential EMF effects.

SFN have indicated that once disturbances have occurred to medicinal plant gathering sites, the areas are not used for medicine harvesting any longer.

SFN harvest plants near Tatelkuz Lake Southeast Recreation Reserve may experience visual effects as there is potential to view the Project (e.g., open pit, east and west waste rock dumps), although the view will be constrained by the distance. The freshwater pipeline will be buried to reduce visual disturbances around Tatelkuz Lake. Low-level noise from the FSS will be detectable to SFN harvesters near the pumphouse on the southeast side of Tatelkuz Lake. Infrequent maintenance associated with the pumphouse may also produce minor noise disturbances.

The Project will increase traffic along the Kluskus FSR during the construction and operations phase. Given this is an existing road, and noise will be confined to areas immediately adjacent to the Kluskus FSR, noise from traffic is not anticipated to affect SFN harvesting experience. Approximately 112 km of the existing Kluskus FSR pass through SFN traditional territory.

Although disturbance during construction will be time-limited, visual changes at Tatelkuz Lake will continue through construction, operation and closure. Based on concerns related to EMF as well as potential visual effects to SFN gathering near Tatelkuz Lake the Project has the potential to affect the quality of SFN gathering experience, although the magnitude is anticipated to be low.

4.3.4 Effects on Other Current Cultural and Traditional Uses of the Land

The SFN have identified that they use their traditional territory, specifically keyohs, for ceremonial purposes. The SFN TLUOS identifies cultural and traditional land use sites, including fixed cultural sites, overnight areas, earth material collection sites and drinking water sites (Section 2.4). These sites may occur within the current use LSA and RSA, but specific locations have not been shared with the Proponent. The Cheslatta Trail also crosses through the SFN although current use was not identified in the SFN TLUOS. The proposed transmission line will cross the Cheslatta Trail in an area that has been logged and is now an overgrown, rutted service road.

4.3.4.1 Changes to Access to Other Cultural and Traditional Lands

The SFN members, including users of trapline TR0711T007, may experience intermittent interference with their access to other cultural or traditionally used land use during the construction of the transmission line. 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.

Project traffic along the Kluskus FSR could delay access for SFN members, including users of keyoh associated with trapline TR0712T009, who may travel along this road to access cultural and traditional land use areas. Peak daily volumes during construction will be about twice the average number of truckloads per day.

The construction of freshwater pipeline may temporarily interrupt access to other cultural and traditional land use areas, should SFN currently use the area. The pipeline will be buried will not interrupt access to other cultural and traditional areas following construction.

There may be limited interference during construction of the transmission line however the Proponent will communicate the construction schedule to SFN so that members can plan for any disruption. As a result, the Proponent does not anticipate effects to accessing land and sites for cultural or traditional land use sites.

4.3.4.2 Changes to the Quality of Experience of Using Other Cultural and Traditional Lands

SFN members may use areas where Project components and activities are anticipated to cause noise and visual effects.

The construction, operations and closure of the transmission line may affect the quality of SFN experience using land for cultural and traditional purposes due to noise and visual effects. No noticeable changes to noise levels are expected to occur around the transmission line, apart from the construction phase, apart from any necessary maintenance during operations. The construction of the transmission line will be temporary as the construction crews will advance at a speed of approximately 2.5 km per week. There are potential visual effects associated with overhead cables of proposed transmission line for SFN crossing through the transmission line ROW, including any SFN using the keyoh associated with trapline TR0711T007 for cultural or traditional purposes. Visual effects related to the transmission line are anticipated at the Brewster Lake Recreation Site and at the Stellako River and Nechako River crossings, should these areas be used by SFN for other cultural and traditional purposes. The transmission line will cross the Cheslatta Trail and will be visible to users of the trail along a 300 m section. Views will be intermittent, as the transmission line will be shielded by vegetation cover and undulating terrain. The effects will last from construction to closure, and will be reversible once the transmission line is removed.

SFN using the land around Tatelkuz Lake for other cultural or traditional uses may experience noise during the construction of the freshwater pipeline and near to the FSS water intake during operations. Visual effects related to the FSS water intake are anticipated from Tatelkuz Lake. The freshwater pipeline will be buried to reduce visual disturbances. Project components may also be visible from locations other than those with high scenic and/or recreational value.

There is limited knowledge of SFN use of other cultural and traditional land uses. The transmission line and other Project components may affect the visual quality for SFN members using the land for other cultural and traditional purposes, although the magnitude is anticipated to be low.

4.3.5 Conclusion

The Project may reduce the success of SFN hunting and trapping. The Project may also result in residual effects due to reduced quality of SFN experience related to hunting and trapping, fishing, gathering and use of cultural and traditional lands, largely due to visual changes.

4.4 EFFECTS ON STELLAT'EN FIRST NATION CURRENT USE

4.4.1 Effects to Current Hunting and Trapping

Species hunted by StFN hunters include moose, deer, black bear, beaver, muskrat and various species of birds (section 2.5). Trapline TR0712T039 is overlapped by the northern section of the proposed transmission line, and StFN have indicated that some Stellat'en members use this area for trapping. Forty-seven (47) kilometers of the transmission line pass through StFN traditional territory.

4.4.1.1 Changes in Access to Hunting and Trapping Areas

The construction of the northern 47 km of the transmission line through StFN traditional territory, and through the StFN-held trapline TR0712T039, could impede StFN access to hunting and trapping areas on either side of the proposed ROW. During construction, StFN hunting and trapping in this area would have to bypass areas undergoing active clearing and construction. Construction activities, including clearing of the ROW and placement of poles and lines, will be short in duration and temporary. The Proponent will communicate the construction schedule to StFN with a view to mitigate potential negative effects and so that members can plan for any disruption.

Given the limited temporal scope of the transmission line construction, the Proponent does not anticipate affecting StFN access to hunting and trapping areas.

4.4.1.2 Change in Hunting and Trapping Success

StFN may hunt and trap in areas within and adjacent to the transmission line, including within StFN-held trapline TR0712T039. Potential effects on wildlife populations are anticipated to be not significant within the wildlife RSA, because (among other reasons): the Project components will remove a limited about of high value habitat available to wildlife regionally; the overall amount of wildlife mortality from increased vehicle collisions and hunting pressure is anticipated to be low; sensory disturbances causing changes in movement patters will be temporary and intermittent (e.g., during the construction of the transmission line); and increased predation is expected to be low. All anticipated effects are limited to the local scale, with no significant regional effects on the overall viability of wildlife populations. Nevertheless, localized changes in wildlife abundance may occur in areas used by StFN hunters and trappers, due to localized changes in habitat availability, sensory disturbance, and increased presence of predators.

The success of StFN hunters and trappers is anticipated to be reduced in areas where localized effects to wildlife abundance are expected. This includes reduced hunting and trapping success in areas adjacent to the transmission line, due to sensory disturbance to wildlife during construction and overall increased access for hunters and predators.

There is potential for reduced hunting and trapping success by StFN harvesters as a result of the Project. Data gaps regarding current StFN harvest success rates and specific hunting and trapping sites, as well the lack of assessment of effects on wildlife abundance at specific sites, prevent quantification of Project effects on StFN hunting and trapping success. However, the overall low

wildlife mortality and displacement anticipated suggest that the potential effect on StFN hunting and trapping success will be low in magnitude.

4.4.1.3 Changes in the Experience of Hunting and Trapping

The construction, operations and closure phases associated with the transmission line may affect the quality of StFN hunting and trapping experience due to noise and visual effects. Visual effects related to the transmission line are anticipated at the Nechako River and Stellako River crossing points and the Cheslatta Trail however the transmission may also be visible to hunters and trappers from locations other than those with high scenic and/or recreational value.

The Project is located in a region already highly impacted by industrial resource extraction that may affect Aboriginal peoples' experience of using the land and resources. Although noise disturbance will be time-limited during construction and decommissioning of the transmission line, visual changes will continue through construction, operation and closure. The Project may impact the quality of StFN hunting and trapping experience.

4.4.2 Effects to Current Fishing

StFN members harvest salmon, halibut, char, whitefish and trout in the Nechako River, Endako River and Stellako River, as well as in Fraser Lake and Francois Lake (section 2.5). Members have reported reduced consumption of traditional food, particularly salmon, as a result of contamination concerns (Firelight Group 2015).

4.4.2.1 Changes in Access to Fishing Areas

Access to the Stellako River and Nechako River will not be impeded from the presence of the transmission line ROW, other than temporary disruption during construction at waterway crossing points. Given the limited temporary disruption and geographically limited, the Project is not expected to impact StFN access to fishing areas.

4.4.2.2 Change in Fishing Success

As noted in Section 3.3.2.2, the construction, operation and closure of the transmission line is not anticipated interact with fish populations, and as such will not affect StFN fishing success on the Nechako River or Stellako River. The Project will implement DFO's *Measures to Avoid Causing Harm to Fish and Fish Habitat* (DFO, 2013), the guidelines set out in the *Fish-Stream Crossing Guidebook* (BC FLNRO 2012) for fish crossings and BC Hydro's *Approved Work Practices for Managing Riparian Vegetation* (BC Hydro 2003).

The introduction of workers to the area may increase competition for fish, however the Proponent will implement a no fishing policy for workers while resident at the work site.

With the implementation of robust mitigation measures during the construction of the transmission line, the Project is not anticipated to affect StFN fishing success.

4.4.2.3 Changes in the Quality of Experience of Fishing

The construction, operations and closure of the transmission line may affect the quality of StFN fishing experience as a result of noise and visual effects near the transmission line crossing points of the Nechako River and Stellako River. During construction and closure of the transmission line (and during any necessary maintenance during operations), noise may disrupt StFN should they fish within the transmission line ROW near these crossing points. Construction of the transmission line will advance by approximately 2.5 km per week, therefore disruption at this crossing point will be temporary and limited in duration. From certain perspectives there may be intermittent views of the transmission line from construction until closure. Any StFN users of the Nechako River or Stellako River traveling by boat will view the transmission line, however it will be a short period of visibility as StFN travel around river bends.

Beyond noise and visual effects, there are data gaps regarding the sensory environment that could be used to contribute towards characterizing effects to StFN quality of experience. Given that the transmission line at the Nechako River and Stellako River crossing points will form a minor part of these landscapes, the magnitude of effects on the quality of StFN fishing experience will be low.

4.4.3 Effects to Current Gathering

StFN plant harvesting activities occur from early spring to late fall, with an emphasis of plant collection during the summer. StFN gather berries, bulbs and stems and tea plants throughout the StFN traditional territory (section 2.5). The StFN LRUS notes that there are plant gathering areas that lie within the proposed transmission line where the alignment is near the Stellaquo IR.

4.4.3.1 Changes in Access to Gathering Areas

The StFN may experience interference with their access to gathering areas during construction of the transmission line. StFN members gathering in the transmission line ROW near the Stellaquo IR, would have to bypass areas undergoing active clearing and construction. Construction activities, including clearing of the ROW and placement of poles and lines, will proceed at approximately 2.5 km per week. The Proponent will communicate the development schedule to StFN to enable members to avoid areas currently under development.

Given the limited interference with access, no effects on StFN access to gathering sites are anticipated.

4.4.3.2 Changes in Plant Gathering Success

Plant habitat in the ecosystem composition RSA that overlaps the current use RSA and the StFN traditional territory will be impacted during clearing and construction of the transmission line, and during regular maintenance of the transmission line ROW. Clearing of the ROW for the transmission line may affect the abundance of plants available for StFN members to harvest. Transmission line will be revegetation through natural recovery, counting on preservation of the understorey.. Following decommissioning of the transmission line ROW, harvestable plants are expected to return

to their former structure and potential use. The Proponent will communicate the construction schedule to StFN so that members can plan for any disruption.

Given the limited temporal disturbance during the construction of the transmission line and limited scope of interaction with StFN gathering areas near the Stellaquo IR, changes to StFN plant harvesting success are not anticipated.

4.4.3.3 Changes in the Quality of Experience Plant Gathering

The construction, operations and closure phases related to the transmission line may affect quality of StFN gathering experience due to noise and visual effects. Changes in noise around the transmission line, apart from the construction phase (and apart from any necessary maintenance during operations) are not anticipated. The construction of the transmission line will last approximately 12 months and disturbance at a certain location will be temporary as the construction crews will advance at a speed of approximately 2.5 km per week. There are potential visual effects associated with overhead cables of proposed transmission line for StFN harvesters crossing through the transmission line ROW for harvesting purposes.

There is a perception by Aboriginal groups that the transmission line will produce EMF effects, which may result in StFN avoiding harvesting in areas under the transmission line. The Proponent is committed to further communication with StFN related to potential EMF effects.

Although disturbance during construction will be time-limited, visual changes will continue through construction, operation and closure. Based on concerns related to EMF, StFN may avoid harvesting in the vicinity or under the transmission line. Therefore the Project has the potential to affect the quality of experience of plant gathering for StFN, and the magnitude is anticipated to be moderate in consideration of EMF concerns.

4.4.4 Effects to Other Current Cultural and Traditional Uses of the Land

There are a number of sacred sites to the StFN including the Grandfather's Trails (Atsiyan Buhati), the Women's Song Place (Tse Koo Shun K'ut), the Red Rock (Tselkin K'ut) and Binta Lake. Some of these sites are believed to be near Fraser Lake, outside the current use RSA. The StFN LRUS indicates there are cultural uses associated with CMTs (addressed in Section 8, Heritage Effects, of the Application/EIS) and minerals (section 2.5). The Cheslatta Trail crosses through StFN traditional territory and the StFN LRUS indicates that the Trail was an important travel, information sharing and trade route (Proponent Version; Triton 2014). The proposed transmission line will cross the Cheslatta Trail in an area that has been logged and is now an overgrown, rutted service road.

4.4.4.1 Change in Access to Other Cultural and Traditional Lands

During construction of the transmission line, StFN could temporarily experience interrupted access to the Cheslatta Trail at the transmission line crossing point while the ROW is being cut, the poles erected and the transmission line wires strung. The construction phase is expected to be temporary (i.e., weeks) as the construction crews will advance at a speed of approximately 2.5 km per week. The proposed transmission line alignment overlaps with trapline TR0712T039, therefore during

construction of the ROW, there may be interrupted access to this trapline, should this trapline area or the keyoh associated with it be used for cultural or traditional purposes. The Proponent will work with the trapline holders to minimize any disruption.

The majority of known StFN cultural and traditional land use sites are located to the north and outside of the current use RSA. The Project is not anticipated to affect StFN access to cultural or traditional land use sites.

4.4.4.2 Change in Quality of Experience of Using Other Cultural and Traditional Lands

The construction, operations and closure of the transmission line may affect the quality of StFN experience using cultural and traditional land use sites due to noise and visual effects. The transmission line will cross the Cheslatta Trail and will be visible to users of the trail along a 300 m section. Views will be intermittent, as the transmission line will be shielded by vegetation cover and undulating terrain. The effects will last from construction to closure, and will be reversible once the transmission line is removed. Apart from the short-term construction time and during necessary maintenance of the line during operations, users of the Cheslatta Trail will not experience noise disturbance from the transmission line.

Based on the results of the long-term visual effects assessment, the Project may impact the quality of StFN experience using land for other cultural and traditional purposes.

4.4.5 Conclusion

Overall low wildlife mortality and displacement may result in reduced StFN hunting and trapping success, although the magnitude is anticipated to be low. The Project may also result in residual effects due to reduced quality of StFN experience related to hunting and trapping, fishing and gathering and use of other cultural and traditional lands, primarily due to visual changes.

4.5 EFFECTS ON ULKATCHO FIRST NATION CURRENT USE

4.5.1 Effects on Current Hunting and Trapping

UFN hunting and trapping areas identified within the LSA include Tatelkuz Lake and Kuyakuz Lake (section 2.6). Hunting and trapping areas in the RSA include Johnny Lake, Moose Lake, Mount Davidson, and along Chedakuz Creek. No registered traplines held by UFN members were identified in the current use LSA or RSA. UFN hunt and trap for moose, deer, and caribou, lynx, squirrel, timber wolf, rabbit, and beaver, as well as ducks and geese.

4.5.1.1 Changes in Access to Hunting and Trapping Areas

UFN will not have access to hunting and trapping areas within the mine site during construction, operations, and closure. UFN indicates that lynx, squirrel, and timber wolf are harvested in this area (i.e., grids 93F.026.01, 93F.026.02, 93F.016.03, 93F.016.04 of the UFN TK/TLU) (DM Cultural Services 2013). It is possible that UFN members also hunt and trap other species in this area. UFN identified a concern related to reduced access to harvesting areas as a result of the Project.

The southern portion of the transmission line could impede UFN access to hunting and trapping areas on either side of the proposed ROW during construction. UFN members would have to bypass areas undergoing active clearing and construction. Approximately 40 km of the transmission line passes through areas used by UFN. The section of the transmission line that crosses near the north end of Tatelkuz Lake (approximately 7 km in length, aligned with the Kluskus-Ootsa FSR) is located in an area that is highly used by UFN (the UFN TLUS indicates 11-15 TUS sites in use grid 93F.037.1). UFN indicates that lynx, squirrel, timber wolf, moose, caribou, and deer are harvested in this area (DM Cultural Services 2013). Construction activities, including clearing of the ROW and placement of poles and lines, will proceed at approximately 2.5 km per week.

Upgrading of a 1.5 km portion of the Kluskus-Ootsa FSR could interfere with access for UFN members crossing this section of the road. The UFN TLUS indicates that the area around this section of the FSR is not highly used currently, with 1-5 TUS sites recorded (DM Cultural Services 2013). An increase in Project-related traffic, particularly oversized loads during construction (175 oversized loads during the 2.5-year construction period), could result in delays for UFN members using the Kluskus-Ootsa FSR. Peak daily volumes during construction will be about twice the average number of truckloads per day.

In summary, the Project is expected to prevent UFN access to hunting and trapping sites within the proposed Project Site, while causing delays and potential detours along access routes intersected by the transmission line and Kluskus-Ootsa FSR. Impeded access to the Project Site would continue for the duration of the Project, while interference along other access routes would be spatially-limited and temporary.

4.5.1.2 Change in Hunting and Trapping Success

UFN members hunt and trap in areas where Project components and activities are anticipated to affect wildlife abundance and distribution, including areas within and adjacent to the mine site, the transmission line, Kluskus-Ootsa FSR, mine access road, and landing strip. Species hunted and trapped by UFN in these areas include (but are not limited to) lynx, squirrel, timber wolf, moose, caribou, and deer.

The Project's effects on wildlife populations are anticipated to be not significant within the wildlife regional study area, because (among other reasons): Project components will remove a small percentage of high value habitat available to wildlife regionally; the overall amount of wildlife mortality from increased vehicle collisions and hunting pressure is anticipated to be low; sensory disturbances causing changes in movement patters will be temporary and intermittent; and increased predation is expected to be low. Nevertheless, localized changes in wildlife abundance may occur in areas used by UFN hunters and trappers, due to localized changes in habitat availability, sensory disturbance, and increased presence of predators.

The success of UFN hunters and trappers is anticipated to be reduced in areas where localized effects to wildlife abundance are expected. This includes moose and grizzly bear in areas surrounding the mine site (due to sensory disturbance during construction and operations), wildlife in areas adjacent to the Kluskus and Kluskus-Ootsa FSRs and mine access road (due to mortality from vehicle collisions). UFN hunting and trapping adjacent to the section of the transmission line to the north of Tatelkuz

Lake is not expected to be affected. That section of the transmission line parallels the Kluskus-Ootsa FSR and is not anticipated to create localized effects on wildlife populations.

Data gaps regarding current UFN harvest success rates and specific hunting and trapping sites, as well the lack of assessment of effects on wildlife abundance at specific sites, prevent quantification of Project effects on UFN hunting and trapping success. However, the overall low wildlife mortality and displacement anticipated suggest that the effect on UFN hunting and trapping will be low in magnitude.

4.5.1.3 Changes in the Experience of Hunting and Trapping

UFN members hunt and trap in areas where Project components and activities are anticipated to cause noise and visual effects. Noise effects are anticipated in the vicinity of the mine site during construction and operations, in the vicinity of the FSS and transmission line during construction, in the area adjacent to the airstrip during construction, along the Kluskus and Kluskus-Ootsa FSRs and mine access road during construction and operations, and near to the FSS water intake during operations. Visual effects related to the mine site and FSS water intake are anticipated from Tatelkuz Lake. Visual effects related to the transmission line are anticipated at crossing point of Messue Wagon Trail. Project components may also be visible from locations other than those with high scenic and/or recreational value.

The quality of experience of UFN members using lands and resources in areas affected by noise and visual changes is anticipated to be reduced. Effects will be greatest for land users within close visual range of the mine site and within 500 m of construction equipment and 200-300 m of the FSS water intake.

Beyond noise and visual effects, there are data gaps regarding the sensory environment that prevent characterizing or quantification of effects to UFN quality of experience. Project components will be located in a region already highly impacted by industrial resource extraction and the localized nature of noise effects suggest that the magnitude of the effect on UFN quality of experience will be low.

4.5.2 Effects to Current Fishing

UFN fish at Chedakuz Creek (i.e., grids 93F.026.2 and 93F.027.3 of the UFN TK/TLU), at Tatelkuz Lake (i.e., grid 93F.027.4 of the UFN TK/TLU), and at Kuyakuz Lake (i.e., grid 93F.017.4 of the UFN TK/TLU) (DM Cultural Services 2013). UFN have a fish camp at the north end of Kuyakuz Lake (DM Cultural Services 2013). Species fished include suckers, lingcod, salmon, and trout. The Blackwater River and its tributaries (i.e. Tsacha Lake) were identified as critical fishing areas for UFN. The Proponent made a conscious effort to avoid the Blackwater River drainage given its importance to Aboriginal groups.

4.5.2.1 Changes in Access to Fishing Areas

UFN indicates that its members fish in Tatelkuz Lake (i.e., grid 93F.027.4 of the UFN TK/TLU) (DM Cultural Services, 2013). Installation and operation of the freshwater supply pipeline on the

southwest shore of Tatelkuz Lake is not expected to impede UFN access to the lake for fishing, as the freshwater pipeline will be buried during construction.

The transmission line crosses Chedakuz Creek in an area where the creek is aligned with the existing Kluskus-Ootsa FSR. UFN may experience delays accessing fishing locations on Chedakuz Creek as a result of Project related traffic. Peak daily volumes during construction will be about twice the average number of truckloads per day. During construction of the transmission line, UFN may experience interference accessing fishing locations within the transmission line ROW, should they use these fishing areas, however the interruption will be temporary. Construction of the transmission line will be temporary and limited in duration. The Proponent will communicate the construction schedule to UFN so that members can plan for the disruption.

No other fishing locations identified by UFN have the potential to interact with Project components and activities.

Given the limited interactions between UFN fishing locations and Project components and activities, no impacts for UFN access to fishing sites are anticipated.

4.5.2.2 Changes in Fishing Success

UFN indicates that its members fish in Tatelkuz Lake (i.e., grid 93F.027.4 of the UFN TK/TLU) (DM Cultural Services, 2013). The operation of the FSS will reduce fish habitat at Tatelkuz Lake as a result of water drawdown. However, the effect is within the range of natural variation and reversible once pumping stops at the end of closure. Consequently, the operation of the FSS is not anticipated to affect UFN fishing success in Tatelkuz Lake.

As noted in Section 3.3.2.2, the construction, operation and closure of the transmission line is not anticipated interact with fish populations, and as such will not affect UFN fishing success in areas crossed by the transmission line. The Project will implement DFO's *Measures to Avoid Causing Harm to Fish and Fish Habitat* (DFO, 2013), the guidelines set out in the *Fish-Stream Crossing Guidebook* (BC FLNRO 2012) for fish crossings and BC Hydro's *Approved Work Practices for Managing Riparian Vegetation* (BC Hydro 2003).

The introduction of workers to the area may increase competition for fish, however the Proponent will implement a no fishing policy for workers while resident at the work site.

The Project is not anticipated to affect UFN fishing success.

4.5.2.3 Changes in the Quality of Experience of Fishing

The construction, operations and closure phases associated with the Project and transmission line may affect the quality of UFN fishing experience due to noise and visual effects.

Noise from transmission line construction, including at the crossing point at Chedakuz Creek, will be limited to the construction phase, apart from any necessary maintenance during operations. The transmission line at this crossing point is aligned with the existing Kluskus FSR, therefore users in this area would be subject to current traffic noises. While a visual assessment of the transmission

line was not conducted at the Chedakuz Creek crossing, incidental views of the transmission line may be visible at the point where the transmission line crosses Chedakuz Creek.

Noise from traffic during construction and operations of the mine may be noticeable for UFN harvesting fish on lower Chedakuz Creek, near the existing Kluskus FSR. Peak daily volumes during construction will be about twice the average number of truckloads per day.

Low-level noise from the FSS will be detectable at the pumphouse on the southeast side of Tatelkuz Lake, should UFN fish in this area. Infrequent maintenance associated with the pumphouse may also produce minor noise disturbances. The freshwater pipeline will be buried to reduce visual disturbances around Tatelkuz Lake.

Based on the potential visual and noise effects around the Chedakuz Creek and Tatelkuz Lake, the Project has the potential to affect the quality of UFN fishing experience, however as the transmission line will largely blend into the existing landscape and UFN currently experience traffic along the Klukus FSR, the magnitude is anticipated to be low.

4.5.3 Effects to Current Gathering

The UFN gather plants for food and medicinal purposes. Harvesting mushrooms is an important economic activity. The UFN TK/TLU identified harvesting activities along the perimeter of the Project Site (i.e., grids 93F.015.4; 93F.025.2 in the UFN TK/TLU). UFN harvest plants and pick berries along the Messue Wagon Trail, at Tatelkuz Lake, as well as near Top Lake, Tsacha Lake, Moose Lake, Johnny Lake and Kuyakuz Lake.

4.5.3.1 Changes in Access to Gathering Areas

UFN expressed concern related to reduced access to harvesting areas as a result of the Project. There will be no access to the mine site for UFN harvesters, and the area will remain restricted to the UFN until after post-closure. The UFN TK/TLU identifies berry harvesting and medicinal plant collection activities close to the Project Site (i.e., grid 93F.015.4; 93F.025.2 in the UFN TK/TLU). Depending on the location of these harvesting areas, access may be restricted from construction to closure of the Project. Section 15 of the Application/EIS indicates that UFN identified the locations of plant gathering sites where collection takes place were identified and the Project developed appropriate avoidance and mitigation measures based on this information.

UFN members may experience intermittent interference with their access to gathering areas during the construction of the freshwater supply pipeline and the transmission line (i.e., grid #93F.027.3, near Tatelkuz Lake). After construction of the freshwater pipeline, access to Tatelkuz Lake from the south (i.e. from Kluskus IR 1 or the Alexander Mackenzie Trail) will not be impeded as the pipeline will be buried. Project related activities will not reduce accessibility to the Messue Wagon Trail or the Alexander Mackenzie Trail. Project activities will not disturb access to harvesting near Tsacha Lake, Moose Lake and Johnny Lake.

The Proponent will communicate the development schedule to UFN to enable members to avoid areas under development. Given the restricted access to plant harvesting areas for the mine site, the Project is anticipated to affect UFN access to plant gathering areas.

4.5.3.2 Changes in Gathering Success

UFN identifies current plant gathering activities in areas potentially affected by the Project components and activities, including the mine site, the transmission line and freshwater pipeline.

Plant habitat in the ecosystem composition RSA that overlaps the current use RSA and the UFN traditional territory will be impacted during construction and operation of the Project. Site clearance for the mine accounts for the majority of the plant habitat loss. The UFN TK/TLU identifies berry harvesting and medicinal plant collection activities close to the Project Site (i.e., grids 93F.015.4; 93F.025.2 of the UFN TK/TLU); based on the UFN TK/TLU, these areas are near the perimeter of the Project Site and may overlap the Project boundary and may be subject to clearing activities, however they are on the edge of the Project Site boundary, therefore the extent will be limited.

Vegetation clearing will remove plants in the vicinity of the Kluskus-Ootsa FSR and transmission line, including where the ROW crosses the Messue Wagon Trail to the northwest of Tatelkuz Lake (i.e., grid 93F.037.1 of the UFN TK/TLU). Transmission line will be revegetation through natural recovery, counting on preservation of the understorey. The installation of the freshwater supply pipeline will remove vegetation near Tatelkuz Lake. Vegetation habitat areas are expected to return to their former structure and potential use following burial of the freshwater supply pipeline and decommissioning of the transmission line ROW.

The Project will not affect harvesting success near Tsacha Lake, Moose Lake and Johnny Lake.

The construction of the Project will impact vegetation in localized areas and may overlap with UFN gathering areas to a limited extent. The clearing effects are reversible, therefore the Project the effect on UFN plant harvesting success is anticipated to be low in magnitude.

4.5.3.3 Changes in the Quality of Experience of Gathering

UFN members harvest plants in areas where Project components and activities are anticipated to cause noise and visual effects. Noise effects are anticipated in the vicinity of the mine site during construction and operations, in the vicinity of the FSS and transmission line during construction, in the area adjacent to the airstrip during construction, along the Kluskus and Kluskus FSRs and mine access road during construction and operations, and near to the FSS water intake during operations. Visual effects related to the mine site and FSS water intake are anticipated from Tatelkuz Lake. Visual effects related to the transmission line are anticipated at Tatelkuz Lake and the Messue Wagon Trail. Project components may also be visible from locations other than those with high scenic and/or recreational value.

The visual assessment for the Messue Wagon Trail anticipated that trail user may encounter the transmission line and pipeline along this route, and rated the incidental views of the transmission line as negligible. The mine site will not be visible from the trail as a result of the dense forest cover

and undulating terrain. The freshwater pipeline will be buried to reduce visual disturbances around Tatelkuz Lake.

There is a perception by Aboriginal groups that the transmission line will produce EMF effects, which may result in UFN avoiding harvesting in areas under the transmission line. The Proponent is committed to further communication with UFN related to potential EMF effects.

Although disturbance during construction will be time-limited, visual and perceived EMF effects will continue through construction, operations and closure. The Project has the potential to affect the quality of UFN gathering experience.

4.5.4 Effects on Other Current Cultural and Traditional Uses of the Land

A trail, campsite and a named place were identified within the area of the Project Site. The precise locations of the trail and campsite have not been determined. Potential impacts to CMTs have been addressed in Section 8, Heritage Effects, of the Application/EIS.

There are trails in the vicinity of Tatelkuz Lake, one of which connects with the Messue Wagon Trail. The Nuxalk-Carrier Grease Trail, also referred to as Alexander Mackenzie Heritage Trail, (to the south and outside the current use RSA) is currently used by the UFN and is a spiritual site. The Ulkatcho requested a 5 km buffer along the length of the Nuxalk-Carrier Grease Trail to prevent damage to cultural and spiritual sites (DM Cultural Services Ltd, 2013).

A trail in the vicinity of Tatelkuz Lake has been identified in the UFN TLUS. The Messue Wagon Trail is used to connect Tatelkuz Lake IR 28 to the Knewstubb Lake in the north, and the West Road (Blackwater) River and Alexander Mackenzie Trail in the south. The Messue Wagon Trail runs through a portion of the current use 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 intersected by the existing Kluskus FSR. Another trail on the east side of Tatelkuz Lake has also been identified, which connects with the Messue Wagon Trail (DM Cultural Services, 2013).

Mount Davidson, named *Tillie* by the UFN, is the location of trails and campsites that may be considered sensitive either cultural or economically.

4.5.4.1 Change in Access to Other Cultural and Traditional Land Use Sites

Depending on the location of the trail(s), campsite(s), and place name(s) within the Project Site (i.e., grids 93F.016.3, 93F.026.1, 93F.026.2 of the UFN TK/TLU), these locations may not be accessible to UFN during construction, operation and closure of the Project. The precise locations have not been identified to the Proponent.

During construction of the transmission line and freshwater pipeline, one trail near Tatelkuz Lake (that connects to the Alexander Mackenzie Trail in the south), will be crossed by the freshwater pipelines and transmission line. During construction, crossing points of this trail may be temporarily disturbed. The construction of the transmission line could also temporarily disrupt the use of

Messue Wagon Trail while the transmission line ROW is being constructed. After construction, the use of the Trail should not be affected. The construction of the transmission line will advance at a speed of approximately 2.5 km per week. The freshwater pipeline will be buried and therefore no effects are anticipated after construction of the pipeline.

Given potential interference with access to current cultural and traditional land use sites within the Project Site, the Project is anticipated to affect UFN access cultural or traditional land use sites from construction to closure. The Proponent is committed to facilitate access to the mine site area for cultural purposes, should it be possible, therefore the magnitude of the effect is determined to be low to moderate.

4.5.4.2 Change to Experience of Using Cultural and Traditional Lands and Sites

UFN members may use areas where Project components and activities are anticipated to cause noise and visual effects. The construction, operations and closure of the Project, including the transmission line and FSS pipeline may produce a change in the quality of experience of using cultural and traditional lands by UFN members.

Noise and visual effects are anticipated in the vicinity of the mine site during construction and operations and may be detected by UFN users of the trail, campsites or accessing the place name identified within the current use LSA (exact locations not provided). Lights from the mine site will be visible from sunset to dawn. Noise is also anticipated in the vicinity of the FSS and transmission line during construction, in the area adjacent to the airstrip during construction, along the Kluskus and Kluskus-Ootsa FSRs and mine access road during construction and operations, and near to the FSS water intake during operations.

The visual assessment indicated that from the Tatelkuz Lake Southeast Recreation Reserve area, , located approximately 15 km from the mine site, there will be potential to view the Project (e.g., open pit, east and west waste rock dumps), although the view will be constrained by the distance. The visual assessment for the Messue Wagon Trail anticipated that trail user may encounter the transmission line and pipeline along this route, and indicated that the incidental views of the transmission line will be negligible. Views will be intermittent, as the transmission line will be shielded by vegetation cover and undulating terrain. The mine site will not be visible from the trail as a result of the dense forest cover and undulating terrain. Visual effects related to the FSS water intake are anticipated from Tatelkuz Lake. The freshwater pipeline will be buried to reduce visual disturbances. Project components may also be visible from locations other than those with high scenic and/or recreational value.

Throughout construction, operations and closure, the mine may be visible to UFN use areas around the summit of Mount Davidson (*Tillie),* should they use the area for cultural and traditional purposes.

Based on the results of the visual effects assessment, the Project may impact the quality of UFN experience of using cultural and traditional land sites from construction to closure.

4.5.5 Conclusion

The project may affect access to UFN hunting, trapping and gathering locations and lands currently used for other cultural or traditional purposes. The Project may result in effects to UFN hunting and trapping success based on a change in the abundance and distribution of wildlife. The Project may result in effects due to reduced quality of UFN experience while hunting and trapping, fishing and gathering and use of other cultural and traditional land primarily due to visual changes.

4.6 EFFECTS ON SKIN TYEE FIRST NATION CURRENT USE

4.6.1 Effects to Current Hunting and Trapping

The STN hunt and trap moose, deer, lynx, badger, coyote, fox, rabbit, grizzly bear, beaver and otter throughout the traditional territory. The STN TLUS identified hunting in the Project Site (i.e., grids 93F016.3.4, 93F.016.4.3 - 4.4, 93F.026.2.1 - 2.2 of the STN TLUS), where STN hunt for moose and deer. Hunting and trapping locations identified in the STN TLUS include areas within the southern area of the transmission line (i.e., grids 93F.026.2.2, 93F.026.2.4, 93F.026.4.2, 93F.026.4.4, 93F.036.2.2 and 93F.036.1.1 of the STN TLUS), around Davidson Creek, Chedakuz Creek (i.e., grids 93F.26.2.4, 93F.027.3.1, 93F.027.3.3 and 93F.037.1.1 of the STN TLUS) and near Tatelkuz Lake (i.e., grids 93F.027.2.4, 93F.027.4.1-4.2, 93F.027.3.4 and 93F.037.1.2 of the STN TLUS) (Section 2.8). No STN registered traplines were identified in the current use LSA or RSA.

4.6.1.1 Changes in Access to Hunting and Trapping Areas

The STN TLUS identified up to three hunting areas within the Project Site where STN hunt for moose and deer. There will be no public access to the mine site during construction, operations and closure. Consequently, STN will not have access to hunting and trapping areas within the proposed mine site during these project phases. STN identified a concern related to reduced access to harvesting areas as a result of the Project (DM Cultural Services, 2015).

The construction of the transmission line, of which approximately 112 km pass through STN traditional territory, could impede STN access to hunting and trapping areas on either side of the proposed ROW. STN members would have to bypass areas undergoing active clearing and construction. Construction activities, including clearing of the ROW and placement of poles and lines, will proceed at approximately 2.5 km per week. In the northern area of Tatelkuz Lake, where STN have identified a density of current use activities, including hunting (i.e., grid 93F.037.1.2 of the STN TLUS), the development of the transmission line is aligned with the existing Kluskus FSR, and therefore impacts to accessing the area will be minimized.

Upgrading of a 1.5 km portion of the Kluskus-Ootsa FSR could interfere with access for STN members crossing this section of the road. Approximately 118 km of the Kluskus FSR pass through the STN traditional territory. An increase in Project-related traffic, particularly oversized loads during construction (175 oversized loads during the 2.5-year construction period), could result in delays for STN members using the Kluskus-Ootsa FSR to access hunting or trapping areas. Peak daily volumes during construction will be about twice the average number of truckloads per day.

The installation and operation of the FSS at Tatelkuz Lake as well as the freshwater supply pipeline on the southwest shore of Tatelkuz Lake is not expected to impede access to the lake for STN hunting or trapping. Access to Chedakuz Creek and lower portions of Davidson Creek by STN will not be impeded by the Project. The trail between Tatelkuz Lake and Kuyakuz Lake that is identified as being important for STN members to access moose hunting areas in the southern portion of the territory will not be impacted by the Project.

The Project will not affect access to other areas identified for hunting and trapping, such as Moose Lake, Johnny Lake, Top Lake, Laidman Lake, and Kuyakuz Lake (within the current us RSA). In the STN TLUS, many of these hunting locations are identified alongside trails.

The Project is expected to prevent STN access to hunting and trapping sites within the Project Site. Impeded access would continue for the duration of the Project. As a result of the Project, there is a potential effect on STN access to hunting and trapping locations.

4.6.1.2 Change in Hunting and Trapping Success

STN members hunt and trap in areas where Project components and activities are anticipated to affect wildlife abundance and distribution, including areas within and adjacent to the mine site, the transmission line, Kluskus-Ootsa FSR, mine access road, and landing strip.

Potential effects on wildlife populations are anticipated to be not significant within the wildlife RSA, because (among other reasons): the Project components will remove a limited about of high value habitat available to wildlife regionally; the overall amount of wildlife mortality from increased vehicle collisions and hunting pressure is anticipated to be low; sensory disturbances causing changes in movement patters will be temporary and intermittent; and increased predation is expected to be low. All anticipated effects are limited to the local scale, with no significant regional effects on the overall viability of wildlife populations. Nevertheless, localized changes in wildlife abundance may occur in areas used by STN hunters and trappers, due to localized changes in habitat availability, sensory disturbance, and increased presence of predators.

The success of STN hunters and trappers is anticipated to be reduced in areas where localized effects to wildlife abundance are expected. STN indicate that there are up to three[9] hunting sites in the Project Site (i.e., grids 93F016.3.4, 93F.016.4.3 - 4.4, 93F.026.2.1 - 2.2 of the STN TLUS), and therefore, STN may experience reduced hunting and trapping success in these areas due to sensory disturbance to wildlife during construction and operations. STN may also experience reduced hunting and trapping success in areas adjacent to the Kluskus and Kluskus-Ootsa FSRs and mine access road due to wildlife mortality from vehicle collisions. In areas adjacent to the southern portion of the transmission line, where up to nine sites were identified in the STN TLUS where STN members hunt and trap for moose, deer, grizzly, beaver and otter, there may be reduced success during construction due to sensory disturbance to wildlife and, throughout the project's lifespan, due to increased access for hunters and predators. This section of the transmission line aligns with existing infrastructure.

[9] The STN identifies 3 grid sites associated with hunting activities however, the report indicates that TLU sites overlap in grids and may be displayed in multiple grids.

The STN TLUS indicates that members use several sites used for hunting and trapping in the mine Project Site including the airstrip and mine access road (up to three sites), and up to nine sites within the southern portion of the transmission line. Therefore, there is potential for reduced hunting and trapping success by STN harvesters as a result of the Project. However, given the overall low wildlife mortality and displacement anticipated, the potential effect on STN hunting and trapping success are anticipated to be low in magnitude.

4.6.1.3 Changes in the Quality of Experience of Hunting and Trapping

STN have identified hunting and trapping areas where Project components and activities are anticipated to cause noise and visual effects in the Project Site (i.e., grids 93F016.3.4, 93F.016.4.3 - 4.4, 93F.026.2.1 - 2.2 of the STN TLUS), along the transmission line (i.e., grid 93F.026.2.2, 93F.026.2.4, 93F.026.4.2, 93F.026.4.4, 93F.036.2.2 and 93F.036.1.1), and near Tatelkuz Lake (i.e., grids 93F.027.2.4, 93F.027.4.1-4.2, 93F.027.3.4 and 93F.037.1.2 of the STN TLUS). Noise effects are anticipated in the vicinity of the mine site during construction and operations. Lights from the mine site will be visible from sunset to dawn. Noise is also anticipated in the vicinity of transmission line during construction, in the area adjacent to the airstrip during construction, along the Kluskus and Kluskus FSRs and mine access road during construction and operations. Visual effects related to the transmission line are anticipated at the Brewster Lake Recreation Site, Cheslatta Trail, and Messue Wagon Trail. Project components may also be visible from locations other than those with high scenic and/or recreational value. A reduced quality of experience for STN members using lands and resources is anticipated in areas affected by noise and visual changes. Effects will be greatest within close visual range of the mine site, within 500 m of construction equipment, within 200-300 m of the FSS water intake at Tatelkuz Lake.

Beyond noise and visual effects, data gaps about the sensory environment prevent characterizing effects to STN quality of experience. However, given that the Project components will be located in a region already highly impacted by industrial resource extraction context the magnitude of the effect on STN quality of experience is anticipated to be low.

4.6.2 Effects to Current Gathering

STN harvest a range of plants for food and medicinal purposes. The STN TLUS identifies gathering areas near Chedakuz Creek and Tatelkuz Lake (section 2.8). STN indicated that transportation routes are also sites of food and medicinal plant gathering, and STN gathering areas are identified in areas that may be associated with the Messue Wagon Trail including where the Trail runs near Chedakuz Creek and Tatelkuz Lake.

4.6.2.1 Changes in Access to Plant Gathering Areas

STN identified a concern related to reduced access to harvesting areas as a result of the Project (DM Cultural Services, 2015). STN members may experience intermittent interference with their access to gathering areas during the construction of the freshwater supply pipeline and the transmission line, should STN currently gather plants in these areas. The freshwater pipeline is being developed in an area with existing disturbance from forestry operations. The freshwater pipeline and transmission line will cross the Messue Wagon Trail and a trail near Tatelkuz Lake

connecting with the Alexander Mackenzie Trail to the south. After construction, there will be no effect on access or use of these trails. The STN TLUS does not identify other trails that may be intersected by the 112 km of transmission line that cross through STN traditional territory, however if there are other gathering locations along the transmission line route, these areas may be affected during construction. After construction of the freshwater pipeline, access to Tatelkuz Lake will not be impeded as the pipeline will be buried. The Project will not affect the transportation route between Tatelkuz Lake and Kuyakuz Lake, which has been identified in the STN TLUS. The Proponent will communicate the development schedule to STN to enable members to avoid areas currently under development.

Given the limited temporal and geographic interferences and based on assumptions that STN have access to other gathering areas close to STN IRs, there are no anticipated effects on STN access to gathering sites.

4.6.2.2 Change in Success of Plant Gathering

Plant habitat in the ecosystem composition RSA that overlaps the current use RSA and the STN traditional territory will be impacted during construction and operation of the Project, transmission line, and freshwater pipeline. Site clearance for the mine accounts for the majority of the plant habitat loss, however this area has not been identified by STN as a plant gathering area. Clearing and construction of the ROW for the transmission line, including where the ROW crosses the Messue Wagon Trail and development of the freshwater pipeline may affect the abundance of plants available for STN members to harvest. The installation of the pipeline is within an area that is already impacted by forestry operations; where possible, the transmission line is aligned with existing roads. The STN TLUS indicates a density of harvesting areas, up to 16 sites, to the northwest and southwest of Tatelkuz Lake (i.e., grids 93F.027.3.2. 93F.027.3.4, 93F.027.4.1, and 93F.037.1.2) (DM Cultural Services, 2015). The freshwater pipeline will be buried and revegetation may occur, and the transmission line will be revegetation through natural recovery, counting on preservation of the understorey.

The Project will result in loss of plant habitat, however there will be limited loss of plant habitat in known STN gathering areas, (i.e., areas along the Messue Wagon Trail. The Project will not affect plant habitat in other known STN plant harvesting areas near Tsacha Lake, Moose Lake and Johnny Lake. Based on the available plant harvesting information, there are potential impacts to STN gathering success, however the magnitude is anticipated to be low.

4.6.2.3 Changes in the Quality of Experience of Plant Gathering

The construction, operations and closure phases associated with the Project and transmission line may affect the quality of STN plant gathering experience due to noise and visual effects at Tatelkuz Lake as well as along the Messue Wagon Trail.

The visual assessment indicated that from the Tatelkuz Lake Southeast Recreation Reserve area, located about 15 km from the mine site, there will be potential to view the Project (e.g., open pit, east and west waste rock dumps), although the view will be constrained by the distance . The visual assessment for the Messue Wagon Trail anticipated that trail user may encounter the transmission

line and pipeline along this route, and indicated that the incidental views of the transmission line will be negligible. The mine site will not be visible from the trail as a result of the dense forest cover and undulating terrain. The freshwater pipeline will be buried to reduce visual disturbances around Tatelkuz Lake.

No noticeable changes to noise levels are expected to occur around the transmission line, apart from the construction phase, and during any necessary maintenance during operations. Low-level noise from the FSS will be detectable to STN harvesters near the pumphouse on the southeast side of Tatelkuz Lake. Infrequent maintenance associated with the pumphouse may also produce minor noise disturbances.

There is a perception by Aboriginal groups that the transmission line will produce EMF effects, which may result in STN avoiding harvesting in areas under the transmission line. The Proponent is committed to further communication with STN related to potential EMF effects.

Although disturbance during construction will be time-limited, visual effects and perceived EMF effects will continue through construction, operations and closure. The Project has the potential to affect the quality of STN gathering experience, and in consideration of the limited noise and visual differences for STN using the area, the effect on STN gathering will be low in magnitude.

4.6.3 Effects on Other Current Cultural and Traditional Uses of the Land

The STN TLUS identifies trails between Tatelkuz Lake and Kuyakuz Lake, as well as between Johnny Lake and Fawnie Dome. The STN TLUS indicates that transportation corridors are connected to sites used for hunting, trapping, fishing, food and medicinal plant gathering and campsites (section 2.8). A transportation route near Tatelkuz Lake is used to access moose hunting areas in the southern part of the STN traditional territory. Other transportation routes are noted in areas around Davidson Creek and Chedakuz Creek (section 2.8). Trails, historic trails and transportation routes, campsites and gathering areas are identified in several areas including Top Lake and Tsacha Lake and Tatelkuz Lake. One culturally significant named place[10] in the southern portion of the Project Site is noted in the STN TLUS (section 2.8).

4.6.3.1 Changes in Access to Other Cultural and Traditional Land

There will be no public access to the proposed mine site during construction, operations and closure. Consequently, depending on the location of the significant named place in the southern portion of the Project Site, it may not be accessible to STN until post-closure. The precise location of the named place has not been identified. Additionally, depending on the location of a campsite (i.e., grid 93.02.6.1.2; exact location not provided in the STN TLUS), access may be restricted or impacted.

During construction of the transmission line, STN could experience interrupted access to cultural and traditional land use areas on either side of the proposed ROW. STN has identified trails near Tatelkuz Lake and on the Messue Wagon Trail. Construction activities are anticipated to be

[10] Once a space or geographic area receives a placename that is connected to a person, event, story or legend, it is recognized within the cultural landscape of the STN (DM Cultural Services Ltd., 2015).

temporary and geographically limited, although 112 km of the transmission line cross through STN traditional territory.

The construction of freshwater pipeline may temporarily interrupt access to other cultural and traditional land use areas, should STN currently use the area (e.g., to access the campsite identified near Tatelkuz Lake). The pipeline will be buried and the pipeline will not interrupt access following construction. During construction, access to the Messue Wagon Trail at the crossing points of the transmission line and freshwater pipeline may be temporarily disturbed.

Given potential interference with access to a cultural and traditional land use site within the vicinity of the Project Site, and potential impeded access along the transmission line during construction, the Project is anticipated impact STN access cultural or traditional land use sites. The Proponent is committed to facilitate access to the mine site area for cultural purposes, should it be possible, therefore the magnitude of the effect is determined to be low to moderate.

4.6.3.2 Changes in Quality of Experience of Using Other Cultural and Traditional Lands

Project components and activities are anticipated to produce noise and visual effects that may change STN members' experience of other cultural and traditional land use sites.

Noise and visual effects are anticipated in the vicinity of the mine site during construction and operations and may be detected by STN users while using the campsite identified in the STN TLUS (i.e., grid 93.02.6.1.2; exact location not provided), as well as any use associated with the placename that was identified in the STN TLUS. Lights from the mine site will be visible from sunset to dawn. Should STN members use the area for other cultural and traditional uses, their experience may be affected. However at the time of writing, there are no other known cultural and traditional uses in the area by STN.

Noise is anticipated in the vicinity of the FSS and transmission line during construction, in the area adjacent to the airstrip during construction, along the Kluskus and Kluskus FSRs and mine access road during construction and operations, and near to the FSS water intake during operations. Visual effects related to the FSS water intake are anticipated from Tatelkuz Lake. The freshwater pipeline will be buried to reduce visual disturbances. Visual effects related to the transmission line are anticipated at the Brewster Lake Recreation Site, Cheslatta Trail, and Messue Wagon Trail. Project components may also be visible from locations other than those with high scenic and/or recreational value.

No noticeable changes to noise levels are expected to occur around the transmission line, apart from the short-term construction time and during necessary maintenance of the line during operations. During operation, low-level noise from the FSS will only be detectable at the pumphouse on the southeast side of Tatelkuz Lake and pumphouse maintenance may also produce minor noise disturbances infrequently.

Given the number of Project components and activities with STN traditional territory, the Project may impact the quality of STN experience of using cultural and traditional lands.

4.6.4 Conclusion

The proposed Project site may impact access to hunting and trapping areas, and access to hunting and trapping areas. There is potential for reduced hunting and trapping success as a result of changes to wildlife induced by the Project. Depending on the location of an STN campsite and placename, there may be impacts to accessing other cultural and traditional land use sites. Potential effects to the STN experience of using the land for hunting and trapping, fishing, gathering and other cultural and traditional purposes due to noise and visual effects area anticipated. As noted in section 3, there are no interactions of the Project with STN fishing.

5. MITIGATION MEASURES

The Project has been designed to minimize its footprint. For example, the transmission line alignment has been designed to take advantage of existing rights-of-way and previously disturbed areas (such as cut blocks) and approximately 70% of the transmission line follows existing disturbance. The freshwater pipeline is being developed in an area that has been impacted by forestry operations.

The transmission line may have a potential visual effect that may change the experience of Aboriginal people using areas surrounding the transmission line and at water crossings. To mitigate these effects, the Proponent will paint or stain structures to blend with the character of the surrounding environment and allow grass and brush to colonize the ROW as needed for sections in visually sensitive areas.

Increased access to the area has been raised as a concern by Aboriginal groups. The Proponent is proposing to establish a group to discuss access management for the transmission line corridor and mine site area, and that will include representatives from potentially affected Aboriginal groups. This also includes ongoing consultation with Aboriginal groups with respect to design and implementation of the Transportation and Access Management Plan (TAMP). Aboriginal contribution to the discussion of access management will contribute toward reducing impacts related to accessing locations for harvesting and other cultural or traditional land use purposes.

Measures to mitigate the potential effects on the biophysical environment are described below. Table 5.5-1 relates these mitigation measures to Current Aboriginal Use activities, where appropriate.

5.1 HUNTING AND TRAPPING MITIGATION

Measures to mitigate the loss and alteration of wildlife habitat, wildlife mortality and changes to population movements for birds, moose, caribou, bear and furbearers is discussed in Sections 5.4.8 through 5.4.13 of the Application/EIS. Proposed mitigation measures include:

- Using existing roads and cleared areas, and locating proposed access roads and transmission lines away from wetland and riparian areas or spanning wetlands.
- Following wildlife "least risk window" (as defined by the BC MOE Least Risk Window to Wildlife) to avoid noise disturbances to wildlife during sensitive periods. Implement pre-clearing nest surveys of areas to be cleared during the bird breeding seasons.
- Implementing pre-clearing nest surveys of areas to be cleared during the bird breeding seasons (March to August) to identify any nests or listed species to allow avoidance or adaptive management such as delayed clearing until after the least-risk window for any species found
- Movement of the facilities and topsoil piles within the mine site area away from wetlands, and/or minimizing ground disturbance footprint, and minimizing clearance of forest

- Mitigating for loss and degradation of adjacent riparian wildlife habitats and setbacks in accordance with the *Forest and Range Practices Act* best management practices (BMPs) (BC FLNRO, 2014) where feasible.
- Applying erosion and sediment control measures.
- Implementing a Wetlands Management Plan (WMP) (Section 12.2.1.18.4.3 of the Application/EIS) and a Wetlands Compensation Plan (WCP) (Appendix 5.3.7A of the Application/EIS) that will minimize ground disturbance and damage to vegetation;
- Using vegetation and coarse woody debris to form visual barriers on cutlines, trails or other linear features to reduce predator access and efficiency, and provide breaks in snow banks along the access road to allow wildlife escape.
- Remove carrion along the road to reduce attracting predators.
- Implementing invasive plant management techniques as defined in the Invasive Species Management Plan (ISMP) (Section 12.2.1.18.4.5 of the Application/EIS)
- Implementing no hunting or trapping policy, and no firearms policies for workers while resident on site.
- Informing affected registered trapline holders of Project activities, schedules, and locations. Compensating affected registered trapline holders in accordance with industry and provincial protocols with associated proof of lost revenue.
- Minimizing sensory disturbance due to noise and light in areas adjacent to the mine area and airstrip, as stated in the Noise and Vibration Mitigation Measures.
- Selecting revegetation species that minimize attraction of wildlife to roadsides to reduce potential vehicle collisions and predation of many species.
- Restricting and controlling road access by gating main access roads to ensure no unauthorized traffic use of the road. All traffic flow on the FSR will be monitored and controlled via radio communications.
- Implementing a wildlife awareness program. Reporting observations of wildlife along the road to environmental staff.
- Posting speed limits along roads and enforcing speed limits along the mine access road and implementing BMPs for road maintenance to reduce potential wildlife collisions (as described in the Traffic and Access Management Plan (TAMP) (Section 12.2.1.18.4.14 of the Application/EIS).
- Managing attractants such as road salt during construction, operations, decommissioning, and closure to reduce leaching into waterbodies
- Implementing the Spill Management and Prevention Plan, Air Quality and Emissions Management Plan AQEMP (Section 12.2.1.18.4.9 of the Application/EIS), Aquatic Resources Management Plan (ARMP) (Section 12.2.1.18.4.2 of the Application/EIS) including monitoring the quality of standing water in the transmission line and access roads.

- Restoring disturbed habitats capable of supporting wildlife as described in the Reclamation and Closure Plan (RCP) (Section 2.6 of the Application/EIS) and Landscape, Soils and Vegetation Management and Restoration Plan (LSVMRP) (Section 12.2.1.18.4.4 of the Application/EIS).
- Water quality monitoring and adaptive management, as described in the Decommissioning and Closure Activities, Reclamation and Closure Plan (RCP) and Follow-up Program (Section 2.6 of the Application/EIS).

5.2 FISHING MITIGATION

Measures to mitigate fish and fish habitat effects at watercourse crossings for the Project, transmission line and associated roads, as well as the Kluskus FRS and Kluskus-Ootsa FSR upgrades are discussed in Section 5.3.8 and 5.3.9 of the Application/EIS.

The Project includes five fish habitat enhancement projects (i.e., part of the mitigation measures), as described in the FMOP (Appendix 5.1.2.6C). These offsetting projects include three "on-site" projects within the Davidson Creek 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). Two "off-site" projects have been proposed to restore fish habitat in the Mathews Creek watershed. These habitat enhancement sites are located within UFN, LDN, STN and TNG traditional territories. After these compensation measures, it is expected that there will be gains in fish habitat.

Other proposed mitigation measures include:

- Implementing Fisheries and Oceans Canada's (DFO's) *Measures to Avoid Causing Harm to Fish and Fish Habitat* (DFO, 2013).
- Using existing stream crossing structures wherever possible (e.g., to cross the Stellako River and Nechako River).
- Following guidelines set out in the *Fish-Stream Crossing Guidebook* (BC MFLNRO 2012) for fish crossings.
- Managing riparian vegetation at stream crossings and under the transmission line ROW in accordance with *Approved Work Practices for Managing Riparian Vegetation* (BC Hydro 2003).
- Installing clear-span bridges with abutments above the high water mark along the new mine access road. All structures will be sized, installed and maintained following guidelines and mitigation measures outlined in the *Fish-Stream Crossing Guidebook* (BC FLNRO, 2012) and *Measures to Avoid Causing Harm to Fish and Fish Habitat* (DFO 2013).
- Employing erosion and sediment control measures, including rip-rap armouring, erosion control matting, and hydro seeding, to protect erodible soils around the dam and the freshwater reservoir, and use of other erosion control measures, as appropriate and as outlined in the Sediment and Erosion Control Plan (SECP) (Section 12.2.1.18.4.1 of the Application/EIS).

- Avoiding instream works where possible or minimized in space, frequency and duration if unavoidable. If instream work is required, restricting instream construction to the Reduced Risk Timing Window. Where instream construction is required, isolate work areas and complete fish salvage and relocation prior to starting work. Perform instream construction during the Reduced Risk Timing Window for rainbow trout (15 July to 15 April of the following year) to avoid interruptions to spawning migrations and egg mortalities.
- Silt fencing will be used, where appropriate, to limit the amount of sediment reaching fish-bearing streams.
- Pumping water from Tatelkuz Lake via the FSS to augment flows in Davidson Creek.
- Locating Tatelkuz Lake FSS intake at a depth that will produce temperatures appropriate for Davidson Creek. Operate a Temperature and Flow Control System (TFCS).
- Minimizing disturbance to riparian vegetation, and stabilizing, vegetating, and/or seeding disturbed areas as soon as possible after construction.
- Locating fuel storage and refuelling activities outside of riparian areas.
- Operating the proposed mine site as a zero discharge facility during operations.
- Implementing a no fishing policy for workers while they are resident at the work site.

5.3 PLANT GATHERING MITIGATION

Measures to mitigate potential plant and vegetation effect due to habitat loss, nitrogen deposition and introduction of invasive species are described in section 5.4.5 and 5.4.6 of the Application/EIS. Proposed mitigation measures include:

- Minimizing areas of disturbance outside or adjacent to areas targeted for clearing (i.e. movement of machinery and equipment, or extent of grubbing and stripping) by clearing flagging falling boundaries.
- Implementing Environmental Management Plans (EMPs) to reduce dust deposition, nitrogen deposition, and invasive species proliferation.
- Avoiding riparian areas where possible.
- Demarcating no-work zones and management work zones (with restrictions such as no heavy machinery etc.) and setbacks in accordance with *Forest and Range Practices Act* (2002b) best management practices to mitigate loss and degradation of riparian areas for linear Project components.
- Following the *Approved Work Practices for Managing Riparian Vegetation* (BC Hydro, 2003) for transmission line construction.
- Using existing roads, clearings, and disturbance areas for constructing new or upgraded ROWs and access roads, to the extent possible. Minimize the clearing of linear ROWs and access.
- Maintaining natural drainage patterns by minimizing the linear extent of roads crossing or paralleling riparian areas

- Not removing plants, where feasible, when constructing the transmission line. In areas requiring clearing only (e.g. the transmission line), retaining the topsoil and vegetation root mat whenever and wherever possible.
- Reducing vehicle emissions through enforcing speed limits, fuel selection, using vehicles that meet emission standards, and regular vehicle and equipment maintenance.
- Road watering for dust control.
- Preventing the introduction of invasive plants and maintaining awareness of species new to the area; monitor and apply control measures, as described in the ISMP (Section 12.2.1.18.4.5).
- Conduct progressive reclamation and reforestation as described in the Reclamation and Closure Plan (RCP) (Section 2.6 of the Application/EIS).
- Micro-rerouting where possible to avoid rare plants and ecosystems and existing old or mature forests, especially non-pine mature forest that is suitable for recruitment to old-growth forest status.
- Re-establishing appropriate vegetation on disturbed areas and replanting with native species with value for wildlife, traditional use, and species at risk for reclamation (as described in the RCP, Section 2.6 of the Application/EIS).
- Implementing a no plant harvesting policy for all workers while resident at the work site.

5.4 MITIGATION FOR OTHER CULTURAL AND TRADITIONAL LAND USES

Measures to mitigate effects on cultural and traditional land use sites are provided in Heritage (Section 8), Visual Resources (Section 7.2.8), and Noise (Section 5.2.2) of the Application/EIS. Proposed mitigation measures include:

- Implementing an Archaeology and Heritage Resources Management Plan (AHRMP) (Section 12.2.1.18.4.7) that includes a chance find procedure, and a process for reporting to applicable Aboriginal groups. The AHRMP will guide the identification, recording, assessment, consultation, and avoidance and/or data recovery mitigation options. The AHRMP will also define processes to record, analyze and mitigate physical remains of cultural sites, such as cabins, archaeological sites, CMTs, and trails.
- 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.
- Facilitate access to the mine site area by designated Aboriginal groups for cultural purposes, provided access can be accommodated.
- Establishing access management working group with Aboriginal participation and developing alternative access plans with Aboriginal groups, where access to or use of specific cultural sites needs to be altered or is impeded.
- Ongoing communication with trappers and guide outfitters.

- Compensation for affected trapline holders in accordance with industry and provincial protocols with associated proof of lost revenue
- Implementation of transportation and access management plan (TAMP) (Section 12.2.1.18.4.14 of the Application/EIS).
- Painting or staining structures to blend with the character of the surrounding environment, allow grass and brush to colonize the ROW, as needed for sections in visually sensitive areas, and investigate measures to soften the visual effect of overhead cables where the transmission line crosses the trails and sites (e.g., Cheslatta Trail and Messue Wagon Trail).
- Mitigating physical remains of cultural sites, such as cabins, archaeological sites, CMTs, and trails identified through the heritage effects assessment.
- Developing site-specific measures and designs to soften visual effects for the Nechako and Stellako River crossings, as well as the Cheslatta Trail and Messue Wagon Trail.
- Informing workers of sensitive cultural areas, and implementing a policy of reporting and respectful use.

5.5 EFFECTIVENESS RATING FOR MITIGATION MEASURES

The anticipated effectiveness of mitigation measures has been identified as low, moderate, high or unknown. These criteria are defined as:

- **Low effectiveness**: After implementation of the mitigation measure, there is still a major change in the parameter, Aboriginal Current Use VC, or discipline from the baseline and a permanent effect.
- **Moderate effectiveness**: After implementation of the mitigation measure, there is a measurable change in the parameter, Aboriginal Current Use VC, or discipline from the baseline but no permanent effect.
- **High effectiveness**: After implementation of the mitigation measure, there is no change in the parameter, Aboriginal Current Use VC, or discipline from the baseline (e.g., it returns to its original condition before the construction of the Project) or an environmental enhancement is evident.
- **Unknown effectiveness**: The suggested mitigation measure has not been tried elsewhere in similar circumstances and the response of the parameter, VC, or discipline compared to the baseline is unknown.

Table 5.5-1 summarizes the assessment of potential effects to Current Aboriginal Use, after considering the implementation of mitigation measures.

Table 5.5-1. Potential Project Effects, Proposed Mitigation Measures and their Effectiveness and Potential Residual Effects

Aboriginal Group	Potential Effect	Current Use Activity	Proposed Mitigation Measure	Mitigation Effectiveness	Potential Residual Effect
LDN	Change in Access	Hunting and Trapping	Establish access management working group with Aboriginal participation; post and enforce speed limits; use existing roads; communicate with trappers and guide outfitters; facilitate access to the mine site area by designated Aboriginal groups for cultural purposes, provided access can be accommodated; transportation and operation of on- and off-road vehicles conducted in a safe and responsible manner	M	Y
		Fishing		H	N
		Gathering		H	N
		Other Cultural or Traditional Land Uses		H	N
	Change in Harvesting Success	Hunting and Trapping	Implement BC MOE least risk window to wildlife; dust control measures; pre-clearing nest surveys; WMP; WLMP; LSVMP, revegetate linear corridors and place natural cover; speed limit and sensitive habitat signage; no hunting, trapping or firearms policy; inform potentially affected registered trapline holders of project activities and schedules.	M	Y
		Fishing	Offsetting measures; DFO Guidelines; BC FLNRO Guidelines; BC Hydro Guidelines; Fisheries Mitigation and Offsetting Plan (FMOP); Sediment and Erosion Control Plan (SECP); Where instream construction is required, isolate work areas and complete fish salvage and relocation prior to starting work. Perform instream construction during the Reduced Risk Timing Window for rainbow trout (15 July to 15 April of the following year).	H	N
		Gathering	Approved Work Practices for Managing Riparian Vegetation (BC Hydro, 2003), BC Forest and Range Practices, reduce dust deposition, nitrogen deposition, and invasive species proliferation; minimize clearing of linear ROWs and access; re-establish appropriate vegetation on disturbed areas; no plant harvesting policy.	H	N

(continued)

Table 5.5-1. Potential Project Effects, Proposed Mitigation Measures and their Effectiveness and Potential Residual Effects (continued)

Aboriginal Group	Potential Effect	Current Use Activity	Proposed Mitigation Measure	Mitigation Effectiveness	Potential Residual Effect
LDN *(cont'd)*	Change in LDN Experience of Using the Land	Hunting and Trapping	Implement AHRMP (Section 12.2.1.18.4.7) that includes a chance find procedure, and a process for reporting to applicable Aboriginal groups.; use or locate facilities near existing infrastructure; soften visual effects associated with overhead cables; allow grass and brush to colonize the ROW; paint/stain structures to blend with the surrounding environment as needed in visually sensitive areas; limit artificial light; eliminate light escaping into other areas; noise management during construction including alignment with industry standard noise abatement technology, position noisy equipment in sheltered/enclosed locations, maintain equipment in good working conditions, turn equipment off when not in use; establish access management working group with Aboriginal participation; establish a TK/TLU Committee	M	Y
		Fishing		M	Y
		Gathering		M	Y
		Other Cultural or Traditional Land Uses		M	Y
NWFN	Change in Access	Hunting and Trapping	Establish access management working group with Aboriginal participation; post and enforce speed limits; use existing roads; communicate with trappers and guide outfitters; facilitate access to the mine site area by designated Aboriginal groups for cultural purposes, provided access can be accommodated; transportation and operation of on- and off-road vehicles conducted in a safe and responsible manner	H	N
		Fishing		H	N
		Gathering		H	N
		Other Cultural or Traditional Land Uses		H	N
	Change in Harvesting Success	Hunting and Trapping	BC MOE least risk window to wildlife; dust control measures; pre-clearing nest surveys; WMP; WLMP; LSVMP, revegetate linear corridors and place natural cover; speed limit and sensitive habitat signage; no hunting, trapping or firearms policy; inform potentially affected registered trapline holders of project activities, and schedules.	M	Y

(continued)

Table 5.5-1. Potential Project Effects, Proposed Mitigation Measures and their Effectiveness and Potential Residual Effects (continued)

Aboriginal Group	Potential Effect	Current Use Activity	Proposed Mitigation Measure	Mitigation Effectiveness	Potential Residual Effect
NWFN *(cont'd)*	Change in Harvesting Success *(cont'd)*	Fishing	DFO Guidelines; BC MFLRNO Guidelines; BC Hydro Guidelines; Fisheries Mitigation and Offsetting Plan (FMOP); Sediment and Erosion Control Plan (SECP); Where instream construction is required, isolate work areas and complete fish salvage and relocation prior to starting work. Perform instream construction during the Reduced Risk Timing Window for rainbow trout (15 July to 15 April of the following year); use existing crossing structures to cross the Stellako and Nechako River.	H	N
		Gathering	Approved Work Practices for Managing Riparian Vegetation (BC Hydro, 2003), BC Forest and Range Practices, reduce dust deposition, nitrogen deposition, and invasive species proliferation; minimize clearing of linear ROWs and access; re-establish appropriate vegetation on disturbed areas; no plant harvesting policy.	H	N
	Change in NWFN Experience using the Land and Resources	Hunting and Trapping	Implement AHRMP (Section 12.2.1.18.4.7) that includes a chance find procedure, and a process for reporting to applicable Aboriginal groups; use or locate facilities near existing infrastructure; soften visual effects associated with overhead cables; allow grass and brush to colonize the ROW; paint/stain structures to blend with the surrounding environment, as needed in visually sensitive areas; limit artificial light; eliminate light escaping into other areas; noise management during construction including alignment with industry standard noise abatement technology, position noisy equipment in sheltered/enclosed locations, maintain equipment in good working conditions, turn equipment off when not in use; establish access management working group with Aboriginal participation; establish a TK/TLU Committee	M	Y
		Fishing		M	Y
		Gathering		M	Y
		Other Cultural or Traditional Land Uses		M	Y

(continued)

Table 5.5-1. Potential Project Effects, Proposed Mitigation Measures and their Effectiveness and Potential Residual Effects (continued)

Aboriginal Group	Potential Effect	Current Use Activity	Proposed Mitigation Measure	Mitigation Effectiveness	Potential Residual Effect
SFN	Change in Access	Hunting and Trapping	Establish access management working group with Aboriginal participation; post and enforce speed limits; use existing roads; communicate with trappers and guide outfitters; facilitate access to the mine site area by designated Aboriginal groups for cultural purposes, provided access can be accommodated; transportation and operation of on- and off-road vehicles conducted in a safe and responsible manner	H	N
		Fishing		H	N
		Gathering		H	N
		Other Cultural or Traditional Land Uses		H	N
	Change in Harvesting Success	Hunting and Trapping	BC MOE least risk window to wildlife; dust control measures; pre-clearing nest surveys; WMP; WLMP; LSVMP, revegetate linear corridors and place natural cover; speed limit and sensitive habitat signage; no hunting, trapping or firearms policy; inform affected registered trapline holders of project activities, schedules, and locations.	M	Y
		Fishing	DFO Guidelines; BC MFLRNO Guidelines; BC Hydro Guidelines; Fisheries Mitigation and Offsetting Plan (FMOP); Sediment and Erosion Control Plan (SECP); where instream construction is required, isolate work areas and complete fish salvage and relocation prior to starting work; perform instream construction during the Reduced Risk Timing Window for rainbow trout (15 July to 15 April of the following year); use existing crossing structures to cross the Stellako River and Nechako River.	H	N
		Gathering	Approved Work Practices for Managing Riparian Vegetation (BC Hydro, 2003), BC Forest and Range Practices, reduce dust deposition, nitrogen deposition, and invasive species proliferation; minimize clearing of linear ROWs and access; re-establish appropriate vegetation on disturbed areas; no plant harvesting policy. Openings in the guides and seals will "Fish tight", intake pipe screens will be located a minimum of 300mm above the bottom of the lake to prevent entrainment; cages will be fabricated to protect the finer fish screen; provisions will be made for removal, inspection and cleaning of the screens; pumps will be shut down when fish screens are removed for inspection and cleaning.	H	N

(continued)

Table 5.5-1. Potential Project Effects, Proposed Mitigation Measures and their Effectiveness and Potential Residual Effects (continued)

Aboriginal Group	Potential Effect	Current Use Activity	Proposed Mitigation Measure	Mitigation Effectiveness	Potential Residual Effect
SFN *(cont'd)*	Change in SFN Experience using Land and Resources	Hunting and Trapping	Implement AHRMP (Section 12.2.1.18.4.7) that includes a chance find procedure, and a process for reporting to applicable Aboriginal groups; use or locate facilities near existing infrastructure; soften visual effects associated with overhead cables; allow grass and brush to colonize the ROW; paint/stain structures to blend with the surrounding environment as needed in visually sensitive areas; limit artificial light; eliminating light escaping into other areas; noise management during construction including alignment with industry standard noise abatement technology, positioning of noisy equipment in sheltered/enclosed locations, maintain equipment in good working conditions, turn equipment off when not in use; establish access management working group with Aboriginal participation; establish a TK/TLU Committee	M	Y
		Fishing		M	Y
		Gathering		M	Y
		Other Cultural or Traditional Land Uses		M	Y
StFN	Change in Access	Hunting and Trapping	Establish access management working group with Aboriginal participation; post and enforce speed limits; use existing roads; communicate with trappers and guide outfitters; facilitate access to the mine site area by designated Aboriginal groups for cultural purposes, provided access can be accommodated; transportation and operation of on- and off-road vehicles conducted in a safe and responsible manner	H	N
		Fishing		H	N
		Gathering		H	N
		Other Cultural or Traditional Land Uses		H	N
	Change in Harvesting Success	Hunting and Trapping	BC MOE least risk window to wildlife; dust control measures; pre-clearing nest surveys; WMP; WLMP; LSVMP, revegetate linear corridors and place natural cover; implement speed limit and sensitive habitat signage; establish no hunting, trapping or firearms policy; inform affected registered trapline holders of project activities, schedules, and locations.	M	Y

(continued)

Table 5.5-1. Potential Project Effects, Proposed Mitigation Measures and their Effectiveness and Potential Residual Effects (continued)

Aboriginal Group	Potential Effect	Current Use Activity	Proposed Mitigation Measure	Mitigation Effectiveness	Potential Residual Effect
StFN *(cont'd)*	Change in Harvesting Success *(cont'd)*	Fishing	DFO Guidelines; BC MFLRNO Guidelines; BC Hydro Guidelines; Fisheries Mitigation and Offsetting Plan (FMOP); Sediment and Erosion Control Plan (SECP); where instream construction is required, isolate work areas and complete fish salvage and relocation prior to starting work. Perform instream construction during the Reduced Risk Timing Window for rainbow trout (15 July to 15 April of the following year); use existing crossing structures to cross the Stellako River and Nechako River.	H	N
		Gathering	Approved Work Practices for Managing Riparian Vegetation (BC Hydro, 2003), BC Forest and Range Practices, reduce dust deposition, nitrogen deposition, and invasive species proliferation; minimize clearing of linear ROWs and access; re-establish appropriate vegetation on disturbed areas; no plant harvesting policy.	H	N
	Change in StFN Experience using Land and Resources	Hunting and Trapping	Implement AHRMP (Section 12.2.1.18.4.7) that includes a chance find procedure, and a process for reporting to applicable Aboriginal groups; use or locate facilities near existing infrastructure; soften visual effects associated with overhead cables; allow grass and brush to colonize the ROW; paint/stain structures to blend with the surrounding environment as needed in visually sensitive areas; limit artificial light; eliminating light escaping into other areas; noise management during construction including alignment with industry standard noise abatement technology, positioning of noisy equipment in sheltered/enclosed locations, maintain equipment in good working conditions, turn equipment off when not in use; Access management working group with Aboriginal participation; Establish a TK/TLU Committee	M	Y
		Fishing		M	Y
		Gathering		M	Y
		Other Cultural or Traditional Land Uses		M	Y

(continued)

Table 5.5-1. Potential Project Effects, Proposed Mitigation Measures and their Effectiveness and Potential Residual Effects (continued)

Aboriginal Group	Potential Effect	Current Use Activity	Proposed Mitigation Measure	Mitigation Effectiveness	Potential Residual Effect
UFN	Change in Access to Resources and Land	Hunting and Trapping	Establish access management working group with Aboriginal participation; post and enforce speed limits; use existing roads; communicate with trappers and guide outfitters; facilitate access to the mine site area by designated Aboriginal groups for cultural purposes, provided access can be accommodated; transportation and operation of on- and off-road vehicles conducted in a safe and responsible manner	M	Y
		Fishing		H	N
		Gathering		M	Y
		Other Cultural or Traditional Land Uses		M	Y
	Change in Harvesting Success	Hunting and Trapping	BC MOE least risk window to wildlife; dust control measures; pre-clearing nest surveys; WMP; WLMP; LSVMP, revegetate linear corridors and place natural cover; implement speed limit and sensitive habitat signage; establish no hunting, trapping or firearms policy; inform affected registered trapline holders of project activities, schedules, and locations.	M	Y
		Fishing	Offsetting measures; DFO Guidelines; BC MFLRNO Guidelines; BC Hydro Guidelines; Fisheries Mitigation and Offsetting Plan (FMOP); Sediment and Erosion Control Plan (SECP); Where instream construction is required, isolate work areas and complete fish salvage and relocation prior to starting work. Perform instream construction during the Reduced Risk Timing Window for rainbow trout (15 July to 15 April of the following year); use existing crossing structures to cross the Stellako and Nechako River.	H	N
		Gathering	Approved Work Practices for Managing Riparian Vegetation (BC Hydro, 2003), BC Forest and Range Practices, reduce dust deposition, nitrogen deposition, and invasive species proliferation; minimize clearing of linear ROWs and access; re-establish appropriate vegetation on disturbed areas; no plant harvesting policy.	H	N

(continued)

Table 5.5-1. Potential Project Effects, Proposed Mitigation Measures and their Effectiveness and Potential Residual Effects (continued)

Aboriginal Group	Potential Effect	Current Use Activity	Proposed Mitigation Measure	Mitigation Effectiveness	Potential Residual Effect
UFN *(cont'd)*	Change in UFN Experience of Using the Land and Resources	Hunting and Trapping	Implement AHRMP (Section 12.2.1.18.4.7) that includes a chance find procedure, and a process for reporting to applicable Aboriginal groups; use or locate facilities near existing infrastructure; soften visual effects associated with overhead cables; allow grass and brush to colonize the ROW; paint/stain structures to blend with the surrounding environment as needed in visually sensitive areas; limit artificial light; eliminate light escaping into other areas; noise management during construction including alignment with industry standard noise abatement technology, position noisy equipment in sheltered/enclosed locations, maintain equipment in good working conditions, turn equipment off when not in use; establish access management working group with Aboriginal participation; establish a TK/TLU Committee	M	Y
		Fishing		M	Y
		Gathering		M	Y
		Other Cultural or Traditional Land Uses		M	Y
STN	Change in Access to Resources	Hunting and Trapping	Use existing roads and cleared areas whenever possible, informing affected registered trapline holders of project activities, schedules, and locations; restricting and controlling road access by gating main access roads to ensure no unauthorized traffic use of the road.	M	Y
		Gathering		H	N
		Other Cultural or Traditional Land Uses		M	Y
	Change in Hunting Success	Hunting and Trapping	BC MOE least risk window to wildlife; dust control measures; pre-clearing nest surveys; WMP; WLMP; LSVMP, revegetate linear corridors and place natural cover; implement speed limit and sensitive habitat signage; establish no hunting, trapping or firearms policy; inform affected registered trapline holders of project activities, schedules, and locations.	M	Y
		Gathering	Approved Work Practices for Managing Riparian Vegetation (BC Hydro, 2003), BC Forest and Range Practices, reduce dust deposition, nitrogen deposition, and invasive species proliferation; minimize clearing of linear ROWs and access; re-establish appropriate vegetation on disturbed areas; no plant harvesting policy.	H	Y

(continued)

Table 5.5-1. Potential Project Effects, Proposed Mitigation Measures and their Effectiveness and Potential Residual Effects (completed)

Aboriginal Group	Potential Effect	Current Use Activity	Proposed Mitigation Measure	Mitigation Effectiveness	Potential Residual Effect
STN *(cont'd)*	Change in Experience of Using the Land and Resources	Hunting and Trapping	Implement AHRMP (Section 12.2.1.18.4.7) that includes a chance find procedure, and a process for reporting to applicable Aboriginal groups; use or locate facilities near existing infrastructure; soften visual effects associated with overhead cables; allow grass and brush to colonize the ROW; paint/stain structures to blend with the surrounding environment as needed in visually sensitive areas; limit artificial light; eliminate light escaping into other areas; noise management during construction including alignment with industry standard noise abatement technology, position noisy equipment in sheltered/enclosed locations, maintain equipment in good working conditions, turn equipment off when not in use; establish access management working group with Aboriginal participation; establish a TK/TLU Committee	M	Y
		Gathering		M	Y
		Other Cultural or Traditional Land Uses		M	Y

Note: L = Low; M=Moderate; H=High; U=Unknown; Y=Yes; N=No.

6. CHARACTERIZING RESIDUAL EFFECTS, SIGNIFICANCE, LIKELIHOOD AND CONFIDENCE ON CURRENT ABORIGINAL USE

6.1 SUMMARY OF RESIDUAL EFFECTS

After considering proposed mitigation measures, the Project is anticipated to result in the following residual effects to Current Aboriginal Use:

- reduced access to hunting and trapping sites for LDN, UFN and STN;
- reduced access to gathering sites for UFN;
- reduced access to traditional land use sites for UFN and STN;
- reduced hunting and trapping success for LDN, NWFN, SFN, StFN, UFN and STN;
- reduced gathering success for UFN; and
- reduced quality of experience while hunting and trapping, fishing, gathering and while using cultural and traditional land use sites for LDN, NWFN, SFN, StFN, and UFN and reduced quality of experience while hunting and trapping, gathering and while using cultural and traditional land use sites for STN.

6.2 RESIDUAL EFFECTS DESCRIPTION CRITERIA

This section characterizes the residual effects on Current Aboriginal Use by using the following criteria: magnitude, geographic extent, duration, frequency, reversibility, and context (Federal Environmental Assessment Review Office 1994). Each of these terms is defined in Table 6.1-1.

Table 6.1-1. Definition of Residual Effects Criteria

Criterion	Definition	Rating Categories
Context	The sensitivity and/or resilience of Current Aboriginal Use given existing conditions and trends.	**All Effects** **L:** Current Aboriginal Use close to historic levels; little interference with underlying conditions; and/or Current Aboriginal Use highly resilient to change. **M**: Current Aboriginal Use partially diminished from historical levels; moderate interference with underlying conditions; and/or Current Aboriginal Use moderately resilient to change. **H:** Current Aboriginal Use highly diminished from historical levels; high interference with underlying conditions; and/or Current Aboriginal Use has low resilience to change.

(continued)

Table 6.1-1. Definition of Residual Effects Criteria (continued)

Criterion	Definition	Rating Categories
Magnitude	The size or severity of the effect in relation to baseline conditions and threshold values or guidelines, where available.	**Change in Access to Lands and Resources** **N:** *Negligible.* No detectible change in use of access routes**.** **L:** *Low.* Access routes continue to be used, but with increased delays and/or unsafe conditions. **M:** *Moderate.* Alternate access routes must be used. **H:** *High.* Access is completely impeded. **Change in Harvest Success** **N:** *Negligible*. No detectible change in harvest success. **L:** *Low*. Harvest success reduced in one harvesting area. **M:** *Moderate.* Harvest success reduced in more than one harvesting area. **H:** *High.* Harvest completely unsuccessful. **Change in Experience of Land and Resource Use** **N:** *Negligible*. No detectible change in noise, visual quality. **L:** *Low*. Noise differs from baseline conditions but remains below high annoyance threshold value; visual changes form a minor part of the landscape **M:** *Moderate*. Noise levels differ substantially from baseline conditions and equal or slightly exceed high annoyance threshold value; visual changes form a noticeable but not dominant feature of the landscape; **H:** *High.* Noise levels exceed high annoyance threshold; visual changes dominate the landscape
Duration	The length of time the residual effect lasts. Short-term effects may have a lower impact than long term effects.	**All Effects** **ST:** *Short-term.* Effect lasts less than one complete seasonal round. **MT:** *Medium-term*. Effect lasts from one complete seasonal round to one generation of land users. **LT:** *Long-term*. Effect lasts for more than one generation of land users. **P:** *Permanent*. Effect lasts beyond one generation of land users.
Frequency	How often the residual effect occurs. Infrequent effects have a lower impact than frequent effects.	**All Effects** **O:** *Once*. Effect confined to single event**.** **I:** *Intermittent*. Effect occurs rarely and at sporadic intervals. **R**: *Regular*. Effect occurs on a regular basis. **C**: *Continuous*. Effect occurs continuously.
Geographic Extent	The spatial extent over which the residual effect is expected to occur. Effects covering a smaller spatial extent may have a lower impact than effects covering a larger spatial extent.	**All Effects** **SS:** *Site-specific*. Effect occurs within a single site. **L:** *Local*. Effect occurs at multiple sites within the LSA. **R:** *Regional*. Effect occurs at multiple sites within the LSA and RSA.

(continued)

Table 6.1-1. Definition of Residual Effects Criteria (completed)

Criterion	Definition	Rating Categories
Reversibility	Pertains to whether or not the residual effect on the VC can be reversed once physical work or activity causing the disturbance ceases.	**All Effects** **R:** *Reversible*. Effect will cease after removal of causative factor(s). **I:** *Irreversible*. Effects will continue after removal of causative factor(s).

Significance Thresholds for Residual Effects

Each identified residual effect is characterized using the criteria defined in Table 6.1-1 and a significance conclusion is assigned. The following definitions of significance are applied:

- **Not Significant (negligible):** The residual effect is reversible, occurs once and has: low magnitude. The residual effect results in no discernable change in an Aboriginal group's overall practice with respect to the Current Aboriginal Use VC.
- **Not Significant (minor):** The residual effect is reversible and has low to moderate magnitude, local geographic extent, short-term duration, intermittent frequency, and low vulnerability to change. The residual effect results in little discernable change in an Aboriginal group's overall practice with respect to the Current Aboriginal Use VC.
- **Not Significant (moderate):** The residual effect is reversible and has: low to moderate magnitude, intermittent frequency, short-term to long-term duration and local geographic extent. The residual effect results in a discernable change, or a discernible, but not consequential, change in an Aboriginal group's overall practice with respect to the Current Aboriginal Use VC.
- **Significant:** The residual effect is irreversible and has high magnitude, is regional in geographic extent, permanent duration, and continuous frequency. The residual effect results in consequential changes to an Aboriginal group's overall practice with respect to the Current Aboriginal Use VC.

The likelihood of a residual effect occurring is a measure of probability. The likelihood of a residual effect does not influence the determination of significance, rather it influences risk of an effect occurring. Likelihood is rated as a **low, moderate, or high** likelihood of occurrence. The following definitions of likelihood are used in the assessment:

- **Low**: there is low probability of occurrence
- **Moderate**: there is medium probability of occurrence
- **High:** there is high probability of occurrence.

Confidence is a measure of how well residual effects are understood. The predicted residual effects were assessed for their reliability to portray the certainty in the predicted outcome, based on the acceptability of the data inputs and analytical methods used in the characterization. If necessary, a

more detailed risk assessment (e.g., additional sensitivity analyses) may also be necessary for those effects where there is greater uncertainty associated with the significance conclusions.

Confidence ratings are defined as:

- **Low**: based on limited quantity and quality of Project-specific and non-Project-specific information and/or minimal overlap between the Aboriginal interest and VC assessments. No TK/TLU information provided.
- **Medium**: based on moderate quantity and quality of Project-specific and non-Project-specific information and/or moderate overlap between Aboriginal interest and VC assessments. TK/TLU information provided.
- **High**: based on high quantity and quality of Project-specific and non-Project-specific information and/or strong overlap between Aboriginal interest and VC assessments. Detailed TK/TLU information provided.

6.3 RESIDUAL EFFECTS ON LHOOSK'UZ DENE NATION'S CURRENT ABORIGINAL USE

6.3.1 Residual Effects on Hunting and Trapping

6.3.1.1 Residual Effects on Access to Hunting and Trapping Areas

Disruption of LDN members' access to hunting and trapping areas within the mine site will be unavoidable. Mitigation of access effects related to other Project components are anticipated to minimize effects to negligible levels (section 5.1 and Table 5.5-1).

The mine site will impede LDN access to hunting and trapping areas within the mine site from construction to closure, should they currently use the area for harvesting wildlife. The mine site overlaps one active trapline TR0512T014 by 0.01% and one dormant trapline TR0512T027 by 9.4% (section 2.2). Off road access to the south side of Mount Davidson from the Tatelkuz Lake IR 28, will be impeded by the proposed mine site, however the known LDN hunting area on the south side of Mount Davidson will be accessible by other routes. Construction activities may temporarily affect LDN access to hunting and trapping areas near Chedakuz Creek and Tatelkuz Lake, however Project components and activities will not impede LDN access to other nearby areas containing high concentrations of current use sites, including: Kuyakuz Lake and Tsacha Lake. The effect is rated as **high** in context in consideration of high interference with underlying condition of access to hunting and trapping areas at the mine site. The effect is rated as **negligible in magnitude** as LDN are anticipated to be able to continue using existing access routes that avoid the Project Site. Access to the mine site will be restricted for up to 37 years (from construction to post-closure), resulting in a **long-time duration** of more than one full generation of land users. As access to the mine site will not be allowed for the full duration of the mine cycle, the frequency is rated as **continuous**. The effect is **site-specific** as it occurs in only one location in the LSA. The effect is **reversible**, as access to the mine site will be available following closure.

The **likelihood** that the Project will impede LDN access to hunting and trapping areas within the proposed mine site is **high**.

The effect of the Project on LDN access to hunting and trapping areas is rated **as not significant (negligible)**, principally because LDN will have continued access to other hunting and trapping locations and because the effect is reversible after closure of the mine.

The significance rating is made with a **medium** level of confidence, given the level of information about hunting and trapping locations and routes provided by LDN.

6.3.1.2 Residual Effects on Hunting and Trapping Success

Following mitigation, the Project is expected to reduce LDN hunting and trapping success in areas surrounding the mine site, the airstrip, and the mine access road. The mine site overlaps one active trapline TR0512T014 by 0.01% and one dormant trapline TR0512T027 by 9.4% (section 2.2). The **magnitude** of this effect is rated as **low** because reductions in wildlife disturbance will be limited to a 4-6 km band around the mine site (the distance at which sensory disturbance will be attenuated) and will be intermittent at the airstrip and the mine access road (aligned with the presence of airplanes and vehicles). The 52 km section of the transmission line transecting LDN hunting and trapping areas is generally aligned with the Kluskus-Ootsa FSR and there will be few new areas opened up to hunters or predators. The effect will be **continuous**, due to ongoing sensory disturbance at the mine site, and will be **medium-term**, lasting for almost one full generation of land users (throughout construction and operations). The effect will be **site-specific**, as it will take place within one cluster of Project components. The effect will be **reversible**, as wildlife is anticipated to repopulate disturbed sites after the removal of the cause of the disturbance. The context is rated as **high** in consideration the interference with underlying conditions.

The **likelihood** of reduced LDN hunting and trapping success is **moderate**, as its occurrence will depend on the presence of active LDN hunting and trapping at times and in locations where wildlife populations have locally declined.

The effect of the Project on LDN hunting and trapping success is rated as **not significant (minor)**, principally due to the low magnitude of the effect and its reversibility following cessation of operations.

This rating is made with a **medium degree of confidence**, as it is based on moderate details about LDN hunting and trapping activities in relation to the Project, and the responses of wildlife to Project components and activities is uncertain. Little data exists on current Aboriginal harvesters' success rates.

6.3.1.3 Residual Effects on the Quality of Hunting and Trapping Experience

Following mitigation, LDN members are anticipated to have a reduced quality of experience while hunting and trapping in locations having close visual and auditory contact with the mine site (i.e., users of trapline TR0512T014 and TR0512T027). There will be auditory disturbances within 4-6 km of the mine and in the vicinity of the airstrip during take offs and landings. Hunters and

trappers in the vicinity of the Kluskus-Ootsa FSR and mine access road are expected to experience intermittent and temporary visual and auditory disturbance. Hunters and trappers in the vicinity of the FSS, transmission line and Kluskus-Ootsa FSR realignment are also expected to have reduced quality of experience. Effects in the vicinity of the FSS, airstrip, Kluskus-FSR, and transmission line are anticipated to be low in magnitude, as these Project components are situated in areas that already have visual and auditory disturbances. Reductions in quality of experience around the mine site are rated as **moderate** due to the less disturbed nature of the lands surrounding the mine site in consideration of visual and auditory disturbance of the Project particularly for users of trapline TR0512T014 and the associated keyoh (section 2.2). The effect will be **continuous** in the **medium-term**, lasting for almost one full generation of land users (throughout construction and operations). The effect is rated as **local** as it pertains to a number of Project components within the current use RSA. The effect will be **reversible** once activities causing auditory disturbance cease and once reclamation is complete. The context is rated as **high** in consideration of the interference with underlying conditions.

The **likelihood** of the effect is **low**, as information from LDN indicates that LDN members will undertake hunting and trapping activities generally outside visual and auditory range of Project disturbances (i.e., LDN will continue to hunt and trap on the south side of Mount Davidson).

The effect of the Project on quality of LDN hunting and trapping experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect and because effects may be associated with several components (i.e., mine site and transmission line), however the effects are reversible at closure.

Confidence in the significance rating is **low**, as no perceptual data from LDN was available and the assessment had to rely on reasonable assumptions of land users experience while hunting and trapping, and exact hunting and trapping locations have not been provided.

6.3.2 Residual Effects on Fishing

6.3.2.1 Residual Effects on the Quality of Fishing Experience

Following mitigation, LDN members are anticipated to have a reduced quality of experience while fishing in locations as a result of visual and auditory disturbances for fishers at Tatelkuz Lake, and for those users who may have contact with the transmission line (i.e., fishing at Chedakuz Creek and Davidson Creek). From certain perspectives, it will be possible to view the mine and TSF from Tatelkuz Lake, although the view will be constrained by the distance. LDN members fishing in the vicinity of Tatelkuz Lake are expected to experience temporary visual and auditory disturbance during construction of the freshwater pipeline, but the pipeline will be buried and no disturbances are anticipated following construction. Low-level noise from the FSS will be detectable at the pumphouse on the southeast side of Tatelkuz Lake. Elevated noise levels associated with the transmission line construction will be temporary and following construction, no noise disturbances are anticipated. However there may be visual disturbances for LDN fishing near transmission line waterway crossings. Reductions in quality of experience around the Tatelkuz Lake is characterize **moderate** in magnitude because the visual changes form a noticeable but not dominant feature of the landscape. The effect will be **continuous** and will be **permanent**. The effect is rated as **local** as it

pertains to a number of Project components. Auditory effects will be reversible, however visual effects of the mine from Tatelkuz Lake will be **irreversible**. The context is rated as **high** in consideration of the interference with underlying conditions.

The **likelihood** of the effect is **high**, as information from LDN indicates that LDN members fish at Tatelkuz Lake where there will be visual and auditory disturbances.

The effect of the Project on quality of LDN fishing experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect and due to its irreversibility.

Confidence in the significance rating is **low**, as no perceptual data from LDN was available and the assessment had to rely on reasonable assumptions of land users experience while fishing especially related to visual and auditory parameters although there may be other dimensions affecting experience of using the land.

6.3.3 Residual Effects on Gathering

6.3.3.1 Residual Effects on the Quality of Gathering Experience

Following mitigation, LDN members are anticipated to have a reduced quality of experience while gathering plants in locations having close visual and auditory contact with the mine site (within 4-6 km with respect to auditory disturbance) and in the vicinity of the airstrip during take offs and landings. LDN harvesters using Tatelkuz Lake may experience reduced visual quality as the mine and TSF will be visible from certain perspectives, and there may be visual and auditory impacts related to the FSS. There is a perception by Aboriginal groups that the transmission line will produce EMF effects, which may result in LDN avoiding harvesting in areas under the transmission line. There may be visual effects for LDN harvesting along the Messue Wagon Trail where it is crossed by the transmission line and freshwater pipeline, and auditory effects are anticipated at these crossing points during the construction phase of the transmission line and freshwater pipe (and occasionally during maintenance). The reductions in quality of experience is rated as **moderate** in magnitude considering the low level of disturbed nature surrounding the mine site, and the visual change of the mine site from Tatelkuz Lake, as well as visual effects of the transmission line at crossing points of gathering routes. The effect will be **continuous** and **permanent** (for the visual effects), lasting beyond one generation of land users. The effect is rated as **local** as it pertains to a number of Project components. The visual effect of the mine from Tatelkuz Lake will be **irreversible,** while the auditory effects will be reversible once activities causing auditory disturbance (e.g., construction, water pumping) cease. The context is rated as **high** in consideration of diminished gathering areas from historic levels.

The **likelihood** of the effect is **moderate**, as the Proponent anticipates that LDN members will undertake harvesting activities generally outside visual and auditory range of Project disturbances.

The effect of the Project on quality of LDN gathering experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect and due to its irreversibility.

Confidence in the significance rating is **low**, as no perceptual data from LDN was available and the assessment had to rely on reasonable assumptions of land users experience while gathering.

6.3.4 Residual Effects on Other Cultural and Traditional Land Uses

6.3.4.1 Residual Effects on Quality of Experience Using Other Cultural and Traditional Lands

Following mitigation, LDN members are anticipated to have a reduced quality of experience while using land for other cultural and traditional purposes. LDN users of the keyohs associated with traplines TR0512T014 and TR0512T027 may experience visual and auditory contact with the mine site should they use the area for cultural or traditional practices (within 4-6 km of the mine with respect to auditory disturbance) and airstrip during take offs and landings. LDN using lands for other cultural and traditional purposes may experience auditory impacts related to FSS. There may be visual effects for LDN along the Messue Wagon Trail where it is crossed by the transmission line and freshwater pipeline, and auditory effects are anticipated during the construction phase and occasionally during maintenance of these components. The reductions in quality of experience are characterized **moderate** in magnitude considering the low level of disturbed nature surrounding the mine site near keyoh boundaries, and the visual change of the transmission line from certain perspectives. The effect will be **continuous** and **long-term**, lasting for more than one generation of land users with respect to the transmission line crossing points. The effect is rated as **local** as it pertains to a number of Project components. The visual and auditory effect of the mine will be **reversible,** once activities causing auditory disturbance cease. The context is rated as **high** in consideration of the interference with underlying conditions.

The **likelihood** of the effect is **moderate**, as the Proponent anticipates that LDN members will undertake current use activities generally outside visual and auditory range of Project disturbances.

The effect of the Project on quality of LDN gathering experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect.

Confidence in the significance rating is **low**, as there is limited information about LDN cultural and traditional land uses and no perceptual data from LDN was available. The assessment had to rely on reasonable assumptions of land users experience related to auditory and visual parameters, although several dimensions may affect quality of experience.

6.4 RESIDUAL EFFECTS ON NADLEH WHUT'EN FIRST NATION'S CURRENT ABORIGINAL USE

6.4.1 Residual Effect on Hunting and Trapping

6.4.1.1 Residual Effects on Hunting and Trapping Success

Following mitigation, the Project is expected to reduce NWFN hunting and trapping success in areas impacted by the transmission line. The transmission line crosses a dormant trapline (TR0712T036), however NWFN has indicated that members may trap in the area. The construction of the transmission line through NWFN traditional territory has potential to open up access for hunters or predators, although some of the areas have been previously disturbed. The magnitude of this effect is rated as **low** because reductions in wildlife habitat will be limited the transmission line ROW, and auditory disturbances for wildlife will occur during the temporary construction phase. The effect

will be **continuous** as predators and hunters may continue to use the transmission line ROW. The effect will be **long-term**, lasting for more than one generation of land users (i.e., construction, operations and closure). The effect will be **site-specific**, as it is associated with the transmission line. The effect will be **reversible**, as wildlife is anticipated to repopulate disturbed sites after the removal of the cause of the disturbance. The context is rated as **high** in consideration of the interference with underlying conditions including existing cutblocks affecting use of traplines.

The **likelihood** of reduced NWFN hunting and trapping success is **moderate**, as its occurrence will depend on the presence of active NWFN hunting and trapping at times and in locations where wildlife populations may have locally declined.

The effect of the Project on NWFN hunting and trapping success is rated as **not significant (minor)**, principally due to the low magnitude of the effect and its reversibility.

This rating is made with a **medium degree of confidence**, as it is based on moderate details about NWFN hunting and trapping activities in relation to the Project, and the responses of wildlife to Project components and activities is uncertain. Little data exists on current Aboriginal harvesters' success rates.

6.4.1.2 Quality of Hunting and Trapping Experience

As a result of the transmission line, NWFN members are anticipated to have a reduced quality of experience while hunting and trapping in locations having close visual and auditory contact with the transmission line ROW, including potential use of the dormant trapline TR0712T036, which is overlapped by the transmission line. Hunters and trappers in the vicinity of the transmission line are expected to have reduced quality of experience including auditory effects during the construction of the transmission line, and visual effect throughout the life of the Project. Hunters and trappers in the vicinity of the Kluskus FSR are expected to experience intermittent and temporary visual and auditory disturbance related to project traffic. Effects in the vicinity of the transmission line and Kluskus FSR are anticipated to be **low** in magnitude, as there are existing visual and auditory disturbances associated with the FSR and the transmission line is anticipated to blend into the landscape. The effect will be **continuous** in the **long-term**, lasting for more than one full generation of land users (throughout construction, operations and closure). The effect is rated as **site specific** as it pertains to the transmission line. The effect will be **reversible** once activities causing auditory disturbance cease once the transmission line is decommissioned. The context is rated as **high** in consideration of the interference with underlying conditions.

The **likelihood** of the effect is **moderate**, as the known NWFN-held trapline TR0712T036 is dormant and there is limited information of NWFN hunting and trapping activities within visual and auditory range of Project disturbances.

The effect of the Project on quality of NWFN hunting and trapping experience is rated as **not significant (minor)**, principally due to the low magnitude and reversibility of the effects at closure.

Confidence in the significance rating is **low**, as no perceptual data from NWFN was available and the assessment had to rely on reasonable assumptions of land users experience while hunting and

trapping especially related to visual and auditory parameters although there may be other dimensions affecting experience of using the land.

6.4.2 Residual Effect on Fishing

6.4.2.1 Residual Effect on Quality of Fishing Experience

As a result of the transmission line, NWFN members are anticipated to have a reduced quality of experience due to visual and auditory disturbances (i.e., fishing near transmission line water crossings). During construction, NWFN members fishing near transmission line water crossings may experience auditory disturbance, however no changes in noise levels are anticipated during operations. From certain perspectives, it will be possible to view the transmission line particularly near the Stellako River and Nechako River crossing points. Potentially reduced quality of fishing experience is characterized as **low** in magnitude because the transmission line will form a minor feature of the landscape at water crossings. The effect will be **continuous** and will be **long-term** lasting for more than one full generation of land users (throughout construction, operations and closure). The extent of the effect is rated as **site-specific** as it pertains to the transmission line ROW, and the effect will be **reversible** at closure. The context is rated as **high** in consideration of the interference with underlying conditions and NWFN concern about the existing population of white sturgeon in the Nechako River.

The **likelihood** of the effect is **moderate**, as while NWFN indicate there are fishing locations on the Stellako River and Nechako River, the exact locations and their proximity to transmission line water crossings are unknown.

The effect of the Project on quality of NWFN fishing experience is rated as **not significant (minor)**, principally due to the low magnitude and reversibility of the effect during closure.

Confidence in the significance rating is **low**, as no perceptual data from NWFN was available and the assessment had to rely on reasonable assumptions related to visual and auditory parameters although there may be other dimensions affecting experience of using the land.

6.4.3 Residual Effect on Gathering

6.4.3.1 Residual Effect on Quality of Gathering Experience

Publically-available information indicates that the majority of NWFN plant gathering sites are located to the north of Fraser Lake, Barlow Road, Ormond Creek, Ormond Lake, Sutherland River/Valley, Angly Lake, and Top Lake. However, NWFN may experience reduced quality of experience should they gather plants in locations having close visual and auditory contact with the transmission line. There may be visual effects for NWFN harvesting near the transmission line ROW, and auditory effects are anticipated during the construction of the transmission line and occasionally during maintenance. There is a perception by Aboriginal groups that the transmission line will produce EMF effects, which may result in NWFN avoiding harvesting in areas under the transmission line. The effect is rated as **moderate** in magnitude, as although the transmission line will form a minor part of the landscape and no noise is anticipated, there are perceptions of EMF

from Aboriginal users which may disrupt their use of the area. The effect will be **continuous** and **long-term**, lasting for more than one generation of land users. The effect is rated as **site-specific** as it pertains to the transmission line ROW. The effect will be **reversible** at closure.

The **likelihood** of the effect is **low**, as the Proponent anticipates that NWFN members will undertake harvesting activities outside visual and auditory range of Project disturbances.

The effect of the Project on quality of NWFN gathering experience is rated as **not significant (moderate)**, principally due to the moderate magnitude and continuous nature of the effect.

Confidence in the significance rating is **low**, no perceptual data from NWFN was available and the assessment had to rely on reasonable assumptions of land users experience while gathering.

6.4.4 Residual Effect on Cultural and Traditional Land Uses

6.4.4.1 Residual Effects on Quality of Experience Using Other Cultural and Traditional Lands

Following mitigation, NWFN members are anticipated to have a reduced quality of experience while using land for other cultural and traditional purposes. NWFN using lands for other cultural and traditional purposes may experience auditory disturbances during the construction of the transmission line. There may be visual effects for NWFN using lands and resources near the transmission line ROW, particularly where it crosses the Cheslatta Trail. The reductions in quality of experience are characterized **low** in magnitude considering the visual change of the transmission line from limited perspectives. The effect will be **continuous** and **long-term**, lasting for more than one generation of land users (construction, operation and closure). The effect is rated as **site-specific** as it pertains to the transmission line. The visual effect will be **reversible,** once the transmission line is decommissioned. The context is rated as **high** in consideration of the interference with underlying conditions (i.e., existing cutblocks in the area).

The **likelihood** of the effect is **low**, as the Proponent anticipates that NWFN members will undertake land use activities generally outside visual and auditory range of Project disturbances.

The effect of the Project on quality of NWFN gathering experience is rated as **not significant (minor)**, principally due to the low magnitude of the site-specific effect and due to its reversibility.

Confidence in the significance rating is **low**, as there is limited information on other cultural and traditional uses of the land by NWFN, and no perceptual data from NWFN, therefore the assessment had to rely on reasonable assumptions of land users' experience.

6.5 RESIDUAL EFFECTS ON SAIK'UZ FIRST NATION'S CURRENT ABORIGINAL USE

6.5.1 Residual Effect on Hunting and Trapping

6.5.1.1 Residual Effects on Hunting and Trapping Success

Following mitigation, the Project is expected to reduce SFN hunting and trapping success in areas impacted by the transmission line and Kluskus FSR. The construction of the transmission line where

hunting and trapping areas may occur (e.g., related to traplines TR0712T009 and TR0711T007) has potential to open up access for hunters or predators, although some of the areas have been previously disturbed. Increased Project-related traffic, along the existing Kluskus FSR particularly during construction, may disrupt wildlife in the area, although wildlife may be accustomed to avoiding the existing route. Hunting and trapping arears along waterways, such as Greer Creek, are not anticipated to affect hunting or trapping success. The magnitude of this effect is rated as **low** because reductions in wildlife habitat will be limited and auditory disturbances for wildlife will occur primarily during the temporary construction of the transmission line. The effect will be **continuous** as predators and hunters may continue to use the transmission line ROW, although sensory disturbances will be short-term and temporary during construction and maintenance and will be **long-term**, lasting for more than one generation of land users (i.e., construction, operations and into closure). The effect will be **local**, as it is associated with the transmission line and Kluskus FSR. The effect will be **reversible**, as wildlife is anticipated to repopulate disturbed sites after the removal of the cause of the disturbance. The context is rated as **high** in consideration of interference with underlying conditions.

The **likelihood** of reduced SFN hunting and trapping success is **moderate**, as its occurrence will depend on the presence of active SFN hunting and trapping at times and in locations where wildlife populations may have locally declined.

The effect of the Project on SFN hunting and trapping success is rated as **not significant (minor)**, principally due to the low magnitude of the effect and its reversibility following cessation of operations.

This rating is made with a **medium degree of confidence**, as it is based on moderate details about SFN hunting and trapping activities in relation to the Project, and the responses of wildlife to Project components and activities is uncertain. Little data exists on current Aboriginal harvesters' success rates.

6.5.1.2 Quality of Hunting and Trapping Experience

Following mitigation, SFN members are anticipated to have a reduced quality of experience while hunting and trapping in locations having close visual and auditory contact with the transmission line ROW, including traplines TR0712T009 and TR0711T007. Hunters and trappers in the vicinity of the transmission line are expected to have reduced quality of experience including auditory effects during the construction of the transmission line, and may experience visual effects throughout the life of the Project from certain locations (e.g., Nechako River and Stellako River crossing points). Hunters and trappers in the vicinity of the Kluskus FSR (which passes through trapline TR0712T009) are expected to experience intermittent and temporary visual and auditory disturbance related to project traffic. Effects in the vicinity of the transmission line and Kluskus FSR are anticipated to be **low** in magnitude, as these Project components are situated in areas that already have visual and auditory disturbances. The visual effect will be **continuous** in the **long-term**, lasting for more than one full generation of land users (throughout construction, operations and closure). The effect is rated as **local** as it pertains to the transmission line and Kluskus FSR. The effect will be **reversible** once activities causing auditory disturbance cease and once reclamation is complete. The context is rated as **high** in consideration of interference with underlying conditions.

The **likelihood** of the effect is **moderate**, as it is anticipated that SFN hunting and trapping activities will occur outside of areas within visual and auditory range of Project disturbances.

The effect of the Project on quality of SFN hunting and trapping experience is rated as **not significant (minor)**, principally due to the low magnitude and reversibility of the effects at closure.

Confidence in the significance rating is **low**, as no perceptual data from SFN was available and the assessment had to rely on reasonable assumptions of land users experience while hunting and trapping especially related to visual and auditory parameters although there may be other dimensions affecting experience of using the land.

6.5.2 Residual Effect on Fishing

6.5.2.1 Residual Effect on Quality of Fishing Experience

After mitigation, SFN members are anticipated to have a reduced quality of experience due to visual and auditory disturbances from the mine, transmission line, freshwater pipeline and the FSS. From certain perspectives, it will be possible to view the mine and TSF from Tatelkuz Lake, although the view will be constrained by the distance. SFN members fishing in the vicinity of Tatelkuz Lake are expected to experience temporary visual and auditory disturbance during construction of the freshwater pipeline, but the pipeline will be buried and no disturbances are anticipated following construction. The freshwater pipeline is being developed in an area with existing forestry operations. Low-level noise from the FSS will be detectable at the pumphouse on the southeast side of Tatelkuz Lake. Noise associated with the transmission line construction will be temporary and following construction, no noise disturbances are anticipated. However there may be visual disturbances associated with the transmission line to SFN fishing near waterway crossing points, including the SFN Greer Creek fish trap and the SFN fishing camp located on the Nechako River. Reduce quality of experience around the Tatelkuz Lake and locations impacted by the transmission line are rated as **moderate** in magnitude because the visual changes form a noticeable but not dominant feature of the landscape. The effect will be **continuous** and will be **permanent** at Tatelkuz Lake, and long-term for the transmission line. The effect is rated as **local** as it pertains to a number of Project components within the current use RSA. Visual effects of the mine from Tatelkuz Lake will be **irreversible** while visual and auditory impacts from the transmission line will be reversible. The context is rated as **high** in consideration of the interference with underlying conditions including the introduction of seven (7) transmission lines in SFN traditional territory.

The **likelihood** of the effect is **high**, as information from SFN indicates that SFN members fish in areas within visual range of Project disturbances.

The effect of the Project on quality of SFN fishing experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect and due to its irreversibility at Tatelkuz Lake.

Confidence in the significance rating is **low**, as no perceptual data from SFN was available and the assessment had to rely on reasonable assumptions of land users experience while fishing especially

related to visual and auditory parameters although there may be other dimensions affecting experience of using the land.

6.5.3 Residual Effect on Gathering

6.5.3.1 Residual Effect on Quality of Gathering Experience

SFN may experience reduced quality of gather experience when collecting plants in locations having close visual and auditory contact with the transmission line, including plant gathering areas in the keyoh associated with trapline TR0711T007. There may be visual effects for SFN harvesting near the transmission line ROW, and auditory effects are anticipated during the construction of the transmission line and occasionally during maintenance. There is a perception by Aboriginal groups that the transmission line will produce EMF effects, which may result in SFN avoiding harvesting in areas under the transmission line. The context is rated as **high** in consideration of diminished gathering areas from historic levels. The effect is rated as **moderate** in magnitude, as although the transmission line will form a minor part of the landscape and no noise is anticipated, there are perceptions of EMF from Aboriginal users which may disrupt their use of the area. The effect will be **continuous** and **long-term**, lasting for more than one generation of land users. The effect is rated as **site-specific** as it pertains to the transmission line ROW. The effect will be **reversible** at closure.

The **likelihood** of the effect is **moderate**, as the Proponent anticipates that SFN members will undertake harvesting activities within visual and auditory range of Project disturbances.

The effect of the Project on quality of SFN gathering experience is rated as **not significant (moderate)**, principally due to the moderate magnitude and continuous nature of the effect.

Confidence in the significance rating is **low**, as although no perceptual data from SFN was available and the assessment had to rely on reasonable assumptions of land users experience while gathering.

6.5.4 Residual Effect on Cultural and Traditional Land Uses

6.5.4.1 Residual Effects on Quality of Experience Using Other Cultural and Traditional Lands

Following mitigation, SFN members are anticipated to have a reduced quality of experience while using land for other cultural and traditional purposes. SFN using lands for other cultural and traditional purposes may experience auditory disturbances during the construction of the transmission line. There may be visual effects for SFN using lands and resources near the transmission line ROW, particularly where it crosses the Cheslatta Trail. SFN using lands for other cultural and traditional purposes near Tatelkuz Lake may experience auditory impacts related to FSS and temporary auditory disturbance during the construction of the freshwater pipeline. The reductions in quality of experience are characterized **low** in magnitude considering the visual change of the transmission line from certain perspectives. The effect will be **continuous** and **long-term**, lasting for more than one generation of land users (construction, operation and closure). The effect is rated as **local** as it pertains to the transmission line and FSS at Tatelkuz Lake. The visual effect will be **reversible,** at closure. The context is rated as **high** in consideration of the moderate interference with underlying conditions, including disturbed areas from forestry operations.

The **likelihood** of the effect is **low**, as the Proponent anticipates that SFN members will undertake land use activities generally outside visual and auditory range of Project disturbances.

The effect of the Project on quality of SFN gathering experience is rated as **not significant (minor)**, principally due to the low magnitude of the site-specific effect and due to its reversibility.

Confidence in the significance rating is **low**, as there is limited information on other cultural and traditional uses of the land by SFN, and no perceptual data from SFN, therefore the assessment had to rely on reasonable assumptions of land users' experience.

6.6 RESIDUAL EFFECT ON STELLAT'EN FIRST NATION'S CURRENT ABORIGINAL USE

6.6.1 Residual Effect on Hunting and Trapping

6.6.1.1 Residual Effects on Hunting and Trapping Success

Following mitigation, the Project is expected to reduce StFN hunting and trapping success in areas impacted by the transmission line. The transmission line crosses trapline TR0712T039, which is used by StFN members. The construction of the transmission line through StFN traditional territory where hunting and trapping areas may occur has potential to open up access for hunters or predators, although some of the areas have been previously disturbed. The magnitude of this effect is rated as **low** because reductions in wildlife habitat will be limited the transmission line ROW, and auditory disturbances for wildlife will occur primarily during the temporary construction phase of the transmission line. The effect will be **continuous** as predators and hunters may continue to use the transmission line ROW, although sensory disturbances will be temporary during construction and maintenance, and will be **long-term**, lasting for more than one generation of land users (i.e., construction, operations and into closure). The effect will be **site-specific**, as it is associated with the transmission line. The effect will be **reversible**, as wildlife is anticipated to repopulate disturbed sites after the removal of the cause of the disturbance. The context is rated as **high** in consideration of the interference with underlying conditions including impacts from forestry operations.

The **likelihood** of reduced StFN hunting and trapping success is **moderate**, as its occurrence will depend on the presence of active StFN hunting and trapping at times and in locations where wildlife populations may have locally declined.

The effect of the Project on StFN hunting and trapping success is rated as **not significant (minor)**, principally due to the low magnitude of the effect and its reversibility following decommissioning of the transmission line.

This rating is made with a **medium degree of confidence**, as it is based on moderate details about StFN hunting and trapping activities in relation to the Project, and the responses of wildlife to Project components and activities is uncertain. Little data exists on current Aboriginal harvesters' success rates.

6.6.1.2 Quality of Hunting and Trapping Experience

Following mitigation, StFN members are anticipated to have a reduced quality of experience while hunting and trapping in locations having close visual and auditory contact with the transmission line ROW, including users of trapline TR0712T039. Hunters and trappers in the vicinity of the transmission line are expected to have reduced quality of experience including auditory effects during the construction of the transmission line, and visual effect throughout the life of the Project. Effects in the vicinity of the transmission line are anticipated to be **low** in magnitude, as these Project components are situated in areas that already have visual and auditory disturbances. The effect will be **continuous** in the **long-term**, lasting for more than one full generation of land users (throughout construction, operations and closure). The effect is rated as **site specific** as it pertains to the transmission line. The effect will be **reversible** once activities causing auditory disturbance cease and once reclamation is complete. The context is rated as **high** in consideration of the interference with underlying conditions.

The **likelihood** of the effect is **moderate**, as there are few known details of StFN use of trapline TR0712T039 and limited information of StFN hunting and trapping activities within visual and auditory range of Project disturbances.

The effect of the Project on quality of StFN hunting and trapping experience is rated as **not significant (minor)**, principally due to the low magnitude and reversibility of the effects at closure.

Confidence in the significance rating is **low**, as no perceptual data from StFN was available and the assessment had to rely on reasonable assumptions of land users experience while hunting and trapping especially related to visual and auditory parameters although there may be other dimensions affecting experience of using the land.

6.6.2 Residual Effect on Fishing

6.6.2.1 Residual Effect on Quality of Fishing Experience

As a result of the transmission line, StFN members are anticipated to have a reduced quality of experience due to visual and auditory disturbances. During construction, StFN members fishing near transmission line waterway crossings may experience auditory disturbance, however no changes in noise levels are anticipated during operations. From certain perspectives, it will be possible to view the transmission line particularly near the Stellako River and Nechako River crossing points. The reduced quality of fishing experience is characterized as **low** in magnitude because the transmission line will form a minor feature of the landscape at waterway crossings. The effect will be **continuous** and will be **long-term** lasting for more than one full generation of land users (throughout construction, operations and closure). The extent of the effect is rated as **site-specific** as it pertains to the transmission line ROW, and the effect will be **reversible** at closure. The context is rated as **high** in consideration of the interference with underlying conditions including reduced consumption of traditional food, particularly salmon, as a result of contamination concerns.

The **likelihood** of the effect is **moderate**, as while StFN indicate there are fishing locations on the Stellako River and Nechako River, the exact locations and their proximity to transmission line crossings are unknown.

The effect of the Project on quality of StFN fishing experience is rated as **not significant (minor)**, principally due to the low magnitude and reversibility of the effect during closure.

Confidence in the significance rating is **low**, as no perceptual data from StFN was available and the assessment had to rely on reasonable assumptions related to visual and auditory parameters although there may be other dimensions affecting experience of using the land.

6.6.3 Residual Effect on Gathering

6.6.3.1 Residual Effect on Quality of Gathering Experience

StFN may experience reduced quality of experience should they gather plants in locations having close visual and auditory contact with the transmission line. There may be visual effects for StFN harvesting near the transmission line ROW, and auditory effects are anticipated during the construction of the transmission line and occasionally during maintenance. There is a perception by Aboriginal groups that the transmission line will produce EMF effects, which may result in StFN avoiding harvesting in areas under the transmission line. The effect is rated as **moderate** in magnitude, as although the transmission line will form a minor part of the landscape and no noise is anticipated, there are perceptions of EMF from Aboriginal users which may disrupt their use of the area. The effect will be **continuous** and **long-term**, lasting for more than one generation of land users. The effect is rated as **site-specific** as it pertains to the transmission line ROW. The effect will be **reversible** at closure.

The **likelihood** of the effect is **low**, as the Proponent anticipates that StFN members will undertake harvesting activities outside visual and auditory range of Project disturbances.

The effect of the Project on quality of StFN gathering experience is rated as **not significant (moderate)**, principally due to the moderate magnitude and continuous nature of the effect.

Confidence in the significance rating is **low**, as no perceptual data from StFN was available and the assessment had to rely on reasonable assumptions of land users experience while gathering.

6.6.4 Residual Effect on Cultural and Traditional Land Uses

6.6.4.1 Residual Effects on Quality of Experience Using Other Cultural and Traditional Lands

Following mitigation, StFN members are anticipated to have a reduced quality of experience while using land for other cultural and traditional purposes. StFN using lands for other cultural and traditional purposes may experience auditory disturbances during the construction of the transmission line. There may be visual effects for StFN using lands and resources near the transmission line ROW, particularly where it crosses the Cheslatta Trail. The reductions in quality of experience are characterized **low** in magnitude considering the visual change of the transmission line from limited perspectives. The effect will be **continuous** and **long-term**, lasting for more than

one generation of land users (construction, operation and closure). The effect is rated as **site-specific** as it pertains to the transmission line, primarily where it crosses the Cheslatta Trail. The visual effect will be **reversible** at closure. The context is rated as **high** in consideration of the interference with underlying conditions.

The **likelihood** of the effect is **moderate**, as the Proponent anticipates that StFN members will undertake land use activities generally outside visual and auditory range of Project disturbances.

The effect of the Project on quality of StFN gathering experience is rated as **not significant (minor)**, principally due to the low magnitude of the site-specific effect and due to its reversibility.

Confidence in the significance rating is **low**, as there is limited information on other cultural and traditional uses of the land by StFN, and no perceptual data from StFN, therefore the assessment had to rely on reasonable assumptions of land users' experience.

6.7 RESIDUAL EFFECTS ON ULKATCHO FIRST NATION'S CURRENT ABORIGINAL USE

6.7.1 Residual Effects on Hunting and Trapping

6.7.1.1 Residual Effects on Access to Hunting and Trapping Areas

Disruption of UFN members' access to hunting and trapping areas within the mine site will be unavoidable. Mitigation of access effects related to other Project components is anticipated to minimize effects to negligible levels (section 5.1).

The mine site will impede UFN access to hunting and trapping areas within the mine site. Up to 14 UFN TLU sites are potentially included within the mine site, which relate to hunting, trapping, trails, campsites, and a placename. Project components and activities will not impede UFN access to other nearby areas containing high concentrations of UFN TLU sites, including: Kluskus Lakes, Euchiniko Lake, and Kluskus IR 1; the south end of Tatelkuz Lake, the north and west ends of Kuyakuz Lake and the east end of Tsacha Lake; and Moose Lake and Johnny Lake. As the mine site will impede access to an area of approximately 4,400 ha where there are known UFN hunting and trapping sites, the effect is rated as **moderate in magnitude**. Access to the mine site will be restricted for up to 37 years (from construction to post-closure), resulting in a **long-time duration** of more than one full generation of land users. As access to the mine site will not be allowed for the full duration of the mine cycle, the frequency is rated as **continuous**. The effect is **site-specific** as it occurs in only one location in the LSA. The effect is **reversible**, as access to the mine site will be available following closure.

The **likelihood** that the Project will impede UFN access to hunting and trapping areas within the proposed mine site is **high**.

The effect of the Project on UFN access to hunting and trapping areas is rated **as not significant (moderate)**, principally because UFN will have continued access to other highly used hunting and

trapping locations within the vicinity of the mine site and because the effect is reversible after closure of the mine.

The significance rating is made with a **high level of confidence**, given the level of information about hunting and trapping provided by UFN and the clear change in access associated with the mine site.

6.7.1.2 Residual Effects on Hunting and Trapping Success

Following mitigation, the Project is expected to reduce UFN hunting and trapping success in areas surrounding the mine site, the airstrip, and the mine access road. The **magnitude of this effect is rated as low** because reductions in wildlife disturbance will be limited to a 4-6 km band around the mine site (the distance at which sensory disturbance will be attenuated) and will be intermittent at the airstrip and the mine access road (aligned with the presence of airplanes and vehicles). The section of the transmission line transecting UFN hunting and trapping areas (north of Tatelkuz Lake) is aligned with the Kluskus-Ootsa FSR and will not open up access for hunters or predators. The freshwater pipeline will be located in an area already highly impacted by forestry operations. The effect will be **continuous**, due to ongoing sensory disturbance at the mine site, and will be **medium-term**, lasting for almost one full generation of land users (throughout construction and operations). The effect will be **site-specific**, as it will take place within one cluster of Project components at the Project Site. The effect will be **reversible**, as wildlife are anticipated to repopulate disturbed sites after the removal of the cause of the disturbance.

The **likelihood** of reduced UFN hunting and trapping success is **moderate**, as its occurrence will depend on the presence of active UFN hunting and trapping at times and in locations where wildlife populations have locally declined.

The effect of the Project on UFN hunting and trapping success is rated as **not significant (minor)**, principally due to the low magnitude of the effect and its reversibility following cessation of operations.

This rating is made with a **moderate degree of confidence**, as it is based on relatively detailed information about UFN hunting and trapping activities in relation to the Project, but the responses of wildlife to Project components and activities is uncertain.

6.7.1.3 Residual Effects on the Quality of Hunting and Trapping Experience

Following mitigation, UFN members are anticipated to have a reduced quality of experience while hunting and trapping in locations having close visual and auditory contact with the mine site (within 4-6 km with respect to auditory disturbance) and in the vicinity of the airstrip during take offs and landings. Land users hunting and trapping in the vicinity of the Kluskus-Ootsa FSR and mine access road are expected to experience intermittent and temporary visual and auditory disturbance from Project-related traffic. Hunters and trappers in the vicinity of the FSS, transmission line and Kluskus-Ootsa FSR realignment are also expected to have reduced quality of experience. Effects in the vicinity of the FSS, airstrip, Kluskus-FSR, and transmission line are anticipated to be low in magnitude, as these Project components are situated in areas that already have visual and auditory disturbances. Reductions in quality of experience around the mine site are rated as **moderate** due to the less disturbed nature of the lands surrounding the mine site, high UFN use of

the area, and the relatively high visual and auditory disturbance emanating from the site. The effect will be **continuous** in the **medium-term**, lasting for almost one full generation of land users (throughout construction and operations). The effect is rated as **local** as it pertains to a number of Project components within the LSA. The effect will be **reversible** once activities causing auditory disturbance cease and once reclamation is complete.

The **likelihood** of the effect is **high**, as information from UFN indicates that UFN members will undertake hunting and trapping activities within visual and auditory range of Project disturbances.

The effect of the Project on quality of UFN hunting and trapping experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect and its reversibility upon closure.

Confidence in the significance rating is **low**, as no perceptual data from UFN was available and the assessment had to rely on reasonable assumptions of land users experience while hunting and trapping.

6.7.2 Residual Effects on Fishing

6.7.2.1 Residual Effects on Quality of Fishing Experience

UFN indicate that its members fish in Tatelkuz Lake (i.e., grid 93F.027.4 of the UFN TK/TLU) (DM Cultural Services, 2013) and at Chedakuz Creek. Following mitigation, UFN members may experience auditory and visual disturbance temporarily during the installation the FSS on the southwest shore of Tatelkuz Lake and may experience low-level noise during operations. From certain perspectives, it will be possible to view the mine and TSF from Tatelkuz Lake, although the view will be constrained by the distance (15 km). UFN members fishing in the vicinity of Tatelkuz Lake are expected to experience temporary visual and auditory disturbance during construction of the freshwater pipeline, but the pipeline will be buried and no disturbances are anticipated following construction. At the Chedakuz Creek transmission line crossing point there may be auditory disturbance during construction and visual disturbance from construction to closure for UFN fishing in the area of the crossing point. Reduced quality of experience around the Tatelkuz Lake is rated as **moderate** in magnitude because the visual changes form a noticeable but not dominant feature of the landscape. The effect will be **continuous** and will be **permanent**. The effect is rated as **local** as it pertains to a number of Project components. Auditory effects will be reversible, however visual effects of the mine from Tatelkuz Lake will be **irreversible**. The context is rated as **high** in consideration of the interference with underlying conditions.

The **likelihood** of the effect is **high**, as information from UFN indicates that UFN members fish in areas within visual range of Project disturbances.

The effect of the Project on quality of UFN fishing experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect and due to its irreversibility.

Confidence in the significance rating is **low**, as no perceptual data from UFN was available and the assessment had to rely on reasonable assumptions of land users experience while fishing especially

related to visual and auditory parameters although there may be other dimensions affecting experience of using the land.

6.7.3 Residual Effects on Gathering

6.7.3.1 Residual Effects on Access to Gathering Areas

There is potential disruption of UFN members' access to up to 10 gathering areas near the Project Site (i.e., grids 93F.015.4; 93F.025.2 of the UFN TK/TLUS) (DM Cultural Services, 2013). Depending on the location of these harvesting areas, access may be restricted from construction to closure of the Project, while harvesting areas on the perimeter of the Project may remain accessible to UFN harvesters. A conservative approach is being applied in the case that the Project impedes or restricts access to these harvesting sites. Project components and activities associated with the installation of the freshwater pipeline and FSS at Tatelkuz Lake may temporarily interrupt access to harvesting areas near Tatelkuz Lake (i.e., grid 93F.027.3 of the UFN TK/TLUS) however the freshwater pipeline will be buried and will not interrupted use of the area during operations. As the mine site will impede access to harvesting sites, the effect is rated as **high** in magnitude, while impacts of the freshwater pipeline are rated as low magnitude. Access to the mine site will be restricted for up to 37 years (from construction to post-closure), resulting in a **long-time** duration of more than one full generation of land users. As access to the mine site will not be allowed for the full duration of the mine cycle, the frequency is rated as **continuous**. Reduced access is **site-specific** as it occurs in only one location (Project Site). The effect is **reversible**, as access to the mine site will be available following closure.

The **likelihood** that the Project will impede UFN access to harvesting areas within the proposed mine site is **moderate** as the UFN TLUS map does not indicate exact locations and the grids with harvesting activities identified are along the perimeter of the mine footprint.

The effect of the Project on UFN access to hunting and trapping areas is rated **as not significant (moderate)**, principally because UFN will have continued access to other harvesting locations and because the effect is reversible after closure of the mine.

The significance rating is made with a **medium level of confidence**, given the level of information about harvesting provided by UFN and the clear change in access associated with the mine site.

6.7.3.2 Residual Effects on Gathering Success

UFN TLUS identifies berry harvesting and medicinal plant collection activities within and nearby the Project Site (i.e., grids 93F.015.4; 93F.025.2 of the UFN TK/TLUS) therefore UFN members may experience reduced harvesting success should these areas be affected by lack of access or site clearing impacts. However, the majority of grids 93F.015.4; 93F.025.2 of the UFN TK/TLUS are not covered by the Project Site, therefore it is assumed that UFN will continue to harvest within the area or areas nearby. Vegetation clearing for the transmission line ROW, upgrades to Kluskus-Ootsa FSR and installation of the freshwater pipeline may reduce harvesting success however the effects are temporary during construction. As there are multiple locations were harvesting success may be reduced, the magnitude is rated as **moderate**, and the effect is anticipated to be **long-time** at the

mine site, affecting more than one full generation of land users. The frequency is rated as **continuous** and **local**. The effect is **reversible** following closure.

The **likelihood** that the Project will reduce harvesting success is **moderate** as the UFN TLUS map does not indicate exact locations and the grids with harvesting activities identified are along the perimeter of the mine footprint.

The effect of the Project on UFN harvesting success is rated **as not significant (moderate)**, principally because UFN will have continued access to other harvesting locations and because the effect is reversible after closure of the mine.

The significance rating is made with a **medium level of confidence**, given the level of information about harvesting provided by UFN and the clear change in access associated with the mine site.

6.7.3.3 Residual Effects on Quality of Gathering Experience

Following mitigation, UFN members are anticipated to have a reduced quality of experience while gathering plants in locations having close visual and auditory contact with the mine site (within 4-6 km with respect to auditory disturbance) and in the vicinity of the airstrip during take offs and landings. UFN harvesters using Tatelkuz Lake may experience reduced visual quality as the mine and TSF will be visible from certain perspectives, and there may be visual and auditory impacts related to the FSS. There is a perception by Aboriginal groups that the transmission line will produce electromagnetic field (EMF) effects, which may result in UFN avoiding harvesting in areas under the transmission line that passes through the UFN traditional territory. There may be visual effects for UFN harvesting along the Messue Wagon Trail where it is crossed by the transmission line and freshwater pipeline, and auditory effects are anticipated during the construction phase of the transmission line and freshwater pipe and occasionally during maintenance. The reductions in quality of experience is rated as **moderate** in magnitude considering the low level of disturbed nature surrounding the mine site, and the visual change of the mine site from Tatelkuz Lake, as well as visual disturbance from the transmission line from certain perspectives. The effect will be **continuous** and **permanent** (for the visual effects of the TSF at Tatelkuz Lake), lasting beyond one generation of land users. The effect is rated as **local** as it pertains to a number of Project components. The visual effect of the mine from Tatelkuz Lake will be **irreversible,** while the auditory effects will be reversible once activities causing auditory disturbance cease. The context is rated as **high** in consideration of the interference with underlying conditions, including existing forestry activities in the region.

The **likelihood** of the effect is **moderate**, as the Proponent anticipates that UFN members will undertake harvesting activities generally outside visual and auditory range of Project disturbances.

The effect of the Project on quality of UFN gathering experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect and due to its irreversibility.

Confidence in the significance rating is **low**, as no perceptual data from UFN was available and the assessment had to rely on reasonable assumptions of land users experience while gathering.

6.7.4 Residual Effect on Cultural and Traditional Land Uses

6.7.4.1 Residual Effect on Access to Other Cultural and Traditional Lands

UFN members may be restricted from accessing a trail, campsite and a named place within the Project Site. The precise locations have not been determined (i.e., grids 93F.016.3, 93F.026.1, 93F.026.2 of the UFN TK/TLUS). Potential impacts to CMTs have been addressed in Section 8, Heritage Effects, of the Application/EIS. Project components and activities will not impede UFN access to other nearby areas containing high concentrations of UFN TLU sites, including: Kluskus Lakes, Euchiniko Lake, and Kluskus IR 1; the south end of Tatelkuz Lake, the north and west ends of Kuyakuz Lake and the east end of Tsacha Lake; and Moose Lake and Johnny Lake. As the mine site will impede access to other cultural and traditional land use sites, the effect is rated as **high** in magnitude. The context is rated as **high** in consideration of the level of interference with the conditions and ability to engage in use of areas. Access to the mine site will be restricted for up to 37 years (from construction to post-closure), resulting in a **long-time duration** of more than one full generation of land users. As access to the mine site will not be allowed for the full duration of the mine cycle, the frequency is rated as **continuous**. The effect is **site-specific** as it occurs in only one location in the LSA. The effect is **reversible**, as access to the mine site will be available following closure.

The **likelihood** that the Project will impede UFN access to other cultural and traditional land use areas within the proposed mine site is **moderate**, given the limited information of the specific location.

The effect of the Project on UFN access to other cultural and traditional land use areas is rated **as not significant (moderate)**, in consideration of the site specific nature of the effect and the proposed mitigation measure to develop to alternative access plans with Aboriginal groups where access to or use of specific cultural sites needs to be altered or is impeded.

The significance rating is made with a **medium level of confidence**, given the lack of information about specific site locations as well as and the clear change in access associated with the mine site.

6.7.4.2 Residual Effects on Quality of Experience Using Other Cultural and Traditional Lands

UFN members are anticipated to have a reduced quality of experience while using land for other cultural and traditional purposes. UFN members that use trails, visit placenames or camp within visual and auditory contact with the mine site (within 4-6 km with respect to auditory disturbance) and in the vicinity of the airstrip during take offs and landings (i.e.,) for other cultural or traditional purposes may be affected. There may be visual effects for UFN using sites and trails along the Messue Wagon Trail where it is crossed by the transmission line and freshwater pipeline (i.e., grid 93F.027.2 in the UFN TLUS), and auditory effects are anticipated during the construction phase and occasionally during maintenance of these components. The reductions in quality of experience are characterized **moderate** in magnitude considering the low level of disturbed nature surrounding the mine site, and the visual change of the transmission line from certain perspectives. The effect will be **continuous** and **long-term**, lasting for more than one generation of land users. The effect is rated as **local** as it pertains to a number of Project components. The visual and auditory effect of the mine will be **reversible,** once activities causing auditory disturbance cease. The context is rated as **high** in consideration of the interference with underlying conditions.

The **likelihood** of the effect is **moderate**, as the Proponent anticipates that UFN members will undertake current use activities generally outside visual and auditory range of Project disturbances.

The effect of the Project on quality of UFN experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect.

Confidence in the significance rating is **low**, as no perceptual data from UFN was available and the assessment had to rely on reasonable assumptions of land users experience related to auditory and visual parameters, although several dimensions may affect quality of experience.

6.8 RESIDUAL EFFECTS ON SKIN TYEE FIRST NATION'S CURRENT ABORIGINAL USE

6.8.1 Residual Effects on Hunting and Trapping

6.8.1.1 Residual Effects on Access to Hunting and Trapping Areas

Disruption of STN members' access to hunting and trapping areas within the mine site will be unavoidable. Mitigation of access effects related to other Project components is anticipated to minimize effects to negligible levels (section 5.1).

The mine site will impede STN access to hunting and trapping areas within the mine site. Up to 3 STN hunting sites are potentially included within the mine site (i.e., grids 93F016.3.4, 93F.016.4.3 - 4.4, 93F.026.2.1 - 2.2 of the STN TLUS). Project related traffic along Kluskus-Ootsa and Kluskus FSR may delay STN access to hunting and trapping areas, and peak traffic is anticipated during construction. Project components and activities will not impede STN access to other hunting and trapping areas including Davidson Creek, Chedakuz Creek and Moose Lake, Johnny Lake, Top Lake, Laidman Lake, and Kuyakuz Lake. As the mine site will impede access to an area of approximately 4,400 ha (approximately 50 km radius) where there are known STN hunting the effect is rated as **moderate in magnitude**. Access to the mine site will be restricted for up to 37 years (from construction to post-closure), resulting in a **long-time duration** of more than one full generation of land users. As access to the mine site will not be allowed for the full duration of the mine cycle, the frequency is rated as **continuous**. The effect is **site-specific** as it occurs in only one location in the LSA. The effect is **reversible**, as access to the mine site will be available following closure.

The **likelihood** that the Project will impede STN access to hunting and trapping areas within the proposed mine site is **high**.

The effect of the Project on STN access to hunting and trapping areas is rated **as not significant (moderate)**, principally because STN will have continued access to other highly used hunting and trapping locations within the vicinity of the mine site and because the effect is reversible after closure of the mine.

The significance rating is made with a **high level of confidence**, given the level of information about hunting and trapping provided by STN and the clear change in access associated with the mine site.

6.8.1.2 Residual Effects on Hunting and Trapping Success

Following mitigation, the Project is expected to reduce STN hunting and trapping success in areas surrounding the mine site, the airstrip, and the mine access road. The **magnitude of this effect is rated as low** because reductions in wildlife disturbance will be limited to a 4-6 km band around the mine site (the distance at which sensory disturbance will be attenuated) and will be intermittent at the airstrip and the mine access road (aligned with the presence of airplanes and vehicles). Additionally, while there are up to 3 known STN TLU hunting sites, the Project assumes there are other locations were STN will have hunting and trapping success. The transmission line, of which approximately 112 km pass through STN traditional territory, may open up access for hunters or predators, however in sections it passes through areas already impacted by forestry operations. The freshwater pipeline will be located in an area already impacted by forestry operations. The effect will be **continuous**, due to ongoing sensory disturbance at the mine site, and will be **medium-term**, lasting for almost one full generation of land users (throughout construction and operations). The effect will be **local**, as it relates to several Project components and activities. The effect will be **reversible**, as wildlife is anticipated to repopulate disturbed sites after the removal of the cause of the disturbance.

The **likelihood** of reduced STN hunting and trapping success is **moderate**, as its occurrence will depend on the presence of active STN hunting and trapping at times and in locations where wildlife populations have locally declined.

The effect of the Project on STN hunting and trapping success is rated as **not significant (minor)**, principally due to the low magnitude of the effect and its reversibility following cessation of operations.

This rating is made with a **moderate degree of confidence**, as it is based on relatively detailed information about STN hunting and trapping activities in relation to the Project, but the responses of wildlife to Project components and activities is uncertain.

6.8.1.3 Residual Effects on the Quality of Hunting and Trapping Experience

Following mitigation, STN members are anticipated to have a reduced quality of experience while hunting and trapping in locations having close visual and auditory contact with the mine site (within 4-6 km with respect to auditory disturbance) and in the vicinity of the airstrip during take offs and landings. Land users hunting and trapping in the vicinity of the Kluskus-Ootsa FSR and mine access road are expected to experience intermittent and temporary visual and auditory disturbance. Hunters and trappers in the vicinity of the FSS, transmission line and Kluskus-Ootsa FSR realignment are also expected to have reduced quality of experience. Effects in the vicinity of the FSS, airstrip, Kluskus-FSR, and transmission line are anticipated to be low in magnitude, as these Project components are situated in areas that already have visual and auditory disturbances. Reductions in quality of experience around the mine site are rated as **moderate** due to the less disturbed nature of the lands surrounding the mine site, known STN use of the area, and the visual and auditory disturbances emanating from the site. The effect will be **continuous** in the **medium-term**, lasting for almost one full generation of land users (throughout construction and operations). The effect is rated as **local** as it pertains to a number of Project components within the LSA. The effect will be **reversible** once activities causing auditory disturbance cease and once reclamation is complete.

The **likelihood** of the effect is **high**, as information from STN indicates that STN members will undertake hunting and trapping activities within visual and auditory range of Project disturbances based on known hunting locations.

The effect of the Project on quality of STN hunting and trapping experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect and its reversibility upon closure.

Confidence in the significance rating is **low**, as no perceptual data from STN was available and the assessment had to rely on reasonable assumptions of land users experience while hunting and trapping.

6.8.2 Residual Effect Gathering Experience

6.8.2.1 Residual Effects on Gathering Success

STN TLUS identifies up to 16 berry harvesting and medicinal plant collection sites within and near Tatelkuz Lake, the transmission line and freshwater pipeline, therefore STN members may have reduced harvesting success should these areas be affected by clearing activities (i.e., grids 93F.027.2.4, 93F.027.4.1-4.2, 93F.027.3.4 and 93F.037.1.2 of the STN TLUS; DM Cultural Services, 2015). Vegetation clearing for the transmission line ROW, upgrades to Kluskus-Ootsa FSR and installation of the freshwater pipeline may reduce harvesting success however the effects are temporary during construction. While there are multiple locations were harvesting success may be reduced, the interaction with the Project components are geographically limited (e.g., transmission line crossing a trail) and therefore the magnitude is rated as **low**, and the effect is anticipated to be **short-time** during construction, affecting less that one seasonal round. The frequency is rated as **continuous** and **local**. The effect is **reversible** following closure.

The **likelihood** that the Project will reduce harvesting success is **low** as the Project will communicated the construction schedule to Aboriginal groups, and the Project assumes STN will not harvest in areas affected by the Project during the construction period.

The effect of the Project on UFN harvesting success is rated **as not significant (negligible)**, principally because STN will have continued access to other harvesting locations and because the effect is reversible.

The significance rating is made with a **high level of confidence**, given the level of information about harvesting provided by STN.

6.8.2.2 Residual Effects on Quality of Gathering Experience

STN harvesters near Tatelkuz Lake may experience reduced visual quality as the mine and TSF will be visible from certain perspectives, and there may be visual and auditory impacts related to the FSS. There is a perception by Aboriginal groups that the transmission line will produce EMF effects, which may result in STN avoiding harvesting in areas under the transmission line. There may be visual effects for STN harvesting along the Messue Wagon Trail where it is crossed by the

transmission line and freshwater pipeline, and auditory effects are anticipated during the construction phase of the transmission line and freshwater pipe and occasionally during maintenance. The reductions in quality of experience is rated as **moderate** in magnitude considering the visual change of the mine site from Tatelkuz Lake, as well as the transmission line from certain perspectives. The effect will be **continuous** and **permanent** for the visual effects, lasting beyond one generation of land users. The effect is rated as **local** as it pertains to a number of Project components. The visual effect of the mine from Tatelkuz Lake will be **irreversible,** while the auditory effects will be reversible once activities causing auditory disturbance cease. The context is rated as **high** in consideration of the interference with underlying conditions.

The **likelihood** of the effect is **moderate**, as the Proponent anticipates that STN members will undertake harvesting activities generally outside visual and auditory range of Project disturbances.

The effect of the Project on quality of STN gathering experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect and due to its irreversibility.

Confidence in the significance rating is **low**, as no perceptual data from STN was available and the assessment had to rely on reasonable assumptions of land users experience while gathering.

6.8.3 Residual Effect on Cultural and Traditional Land Uses

6.8.3.1 Residual Effect on Access to Other Cultural and Traditional Lands

STN members may be restricted from accessing trails and a named place within the Project Site, as well as campsites and gathering areas around Tatelkuz Lake (i.e., grids 93F.027.4.1-4.2 of the STN TLUS). The precise locations have not been shared with the Proponent. Project components and activities will not impede STN use of trails or access to other STN TLU sites, including Johnny Lake, Fawnie Dome and Kuyakuz Lake. As the mine site will impede access to other cultural and traditional land use sites, the effect is rated as **high** in magnitude. The context is rated as **high** in consideration of the level of interference with the underlying conditions and concern raised by STN regarding importance of a named place and its role in supporting the transfer of traditional knowledge. Access to the mine site will be restricted for up to 37 years (from construction to post-closure), resulting in a **long-time duration** of more than one full generation of land users. As access to the mine site will not be allowed for the full duration of the mine cycle, the frequency is rated as **continuous**. The effect is **local** as it relates to more than one Project component. The effect is **reversible**, as access to the mine site will be available following closure.

The **likelihood** that the Project will impede STN access to other cultural and traditional land use areas within the proposed mine site is **moderate**, given the limited information of the specific location of the land use sites.

The effect of the Project on STN access to other cultural and traditional land use areas is rated **as not significant (moderate)**, in consideration of the site specific nature of the effect and the proposed mitigation measure to develop to alternative access plans with Aboriginal groups where access to or use of specific cultural sites needs to be altered or is impeded.

The significance rating is made with a **medium level of confidence**, given the lack of information about specific site locations as well as and the clear change in access associated with the mine site.

6.8.3.2 Residual Effects on Quality of Experience Using Other Cultural and Traditional Lands

STN members are anticipated to have a reduced quality of experience while using land for other cultural and traditional purposes. STN members that use trails, visit placenames or camp within visual and auditory contact with the mine site (within 4-6 km with respect to auditory disturbance) and in the vicinity of the airstrip during take offs and landings. There may be visual effects for STN using sites and trails along the Messue Wagon Trail where it is crossed by the transmission line and freshwater pipeline, and auditory effects are anticipated during the construction phase and occasionally during maintenance of these components. The reductions in quality of experience are characterized **moderate** in magnitude considering the low level of disturbed nature surrounding the mine site, and the visual change of the transmission line from certain perspectives. The effect will be **continuous** and **long-term**, lasting for more than one generation of land users with respect to the transmission line crossing area. The effect is rated as **local** as it pertains to a number of Project components. The visual and auditory effect of the mine will be **reversible,** once activities causing auditory disturbance cease. The context is rated as **high** in consideration of the interference with underlying conditions.

The **likelihood** of the effect is **moderate**, as the Proponent anticipates that STN members will undertake current use activities generally outside visual and auditory range of Project disturbances.

The effect of the Project on quality of STN experience is rated as **not significant (moderate)**, principally due to the moderate magnitude of the effect.

Confidence in the significance rating is **low**, as no perceptual data from STN was available and the assessment had to rely on reasonable assumptions of land users experience related to auditory and visual parameters, although several dimensions may affect quality of experience.

6.9 SUMMARY OF RESIDUAL EFFECTS

After mitigation measures (Section 5), residual effects are anticipated for LDN, NWFN, SFN, StFN, UFN and STN Current Aboriginal Use, as summarized in Table 6.9-1.

Table 6.9-1. Summary of Residual Effects and Significance on Current Aboriginal Use

Aboriginal Group	Project Phase	Residual Effect	Summary of Residual Effects Characterization Criteria						Likelihood (High, Moderate, Low)	Significance of Adverse Effect (Significant, Not Significant)	Confidence (High, Medium, Low)
			Context	Magnitude	Geographic Extent	Duration	Frequency	Reversibility			
LDN	C, O, CL	Change in Access to Hunting and Trapping Locations	H	N	SS	LT	C	R	H	Not significant (Negligible)	L
	C, O, CL	Change in Hunting and Trapping Success	H	L	SS	MT	C	R	M	Not significant (minor)	M
	C, O,CL	Change in Quality of Hunting and Trapping Experience	H	M	L	MT	C	R	L	Not significant (moderate)	L
	C, O, CL, PC	Change in Quality of Fishing Experience	H	M	L	P	C	I	H	Not significant (moderate)	L
	C, O, CL, PC	Change in Quality of Gathering Experience	H	M	L	P	C	I	M	Not significant (moderate)	L
	C, O, CL,	Change in Quality of Experience using land for other cultural and traditional purposes	H	M	L	LT	C	R	M	Not significant (moderate)	L
NWFN	C,O, CL	Change in Hunting and Trapping Success	H	L	SS	LT	C	R	M	Not significant (minor)	M
	C,O, CL	Change in Quality of Hunting and Trapping Experience	H	L	SS	LT	C	R	M	Not significant (minor)	L
	C,O, CL	Change in Quality of Fishing Experience	H	L	SS	LT	C	R	M	Not significant (minor)	L
	C,O, CL	Change in Quality of Gathering Experience	H	M	SS	LT	C	R	M	Not significant (moderate)	L
	C,O, CL	Change in Quality of Experience using land for other cultural and traditional purposes	H	L	SS	LT	C	R	L	Not significant (minor)	L

(continued)

Table 6.9-1. Summary of Residual Effects and Significance on Current Aboriginal Use (continued)

Aboriginal Group	Project Phase	Residual Effect	Summary of Residual Effects Characterization Criteria						Likelihood (High, Moderate, Low)	Significance of Adverse Effect (Significant, Not Significant)	Confidence (High, Medium, Low)
			Context	Magnitude	Geographic Extent	Duration	Frequency	Reversibility			
SFN	C,O, CL	Change in Hunting and Trapping Success	H	L	L	LT	C	R	M	Not significant (minor)	M
	C,O, CL	Change in Quality of Hunting and Trapping Experience	H	L	L	LT	C	R	M	Not significant (minor)	L
	C,O, CL, PC	Change in Quality of Fishing Experience	H	M	L	P	C	I	H	Not Significant (moderate)	L
	C,O, CL	Change in Quality of Gathering Experience	H	M	SS	LT	C	R	M	Not significant (moderate)	L
	C,O, CL	Change in Quality of Experience using land for other cultural and traditional purposes	H	L	L	LT	C	R	L	Not significant (minor)	L
StFN	C,O, CL	Change in Hunting and Trapping Success	H	L	SS	LT	C	R	M	Not significant (minor)	M
	C,O, CL	Change in Quality of Hunting and Trapping Experience	H	L	SS	LT	C	R	M	Not significant (minor)	L
	C,O, CL	Change in Quality of Fishing Experience	H	M	SS	LT	C	R	M	Not Significant (minor)	L
	C,O, CL	Change in Quality of Gathering Experience	H	M	SS	LT	C	R	M	Not significant (moderate)	L
	C,O, CL	Change in Quality of Experience using land for other cultural and traditional purposes	H	L	SS	LT	C	R	M	Not significant (minor)	L

(continued)

Table 6.9-1. Summary of Residual Effects and Significance on Current Aboriginal Use (continued)

Aboriginal Group	Project Phase	Residual Effect	Summary of Residual Effects Characterization Criteria						Likelihood (High, Moderate, Low)	Significance of Adverse Effect (Significant, Not Significant)	Confidence (High, Medium, Low)
			Context	Magnitude	Geographic Extent	Duration	Frequency	Reversibility			
UFN	C,O, CL	Change in Access to Hunting and Trapping Areas	H	M	SS	LT	C	R	H	Not Significant (moderate)	H
	C,O, CL	Change in Hunting and Trapping Success	H	L	SS	MT	C	R	M	Not significant (minor)	M
	C, O, CL	Change in Quality of Hunting and Trapping Experience	H	M	L	MT	C	R	H	Not Significant (moderate)	L
	C, O, CL, PC	Change in Quality of Fishing Experience	H	M	L	P	C	I	H	Not Significant (moderate)	L
	C, O, CL, PC	Change in Access to Gathering Areas	H	H	SS	LT	C	R	M	Not Significant (moderate)	M
	C, O, CL, PC	Change in Gathering Success	H	M	L	LT	C	R	M	Not significant (moderate)	M
	C, O, CL, PC	Change in Quality of Gathering Experience	H	M	L	P	C	I	M	Not significant (moderate)	L
	C, O, CL, PC	Change in Access to Land for Other Cultural and Traditional Purposes	H	H	SS	LT	C	R	M	Not significant (moderate)	M
	C, O, CL, PC	Change in Quality of Experience using land for other cultural and traditional purposes	H	M	L	LT	C	R	M	Not significant (moderate)	L

(continued)

Table 6.9-1. Summary of Residual Effects and Significance on Current Aboriginal Use (completed)

Aboriginal Group	Project Phase	Residual Effect	Summary of Residual Effects Characterization Criteria						Likelihood (High, Moderate, Low)	Significance of Adverse Effect (Significant, Not Significant)	Confidence (High, Medium, Low)
			Context	Magnitude	Geographic Extent	Duration	Frequency	Reversibility			
STN	C,O, CL	Change in Access to Hunting and Trapping Areas	H	M	SS	LT	C	R	H	Not Significant (moderate)	H
	C,O, CL	Change in Hunting and Trapping Success	H	L	L	MT	C	R	M	Not significant (minor)	M
	C, O, CL	Change in Quality of Hunting and Trapping Experience	H	M	L	MT	C	R	H	Not Significant (moderate)	L
	C, O, CL	Change in Gathering Success	H	L	L	ST	C	R	H	Not significant (negligible)	H
	C, O, CL, PC	Change in Quality of Gathering Experience	H	M	L	P	C	I	M	Not significant (moderate)	L
	C, O, CL	Change in Access to Land for Other Cultural and Traditional Purposes	H	H	L	LT	C	R	M	Not significant (moderate)	M
	C, O, CL	Change in Quality of Experience using land for other cultural and traditional purposes	H	M	L	LT	C	R	M	Not significant (moderate)	L

Note: Refer to Table 6.1-1 for definition of abbreviated criteria.

7. CUMULATIVE EFFECTS ASSESSMENT

7.1 INTRODUCTION

Cumulative effects are defined in this EA as "effects which are likely to result from the designated project in combination with other projects and activities that have been or will be carried out". This definition follows that in section 19(1) of *CEAA* 2012 and is consistent with the IFC Good Practice Note on Cumulative Impact Assessment which refers to consideration of other existing, planned and/or reasonably foreseeable future projects and developments. Cumulative effects assessment is a requirement of the AIR (May 2014) and the EIS Guidelines (February 2013) and is necessary for the Proponent to comply with *CEAA* 2012 and the *BC Environmental Assessment Act* (2002a).

The CEA Agency's Operational Policy Statement in May 2013 (updated in March 2015) entitled *Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act 2012* (CEA Agency 2015) provides a method for undertaking a cumulative effects assessment (CEA). The BC EAO *Guideline for the Selection of Valued Components and the Assessment of Potential Effects* (BC EAO 2013) includes advice for determining the need for a cumulative impact assessment. The CEA methodology used in this Application/EIS therefore follows the guidance of the CEA Agency as outlined above, as well as the selection criteria in BC EAO (2013).

The method for assessing cumulative effects generally follows the same steps as the Project-specific effects assessment, as described in Sections 4 of the Application/EIS: (1) scoping and identification of potential effects, (2) description of potential effects and mitigation measures, with subsequent identification of residual cumulative effects, and (3) identification and characterization of residual cumulative effects. However, because of the broader scope and greater uncertainties inherent in CEA (e.g., data limitations associated with some human actions, particularly future actions); there is greater dependency on qualitative methods and expert judgment. This framework for the CEA facilitates comparison between the two levels of assessment (project-specific and CEA) and between assessment categories, and is tailored to how much information is available.

A Project Inclusion List (PIL) was developed for the CEA, based on the BC Major Projects Inventory and available from the BC Ministry of Jobs, Tourism, and Skills Training (BC MJTST) (BC MJTST, 2013). This list identifies projects or human activities that may overlap spatially or temporally with the Project. A summary of the PIL is presented in Table 4.3-11 of the Application/EIS (October 2015) and includes the following projects and activities: Nulki Hills Wind Project, Fraser Lake Sawmill Biomass Project, Coastal GasLink Pipeline Project, Pacific Northern Gas Looping Project, Mining – exploration and existing, Forestry – logging, Hunting, Trapping, Guide Outfitting, Fishing and Hunting Lodges, Recreation, Agriculture, Transportation and Crown land tenure.

7.2 SCOPING OF THE CUMULATIVE EFFECTS ASSESSMENT

The following two criteria for the relevance of evidence pertaining to other human actions are considered in the scoping of the CEA:

- a residual effect of the Project must be demonstrated to operate cumulatively with the effects of another human action; and
- the other human action must be known to have been carried out, or it must be probable (using best professional judgement) that it will be carried out[11].

As stipulated by the AIR (May 2014), only residual effects are carried forward into the CEA. The need for a CEA is determined according to the following:

- The occurrence of a residual adverse Project effect has been determined, but this residual effect is not expected to be negligible; and
- The residual Project effects must be demonstrated to interact with the effect of other past, present or future projects, or activities.

Based on the methodology, residual effects on Current Aboriginal Use that have been carried forward into the cumulative effects assessment (CEA) include:

- reduced access to hunting and trapping sites and to other cultural and traditional land use sites for UFN and STN;
- reduced access to gathering sites for UFN;
- reduced hunting and trapping success for LDN, NWFN, SFN, StFN, UFN and STN;
- reduced gathering success for UFN; and
- reduced quality of experience while hunting and trapping, fishing, gathering and while using cultural and traditional land use sites for LDN, NWFN, SFN, StFN, and UFN and reduced quality of experience while hunting and trapping, gathering and while using cultural and traditional land use sites for STN.

Potential residual effects related to reduced access to hunting and trapping sites for LDN and for STN gathering success are not carried forward into the CEA as the residual effects are expected to be **not significant (negligible).**

[11] These criteria are based on the report of the Joint Review Panel for the Express Pipeline Project (National Energy Board 1996). The Joint Panel specifically excluded consideration of "hypothetical" human actions from CEA. However, the CEA Agency's Practitioner's Guide states, "best practice suggests that effort should be made in identifying actions if there is reason to believe they may occur, yet are not overly hypothetical" (Hegmann, G., Cocklin, C, Creasey, R, Dupuis, S, Kennedy, A, Kingsley, L. 1999. *Cumulative Effects Assessment Practitioners Guide*. 11(3):267–90. AXYS Environmental Consulting and CEA Working Group for the Canadian Environmental Assessment Agency: Ottawa, Ontario. Further, the CEA Agency's more recent Operational Policy Statement added, "the Agency position has evolved to include 'certain' and 'reasonably foreseeable' projects and, where appropriate those projects that are 'hypothetical'" (CEA Agency 2007). Therefore, in accordance with best practices, future human actions that are hypothetical but are still judged to be probable are considered in this assessment.

Table 7.2-1 provides a summary of the characterization of potential residual effects to Current Aboriginal Use considered in the CEA.

Table 7.2-1. Summary of Potential Residual Effects on Current Aboriginal Use to be Considered in the Cumulative Effects Assessment

Residual Effects	Project Phase	Mitigation Measures	Significance
Reduced access to hunting and trapping areas for UFN and STN	C, O, CL, PC	Establish access management working group with Aboriginal participation; post and enforce speed limits; use existing roads; communicate with trappers and guide outfitters; facilitate access to the mine site area by designated Aboriginal groups for cultural purposes, provided access can be accommodated; transportation and operation of on- and off-road vehicles conducted in a safe and responsible manner	Not significant (moderate)
Reduced access to other cultural and traditional land use sites for UFN and STN	C, O, CL, PC	Establish access management working group with Aboriginal participation; post and enforce speed limits; use existing roads; communicate with trappers and guide outfitters; facilitate access to the mine site area by designated Aboriginal groups for cultural purposes, provided access can be accommodated; transportation and operation of on- and off-road vehicles conducted in a safe and responsible manner	Not significant (moderate)
Reduced hunting and trapping success for LDN, NWFN, SFN, StFN, UFN and STN	C, O, CL	Participate in regional wildlife and resource management initiatives; follow wildlife "least risk windows"; enforce speed limits and manage transportation; implement Environmental Management Plans (EMPs) (Section 12 of the Application) for wildlife management, visual resources and traffic management	Not significant (minor)
Reduced gathering success for UFN	C, O, CL	Implementing the Terrestrial Ecosystems Management and Restoration Plan, and Planning and Effective Mine Closure.	Not significant (moderate)
Reduced quality of hunting and trapping experience for LDN, NWFN, SFN, StFN, UFN and STN	C, O, CL	Establish a TK/TLU Committee; establish an access management working group with Aboriginal participation; paint or stain transmission line structures to blend with the character of the surrounding environment, mitigate physical remains of cultural sites, archaeological sites, culturally modified trees, and trails identified through the heritage effects assessment.; soften visual effects associated with overhead cables	Not significant (moderate)

(continued)

Table 7.2-1. Summary of Potential Residual Effects on Current Aboriginal Use to be Considered in the Cumulative Effects Assessment (completed)

Residual Effects	Project Phase	Mitigation Measures	Significance
Reduced quality of fishing experience for LDN, NWFN, SFN, StFN, and UFN	C, O, CL, PC	Establish a TK/TLU Committee; establish an access management working group with Aboriginal participation; paint or stain structures to blend with the character of the surrounding environment as needed in visually sensitive areas, mitigate physical remains of cultural sites, archaeological sites, culturally modified trees, and trails identified through the heritage effects assessment.; soften visual effects associated with overhead cables	Not significant (moderate)
Reduced access to gathering sites for UFN	C, O, CL	Establish a TK/TLU Committee; establish an access management working group with Aboriginal participation	Not significant (moderate)
Reduced quality of gathering experience for LDN, NWFN, SFN, StFN, UFN and STN	C, O, CL, PC	Establish a TK/TLU Committee; establish an access management working group with Aboriginal participation; paint or stain structures to blend with the character of the surrounding environment as needed in visually sensitive areas, mitigate physical remains of cultural sites, archaeological sites, culturally modified trees, and trails identified through the heritage effects assessment.; soften visual effects associated with overhead cables	Not significant (moderate)
Reduced quality of experience while using other cultural and traditional land use sites for LDN, NWFN, SFN, StFN, UFN and STN	C, O, CL	Establish a TK/TLU Committee; establish an access management working group with Aboriginal participation; paint or stain structures to blend with the character of the surrounding environment as needed in visually sensitive areas, mitigate physical remains of cultural sites, archaeological sites, culturally modified trees, and trails identified through the heritage effects assessment.; soften visual effects associated with overhead cables	Not significant (minor)

Note: C= Construction, O= Operation, CL= Closure, PC = Post closure

7.2.1 Spatial Boundaries

Spatial boundaries for the CEA comprise the area within which the Current Aboriginal Use VC affected by the Project could also be affected by past, present, or future human actions. It is not necessary for the spatial extent of the Project's effects to physically overlap with that of another human action, only for the Project to affect the spatial extent of the same VC affected by another human action.

The spatial boundary used for the CEA corresponds to the Non-traditional Land Use RSA (Section 7.2-6 of the Application/EIS).

7.2.2 Temporal Boundaries

The temporal boundaries for the identification of physical projects and activities are categorized into past, present and reasonably foreseeable projects and are defined as follows:

- **Past**: no longer operational projects and activities that were implemented in the past 50 years.
- **Present**: active and inactive projects and activities; and
- **Future**: projects and activities that will proceed, and reasonably foreseeable projects and activities that are likely to occur. These projects are restricted to those that have been publicly announced with a defined project execution period and with sufficient project details for assessment; and/or those that are currently undergoing an environmental assessment, and/or those that are in a permitting process.

Table 7.2-2 identifies the projects and activities that are considered in the CEA and overlap with Aboriginal traditional territories.

7.3 POTENTIAL CUMULATIVE EFFECTS

This section considers potential cumulative effects on LDN, NWFN, SFN, StFN, UFN and STN Current Aboriginal Use.

Figures 7.3-1 through 7.3-9 illustrate the locations of these projects and activities in relation to the traditional territories of the NWFN, SFN, StFN LDN, UFN and STN. Map 7.3-7 includes both UFN and LDN traditional territories where they are overlapped by the current use RSA.

7.3.1 Cumulative Residual Effects on Access to Harvesting Areas and Other Current Cultural and Traditional Lands

Projects and associated activities considered in the CEA may contribute cumulatively to delayed or restricted access to hunting and trapping areas and other current cultural and traditional lands for STN and UFN, and to access plant gathering areas for UFN. The potential cumulative effects on access to hunting, trapping and gathering and other cultural and traditional land use areas are summarized in relation to potential past, present and future projects and activities. STN and UFN both identified concerns related to access to harvesting areas as a result of the Project.

As identified in Figure 7.3-7, 7.3-8 and 7.3-9, forestry projects and activities including cutblocks, woodlots, transportation routes and associated traffic, account for the majority of impacts in the region. As a result of pre-existing habitat fragmentation due to logging and road development, for UFN and STN harvesters may need to travel farther distances to access viable harvesting areas or be restricted from accessing harvesting areas. Traffic along these routes may contribute to delays accessing harvesting areas, which could affect seasonal round activities.

There are mineral exploration activities occurring in the northern portion of Fawnie Range and Mount Davidson. Development of access roads to these sites, as well as project-related traffic may result in additional delays or access restrictions for UFN and STN members to access hunting and

trapping areas, and lands used for other cultural and traditional purposes, and for UFN to access plant gathering areas.

Traffic and activities related to existing agricultural tenures in the area may contribute to delayed access to harvesting sites and other cultural and traditional land use areas.

Aboriginal groups have expressed concern regarding opening up the area to non-Aboriginal users. The development of roads by mineral and forestry operations may increase use of the area by recreational users, which may contribute to delays or interrupted access for Aboriginal groups hunting and trapping, gathering or using other cultural and traditional land use sites.

7.3.2 Cumulative Residual Effects to Harvesting Success

7.3.2.1 Cumulative Residual Effects to Hunting and Trapping Success

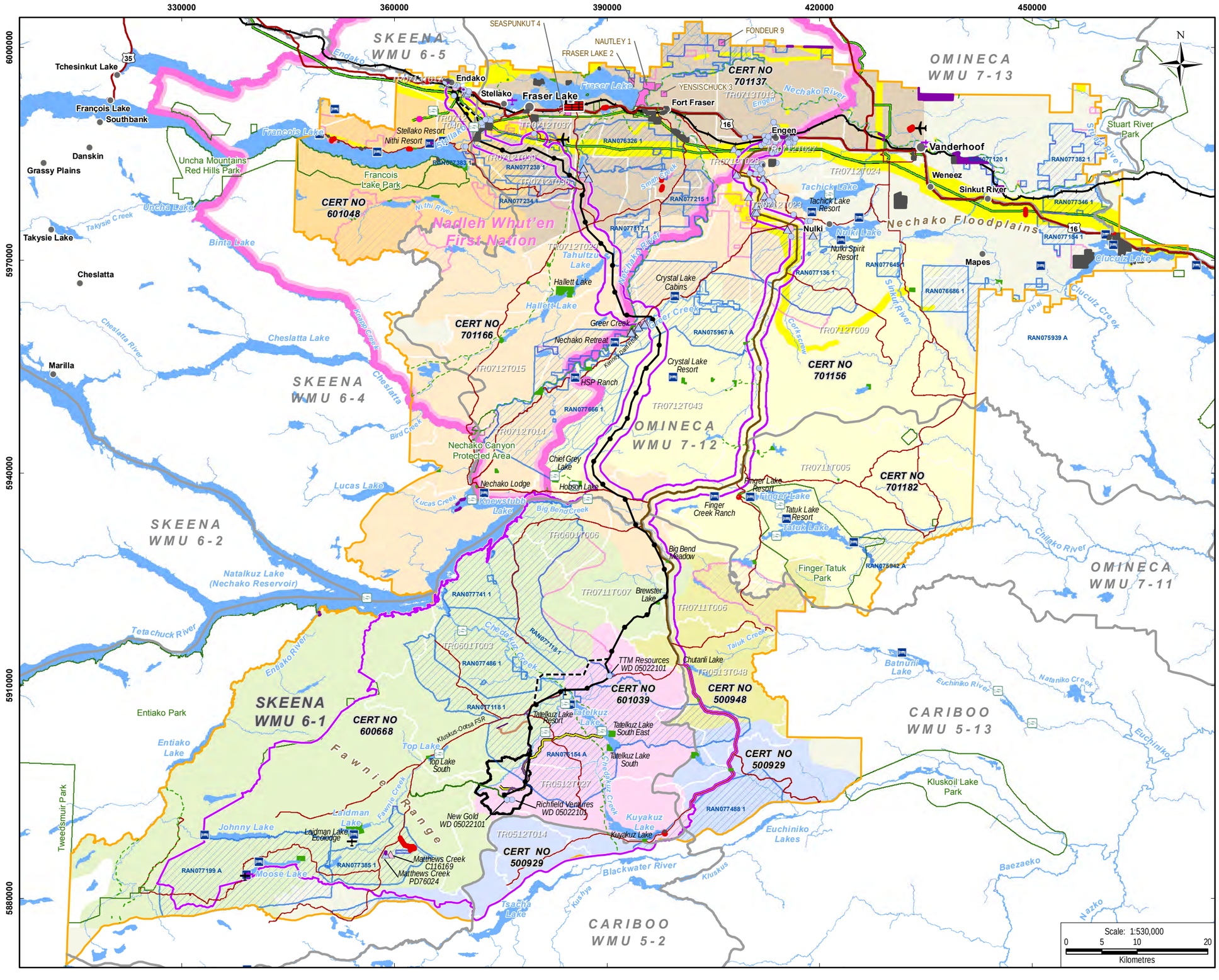
Projects and associated activities considered in the CEA may contribute cumulatively to wildlife habitat loss or alteration or direct mortality. Cumulative effects on birds, grizzly bears, moose, caribou and furbearers are discussed in Sections 5.4.8 to 5.4.13 of the Application/EIS. Cumulative residual for water birds, forest and grassland birds (excluding the Clark's Nutcracker), moose, bear and furbearers were characterized as not significant (minor), and cumulative residual effects for caribou were characterized as not significant (moderate). Consultation with Aboriginal groups identified concern with potential cumulative effects on wildlife. Potential cumulative effects in relation to past, present and potential future projects and activities may impact the availability and abundance of wildlife species. These changes may result in reduced hunting and trapping success for LDN, NWFN, SFN, StFN, UFN and STN.

Forestry-related activities will temporarily alter and degrade plant and wildlife habitat through habitat conversion, erosion and sedimentation, and the introduction of invasive species. The removal of forests surrounding wetland and riparian habitats may cause the degradation of these habitats, resulting in reduced use by wildlife, such as moose and beavers, which are hunted and trapped by Aboriginal people. Forestry-related activities may generate sensory impacts (e.g., noise and vibration, lights from equipment and vehicle) that disturb wildlife in the area, making it harder for Aboriginal hunters and trappers to be successful in areas with active forestry activities. In areas with forestry-related traffic, wildlife mortality from vehicle collisions may reduce the abundance and availability for Aboriginal harvesters. Moose, deer and other animals may avoid roads, cutblocks and cleared areas as there may be limited cover for protection from predators.

Table 7.2-2. Past, Present and Future Projects and Activities in Aboriginal Group Traditional Territories

Aboriginal Group	Potential Overlap (Spatial or Temporal)																	
	Mining and Exploration		Nulki Hills Wind Project		Forestry		Agriculture and Grazing		Transportation and Access Roads (excluding Forestry)		Pipeline Projects		Utilities		Non-traditional Hunting, Trapping and Guide Outfitting		Other Recreation Uses	
	Spatial	Temporal	Spatial	Temporal	Spatial	Temporal	Spatial	Temporal	Spatial	Temporal	Spatial	Temporal	Spatial	Temporal	Spatial	Temporal	Spatial	Temporal
LDN	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NWFN	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SFN	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
StFN	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
UFN	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
STN	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Note: Y= Yes, N= No



Legend

- Populated Place
- Highway
- Forest Service Road (FSR)
- Kluskus FSR
- Railway
- Existing Transmission Line
- Parks

PROJECT COMPONENTS

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

AGRICULTURE

Range Tenures

- Active Range Tenures (Present)
- Retired Range Tenures (Past)

HUNTING

- Wildlife Management Units

Guide Outfitters

- Colonel Anderson
- Lyle Barsby
- John Blackwell
- Daniel Brooks
- David Harrington
- Jim D. Linnell
- Stefan Muelmeyer
- Allen Ray
- Other

Traplines

- 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

Nadleh Whut'en First Nation (NWFN)

- NWFN Territory

Cumulative Effects Study Area

- Non-Traditional Landuse RSA

Current Land and Resource Use for Traditional Purposes

- Expanded RSA

INFRASTRUCTURE

- Airport
- Airstrip
- Waterdome
- Sawmill Biomass Project

Crown Tenure Purpose (ROW)

- Energy Production
- Transportation
- Utility
- Industrial
- Residential

Reference

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

CLIENT: newgold™

PROJECT: Blackwater Gold Project

Cumulative Effects Assessment (Activities) - Nadleh Whut'en First Nation Traditional Territory

DATE:	ANALYST:	**Figure** 7.3-1
July, 2015	WR	
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GIS FILE: 15-200-016_CEAACT_NWFN.mxd		
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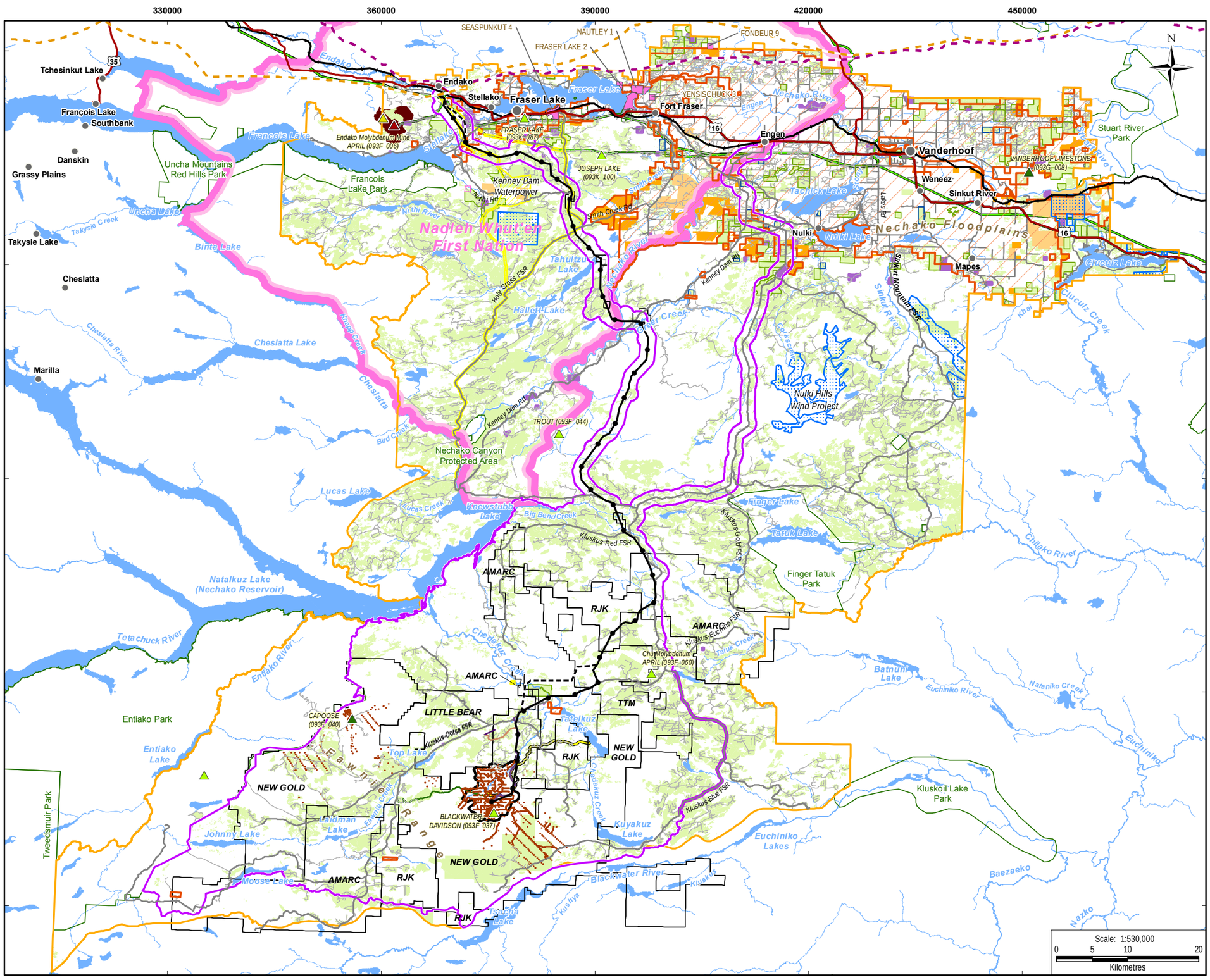

- Populated Place
- Highway
- Railway
- Existing Transmission Line
- Parks

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

AGRICULTURE
- Nechako Valley Agricultural Land Reserve

Crown Tenure Purpose
- Extensive
- Grazing
- Intensive

FORESTRY
- Forest Cutblocks
- Logging Road (ROW)

Woodlot Licenses
- Active (Present)
- Pending (Future)
- Retired (Past)

INFRASTRUCTURE
- Proposed Pacific Gas Looping Project
- Other Road (ROW)
- Proposed Coastal GasLink Pipeline Project
- Windpower
- Waterpower

MINING

Mineral Deposits
- Past Producer
- Producer
- Developed Prospect
- Prospect

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

Mineral Tenures
- Currently prospecting

Nadleh Whut'en First Nation (NWFN)
- NWFN Territory
- NWFN Reserves

Cumulative Effects Study Area
- Non-Traditional Landuse RSA

Current Land and Resource Use for Traditional Purposes
- Expanded RSA

Reference

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

CLIENT: newgold™

PROJECT: Blackwater Gold Project

Cumulative Effects Assessment (Disturbed Areas) - Nadleh Whut'en First Nation Traditional Territory

DATE: July, 2015	ANALYST: WR	**Figure** 7.3-2
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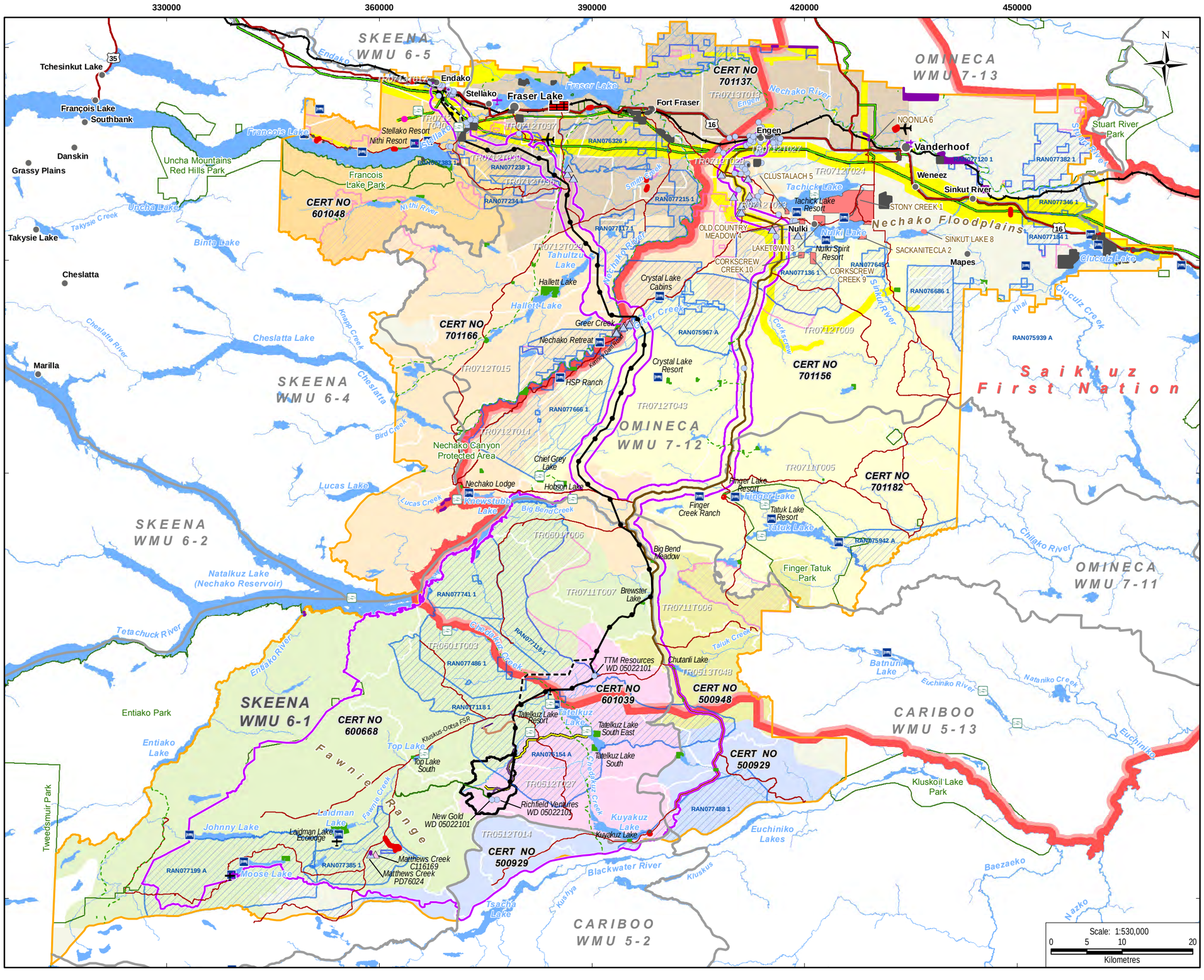

Legend

- Populated Place
- Highway
- Forest Service Road (FSR)
- Kluskus FSR
- Railway
- Existing Transmission Line
- Parks

PROJECT COMPONENTS

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

AGRICULTURE

Range Tenures

- Active Range Tenures (Present)
- Retired Range Tenures (Past)

HUNTING

- Wildlife Management Units

Guide Outfitters

- Colonel Anderson
- Lyle Barsby
- John Blackwell
- Daniel Brooks
- David Harrington
- Jim D. Linnell
- Stefan Muelmeyer
- Allen Ray
- Other

Traplines

- 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

Saik'uz First Nation (SFN)

- SFN Territory
- SFN Reserves

Cumulative Effects Study Area

- Non-Traditional Landuse RSA

Current Land and Resource Use for Traditional Purposes

- Expanded RSA

INFRASTRUCTURE

- Airport
- Airstrip
- Waterdome
- Sawmill Biomass Project

Crown Tenure Purpose (ROW)

- Energy Production
- Transportation
- Utility
- Industrial
- Residential

Reference

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

CLIENT: newgold™

PROJECT: Blackwater Gold Project

Cumulative Effects Assessment (Activities) - Saik'uz First Nation Traditional Territory

DATE: July, 2015	ANALYST: WR	**Figure** 7.3-3
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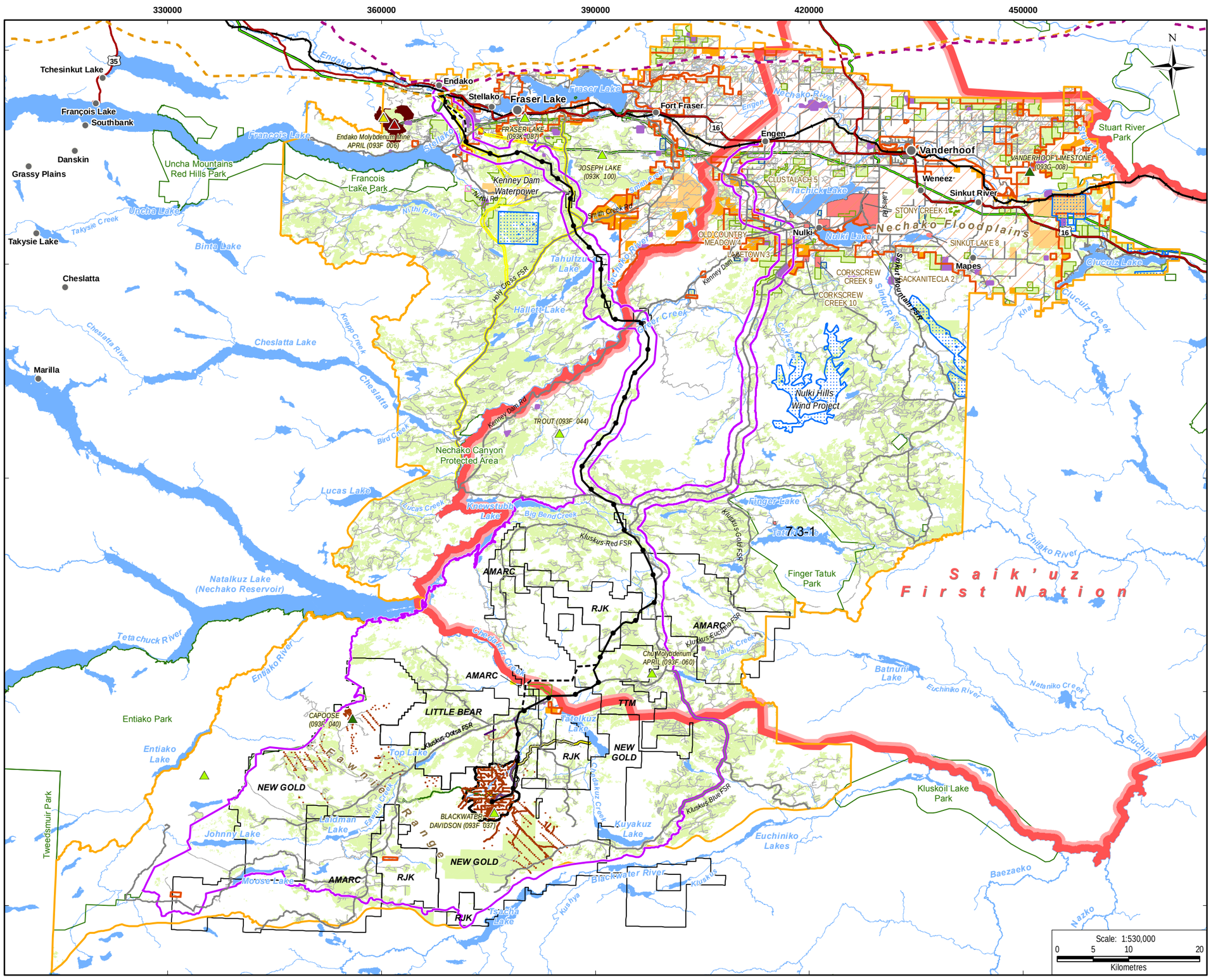

- Populated Place
- Highway
- Railway
- Existing Transmission Line
- Parks

PROJECT COMPONENTS

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

AGRICULTURE

- Nechako Valley Agricultural Land Reserve

Crown Tenure Purpose

- Extensive
- Grazing
- Intensive

FORESTRY

- Forest Cutblocks
- Logging Road (ROW)

Woodlot Licenses

- Active (Present)
- Pending (Future)
- Retired (Past)

INFRASTRUCTURE

- Proposed Pacific Gas Looping Project
- Other Road (ROW)
- Proposed Coastal GasLink Pipeline Project
- Windpower
- Waterpower

MINING

Mineral Deposits

- Past Producer
- Producer
- Developed Prospect
- Prospect

Mining Activities

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

Mineral Tenures

- Currently prospecting

Saik'uz First Nation (SFN)

- Saik'uz First Nation
- SFN Reserves

Cumulative Effects Study Area

- Non-Traditional Landuse RSA

Current Land and Resource Use for Traditional Purposes

- Expanded RSA

Reference

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

CLIENT: newgold™

PROJECT: Blackwater Gold Project

Cumulative Effects Assessment (Disturbed Areas) - Saik'uz First Nation Traditional Territory

DATE: July, 2015	ANALYST: WR	**Figure** 7.3-4
JOB No: VE52420	QA/QC: MY	PDF FILE: 15-200-011_CEAFTP_SFN.pdf
GIS FILE: 15-200-011_CEAFTP_SFN.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	amec

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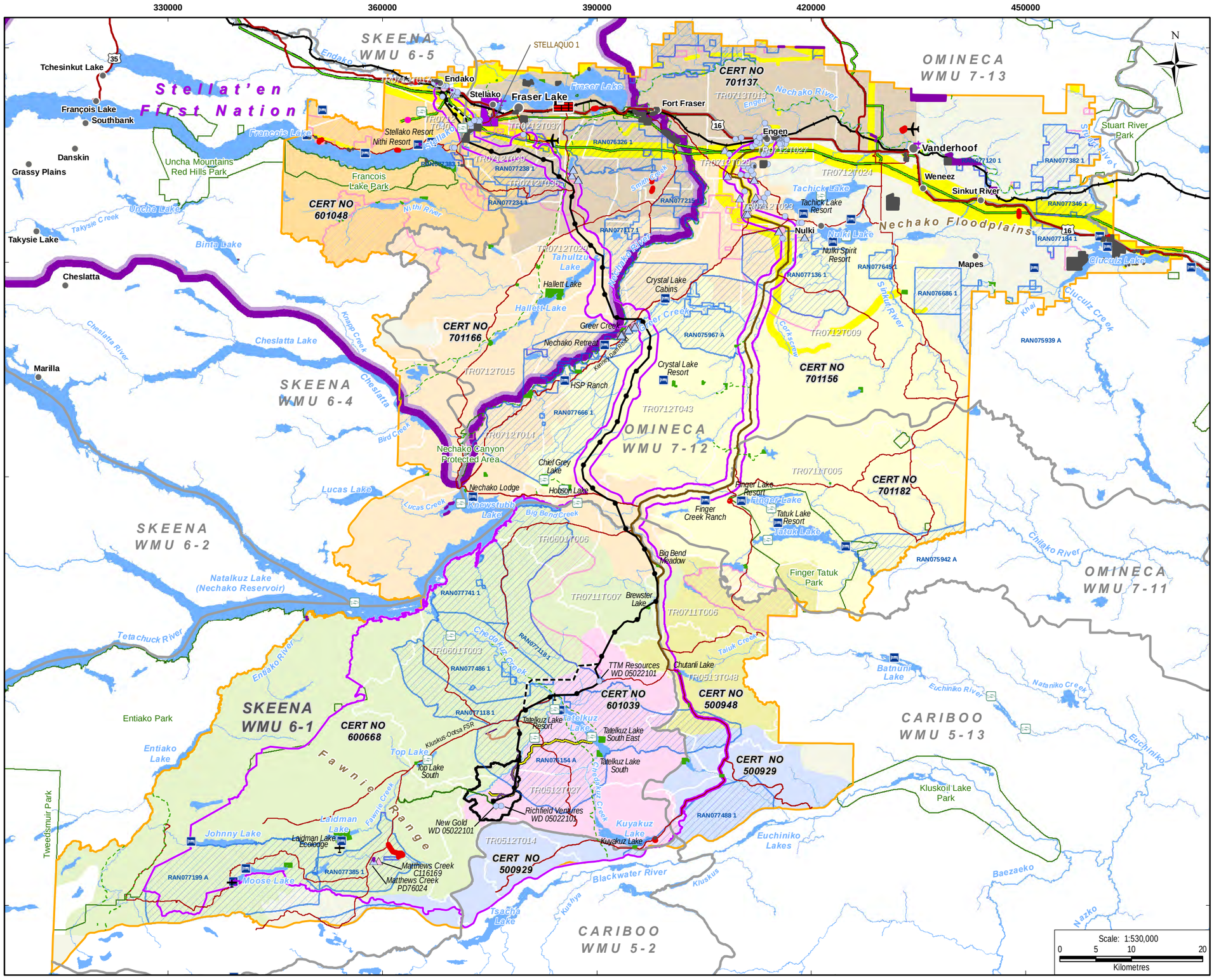

Legend

- Populated Place
- Highway
- Forest Service Road (FSR)
- Kluskus FSR
- Railway
- Existing Transmission Line
- Parks

PROJECT COMPONENTS

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

AGRICULTURE

Range Tenures

- Active Range Tenures (Present)
- Retired Range Tenures (Past)

HUNTING

- Wildlife Management Units

Guide Outfitters

- Colonel Anderson
- Lyle Barsby
- John Blackwell
- Daniel Brooks
- David Harrington
- Jim D. Linnell
- Stefan Muelmeyer
- Allen Ray
- Other

Traplines

- 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

Stellat'en First Nation (StFN)

- StFN Territory
- StFN Reserves

Cumulative Effects Study Area

- Non-Traditional Landuse RSA

Current Land and Resource Use for Traditional Purposes

- Expanded RSA

INFRASTRUCTURE

- Airport
- Airstrip
- Waterdome
- Sawmill Biomass Project

Crown Tenure Purpose (ROW)

- Energy Production
- Transportation
- Utility
- Industrial
- Residential

Reference

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

CLIENT: newgold™

PROJECT: Blackwater Gold Project

Cumulative Effects Assessment (Activities) - Stellat'en First Nation Traditional Territory

DATE:	ANALYST:	**Figure** 7.3-5
July, 2015	WR	
JOB No: VE52420	QA/QC: MY	PDF FILE: 15-200-015_CEAACT_StFN.pdf
GIS FILE: 15-200-015_CEAACT_StFN.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	amec

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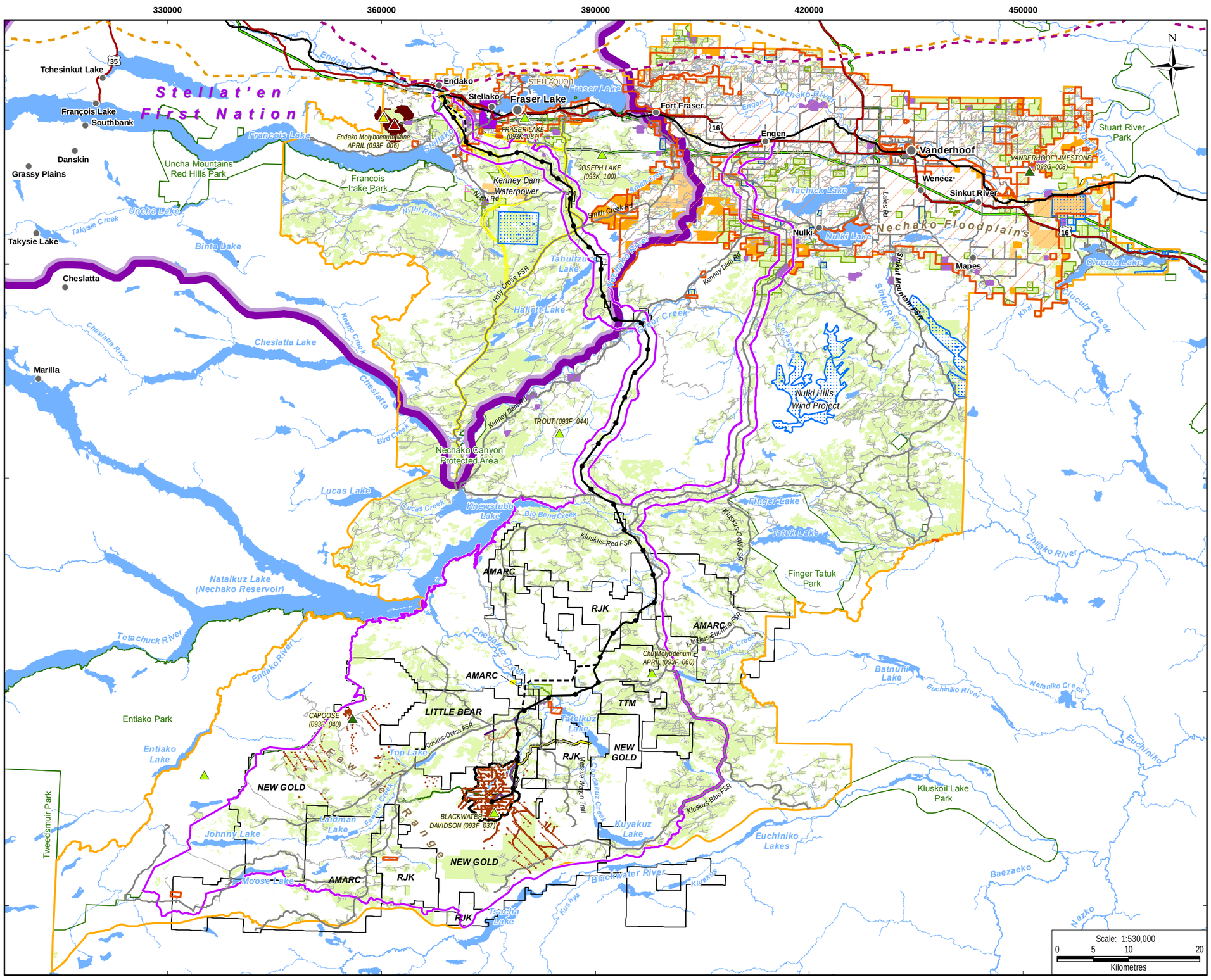

- Populated Place
- Highway
- Railway
- Existing Transmission Line
- Parks

PROJECT COMPONENTS

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

AGRICULTURE

- Nechako Valley Agricultural Land Reserve

Crown Tenure Purpose

- Extensive
- Grazing
- Intensive

FORESTRY

- Forest Cutblocks
- Logging Road (ROW)

Woodlot Licenses

- Active (Present)
- Pending (Future)
- Retired (Past)

INFRASTRUCTURE

- Proposed Pacific Gas Looping Project
- Other Road (ROW)
- Proposed Coastal GasLink Pipeline Project
- Windpower
- Waterpower

MINING

Mineral Deposits

- Past Producer
- Producer
- Developed Prospect
- Prospect

Mining Activities

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

Mineral Tenures

- Currently prospecting

Stellat'en First Nation (StFN)

- StFN Territory
- StFN Reserves

Cumulative Effects Study Area

- Non-Traditional Landuse RSA

Current Land and Resource Use for Traditional Purposes

- Expanded RSA

Reference

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

CLIENT: newgold™

PROJECT: Blackwater Gold Project

Cumulative Effects Assessment (Disturbed Areas) - Stellat'en First Nation Traditional Territory

DATE: July, 2015	ANALYST: WR	**Figure** 7.3-6
JOB No: VE52420	QA/QC: MY	PDF FILE: 15-200-012_CEAFTP_StFN.pdf
GIS FILE: 15-200-012_CEAFTP_StFN.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	amec

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330000 345000 360000 375000 390000 405000

5940000 5925000 5910000 5895000 5880000

Ulkatcho First Nation Traditional Territory

Lhoosk'uz Dene Nation Traditional Territory

Lucas Lake
Lucas Creek
Nechako Lodge
Cutoff Bute 1095m
Knewstubb Lake
Big Bend Creek
Finger Tatuk Park
Big Bend Meadow Recreation Site
Kluskus-Gold FSR
LEON 14
Natalkuz Lake (Nechako Reservoir)
Nechako Range
Brewster Lakes
Brewster Lake Recreation Site
Euchiniko
Erhorn Creek
Chedakuz Creek
Kluskus-Euchino FSR
Kluskus FSR
Tatuk Creek
Mount Swannel 1768m
Capoose Lake
Kluskus-Ootsa FSR
Chutanli Lake Recreation Site
Dykam Ranch
Kluskus-Chedakuz FSR
Entiako Park
Fawnie Nose 1926m
Mills Ranch
TATELKUS LAKE 28
Tatelkuz Lake Ranch Resort
Tatelkuz Mountain 1611m
Kluskus-Blue FSR
Fawnie Dome 1726m
Davidson
Tatelkuz Lake
Tatelkuz Lake SE Recreation Reserve
Van Tine Creek
Top Lake Recreation Site
Fawnie Range
Snake Lake
Kluskus-Messue FSR
Tatelkuz Lake S Recreation Reserve
Suscha Lake
Entiako Lake
Entiako River
Top Lake
Chedakuz Creek
MESSUE WAGON ROAD
Kuyakuz Mountain 1734m
BELLA COOLA TRAIL
Kluskus-Malaput FSR
Cow Lake
Fawnie Creek
Laidman Lake
Johnny Lake
Mount Davidson 1856m
Kuyakuz Lake
Kuyakuz Lake Recreation Site
YALADELASSLA 4
Laidman Lake Ecolodge
Mathews Creek
KUSHYA CREEK 12
KUYAKUZ LAKE RECREATION AREA
KLOYADINGLI 2
Williamson Lake
Mathews Creek
Kluskus-Blue FSR
MESSUE HORSE TRAIL
Euchiniko Lakes
KLUSKUS 1
Moose Lake
Blackwater River
Blackwater-Spruce Ranch
Kluskus
Kluskus
Tsacha Mountain 1781m
ALEXANDER MACKENZIE HERITAGE TRAIL
Kushya
UPPER KLUSKUS LAKE 9
Kluskus Lakes
Bishop Creek
CHIEF MORRIS 13
KUSHYA CREEK 7
Tsacha Lake
Wolf Lake
Naglico Lake
CLUCHUTA LAKE 10A/B
TOM BAPTISTE WAGON TRAIL
SALMON RIVER MEADOW 7
TZETZI LAKE 11
TSACHLA LAKE 8

N

Legend

- Recreation lodge
- Kluskus FSR
- Kluskus-Ootsa FSR
- Kluskus-Blue FSR
- Other FSRs
- Park
- Indian Reserve

Project Components

- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- Mills Ranch Reroute
- Proposed Fresh Water Pipeline
- Proposed Airstrip Access
- Proposed Airstrip
- Proposed Mine Site

Current Land and Resource Use for Traditional Purposes Study Areas

- Regional Study Area
- Local Study Area

Cumulative Effects

Agriculture

- Extensive
- Intensive

Mining Activities

- Current Prospecting
- Quarries

Forest Cutblocks

- Harvesting Inventory (Future)
- Operational Activities (Present)
- Retired Cutblocks (Past)

Logging Roads

- ROW

Recreation

- Recreation Site
- Recreation Trail

Scale:1:280,000

0 2.5 5 10 15

Kilometres

Reference

BC Government GeoBC Data Distribution
Carrier Chilcotin Tribal Council - http://www.carrierchilcotin.org/

CLIENT: newgold™

PROJECT: Blackwater Gold Project

Cumulative Effects in LDN and UFN Traditional Territories within the CLRUTP RSA

DATE:	ANALYST:	Figure 7.3-7
September, 2014	WR	
JOB No: VE52420	QA/QC: BM	PDF FILE: 15-100-035_CE_UFN_LDN.pdf
GIS FILE: 15-100-035_CE_UFN_LDN.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	amec

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Figure 7.3-8
Cumulative Effects (Disturbed Areas) in Skin Tyee First Nation Traditional Territory within the Current Aboriginal Use RSA

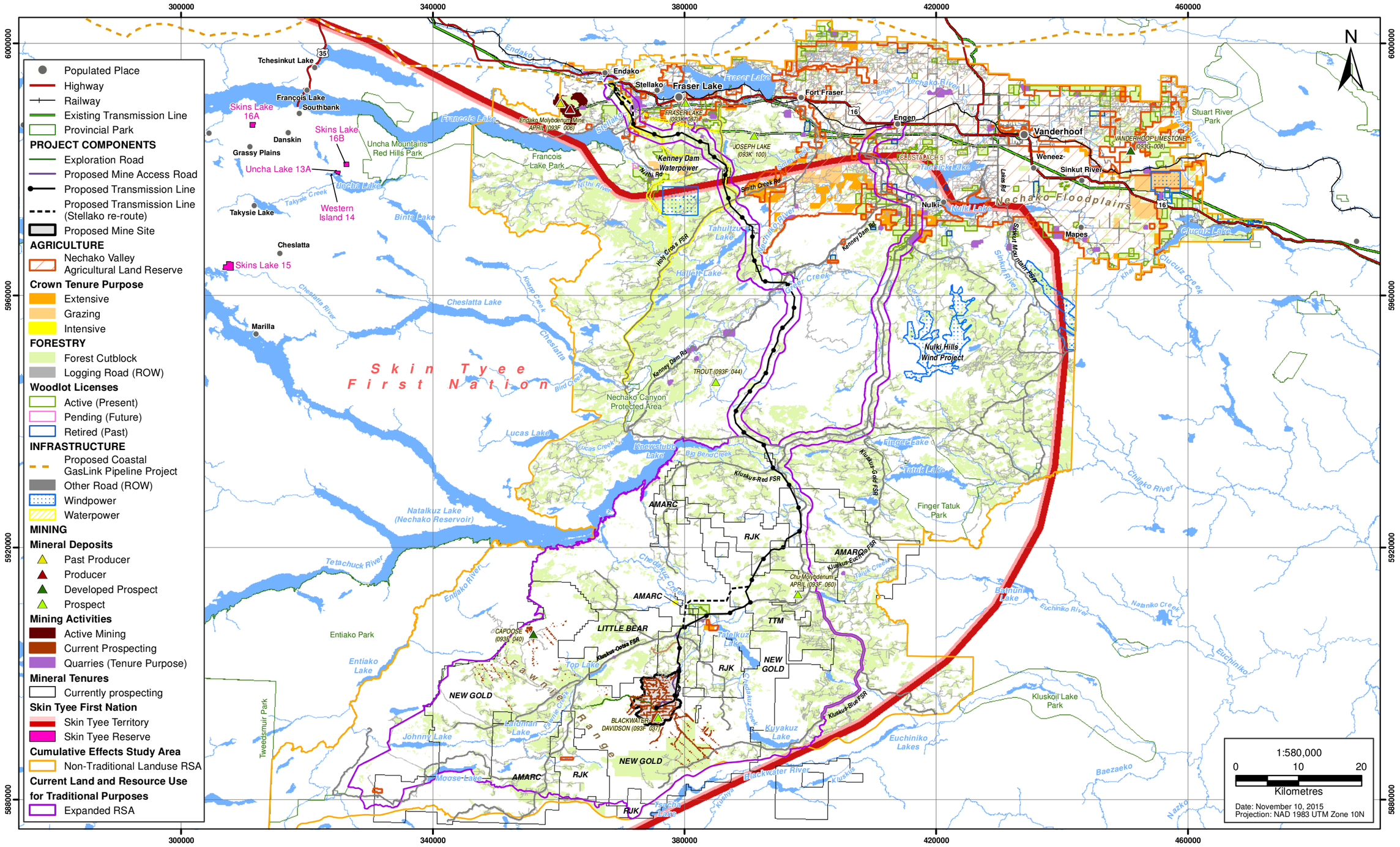
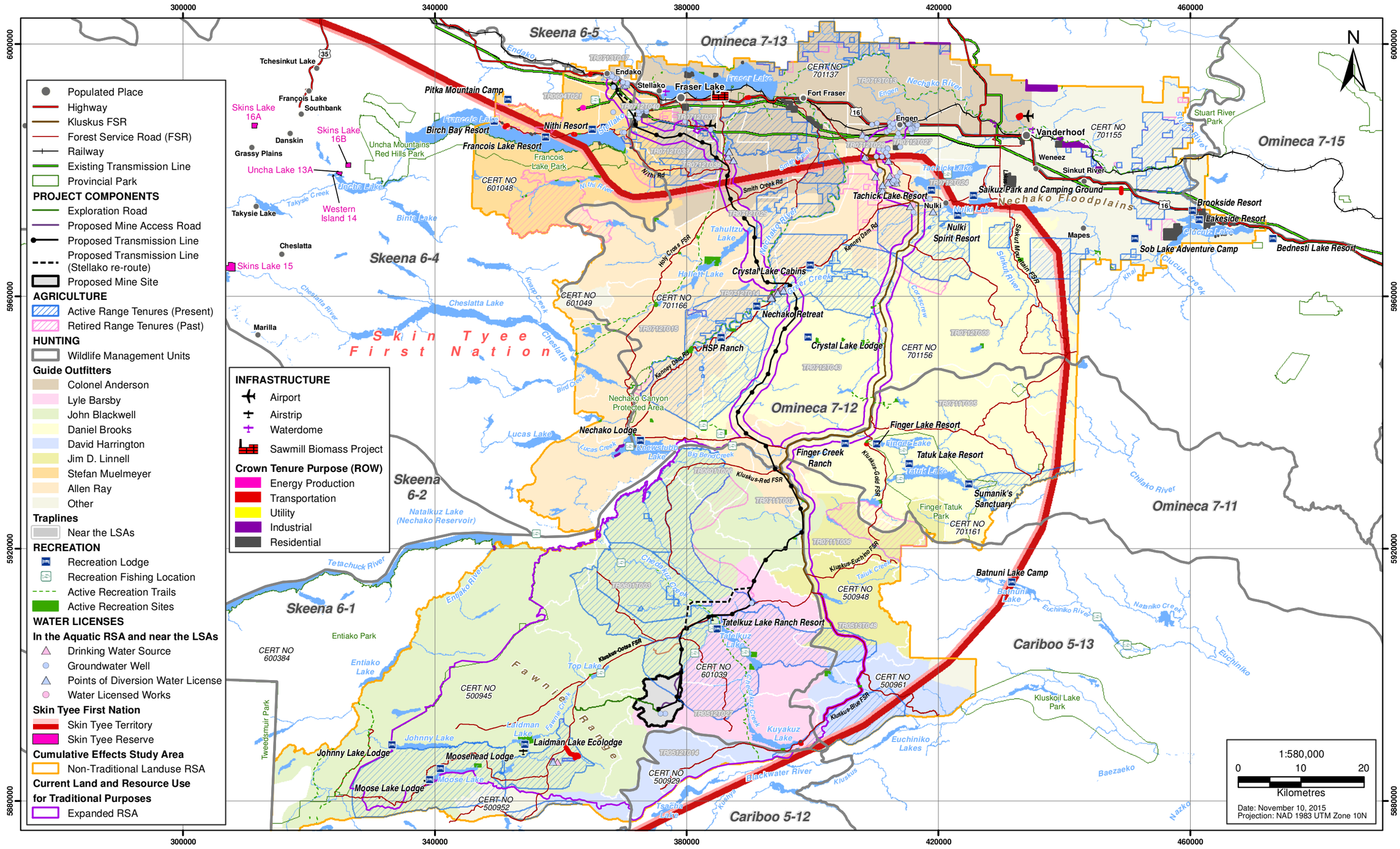


Figure 7.3-9
Cumulative Effects (Activities) in Skin Tyee First Nation Traditional Territory within the Current Aboriginal Use RSA



Agricultural activities will potentially degrade wildlife habitat. Conversion of forest to agricultural crops or cattle pasture either severely degrades or results in the loss of habitat. Cattle grazing can degrade wetland and riparian vegetation, and potentially introduce invasive species. Trampling can compact wetland soils and cause erosion in riparian areas resulting in sedimentation of surface waters. Mechanical harvesting of wetland vegetation can cause rutting and soil displacement. Farms and agricultural lands reduce water quality in wetlands through fertilizer and pesticide use. As a result of the loss or alteration of habitat from agricultural projects and activities, wildlife may no longer use these areas and Aboriginal hunters and trappers may experience reduced success in these areas.

Mineral prospecting can degrade wildlife habitat through accidental discharge of drilling fluids. There may be habitat clearing as a result of project footprints and associated transportation routes. Mineral development projects may result in wildlife mortality, either through increased access to wildlife habitat by recreational users or mortality from vehicle strikes. Active exploration and mining activities also create sensory disturbances, such as noise, vibration and visual impacts that may reduce the number of wildlife species that frequent the areas surrounding these activities. Current and potential future mineral tenures overlap with keyoh and trapline boundaries (i.e., LDN member's trapline TR0512T14), and may result in sensory impacts to wildlife and may therefore reduce success while hunting and trapping in the area. Mineral exploration may increase the number of roads that can be used by predators and hunters, resulting in fewer wildlife species available to Aboriginal hunters and trappers. Traffic along existing and potential new roads may also lead to wildlife mortality as a result of vehicle strikes.

Recreation-related activities, including hunting and trapping, snowmobiling, off-road vehicle use, and camping, may cause disturbance within wildlife habitat, and may degrade these areas. Recreational users may take advantage of new roads developed by forestry and mining projects to access new areas for hunting and trapping, resulting in increased competition for wildlife species for Aboriginal harvesters.

7.3.2.2 Cumulative Residual Effects on Gathering Success

The CEA for ecosystem composition and plant ecosystems considered other projects and activities that may contribute to ecosystem loss, as discussed in Section 5.4.5 and of the Application/EIS. The cumulative residual effect for ecosystem loss was characterized as not significant (minor). The context for assessing undertaking the CEA also considered the impacts of the mountain pine beetle (MPB) infestation which has affected large areas of mature pine forest in the region, and the species that rely on this pine forests. Potential cumulative effects in relation to past, present and potential future projects and activities may impact the availability and abundance of plants harvested by UFN.

Forestry-related activities will potentially alter and degrade plant habitat through habitat clearing, conversion, erosion and sedimentation, and the introduction of invasive species. The removal of forest surrounding wetland and riparian habitats may cause the degradation of these habitats. The use of forestry-related vehicles and equipment contributes to nitrogen deposition on plants, particularly those growing near roads. As a result of these impacts, there may be fewer berry-bearing bushes, plants and trees available for Aboriginal harvesters.

Agricultural activities require conversion of forest to agricultural land or cattle pasture, resulting in reduced plant harvesting areas for Aboriginal people. Cattle grazing can degrade wetland and riparian vegetation. Trampling can compact wetland soils and cause erosion in riparian areas resulting in sedimentation of surface waters, reducing the composition of soil. Farms and agricultural lands reduce water quality through fertilizer and pesticide use, resulting in loss of or reduced quality of wetlands. As a result of these changed ecosystems, there may be fewer plants available for Aboriginal harvesters. Cattle grazing may introduce invasive species which compete with native species that are traditionally harvested by Aboriginal groups.

Mineral prospecting may result in vegetation clearing and can degrade plant habitat through accidental discharge of drilling fluids. The development of access roads for mineral prospecting and mining projects results in clearing and habitat fragmentation. The use of mining-related vehicles and equipment contributes to nitrogen deposition on plants. Mining activities and projects may reduce the availability and/or abundance of plants traditionally harvested by Aboriginal people.

Recreation-related activities, including hunting and trapping, snowmobiling, off-road vehicle use, and camping, may degrade plant habitat. Recreational users traveling on trails may also harvest berries and plants, increasing competition for traditionally harvested plants.

These projects and activities may contribute to cumulative residual effects on plants, resulting in reduced success harvesting for UFN.

7.3.3 Cumulative Residual Effects to the Experience of Using the Land and Resources

Potential cumulative effects in relation to past, present and potential future projects and activities may impact the quality of experience of hunting, trapping, fishing, gathering and other cultural and traditional land uses for LDN, NWFN, SFN, StFN, UFN and STN.

Consultation with Aboriginal groups identified concern that projects may negatively affect prime habitat areas or facilitate access of non-Aboriginal users (e.g., harvesters and recreational users) to the area, which may have an overall effect on their experience using the lands and resources. Aboriginal group members also reported reduced consumption of traditional food as a result of potential contamination concern.

Construction, operation and decommissioning of mining, forestry and agricultural projects may produce sensory disturbances including noise, vibration and visual impacts (e.g. lights from equipment and vehicles). The development of new projects and activities may also introduce impacts to the visual quality of the area (e.g., wind turbines, access roads, and tailings storage facilities). Increased vehicle traffic associated with projects and activities may reduce the quality of experience of Aboriginal group members using of the land as a result of road works, traffic-related delays, as well as noise and light associated with traffic. Therefore, other foreseeable projects and activities, including mining, forestry and the development of pipelines and associated transportation infrastructure, have the potential to act cumulatively with the Project and reduce the quality of experience for Aboriginal groups using their traditional lands.

7.4 MITIGATION

Cumulative effects mitigation requires the input and participation of a range of industry parties (in this case forestry, mining, energy etc.). The Proponent has committed to support and participate in regional and resource management initiatives (e.g., regional initiatives for ungulates).

Where possible, the Proponent has designed the Project to avoid impacts to areas currently used by Aboriginal groups, including the Blackwater River. The Proponent has committed to implement a Wildlife Management Plan for the Project and provides mitigation recommendations for all components and phases of the Project. Other management plans (e.g., Landscape, Soils and Vegetation Management and Restoration, Sediment and Erosion Control) also provide relevant recommendations for project mitigation. The Proponent is committed to following mitigation measures outlined in the management plans to minimize adverse Project effects. Wherever possible, other current and potential future projects and activities in the region should develop a range of mitigation measures.

Suggested mitigation measures for the agricultural industry include following best management practices outlined by BC FLNRO such as establishing cattle exclusion zones to limit grazing to uplands and thereby minimizing erosion and sedimentation, minimizing pesticide and fertilizer use around aquatic resources, establish protected riparian areas prior to clearing, and control invasive species. As soon as possible, replanting with native species and progressive reclamation should occur.

The primary means to mitigate the effects of forestry operations will be by following forest harvest guidelines, including cutblock and road design, to minimize erosion and maximize reforestation, and by implementing invasive plant control measures and monitoring systems. Mitigation measures also include BC FLNRO best management practices, such as maintaining drainage pathways and wetland hydrology by installing appropriately sized culverts for stream and wetland crossings, avoiding harvesting in wetland and riparian areas, installing road signs to alert drivers of speed limits and of wildlife sensitive areas, including wildlife awareness training for drivers during regular safety and environmental meetings, decommissioning roads when they are no longer in use and providing breaks in snow banks along access roads to allow wildlife to escape from predators.

The primary means to mitigate the effects of mining activities will be to minimize the size of the footprint of potential projects. Suggested mitigation measures for mineral exploration and prospecting, which are typical permit conditions under the *Mines Act* (1996b), include pre-planning to avoid important wildlife areas (e.g., wetlands, salt licks), minimizing stream crossings for access roads, avoiding work during critical breeding and rearing seasons for wildlife, limiting the production of excess drilling fluids, avoiding discharges of drilling fluids into aquatic systems, installing road signs to alert drivers of speed limits and of wildlife sensitive areas, including wildlife awareness training for drivers during regular safety and environmental meetings, decommissioning roads when they are no longer in use, providing breaks in snow banks along access roads to allow wildlife to escape and reducing the spread of invasive plants species.

Forestry and mineral exploration companies are also required to implement reclamation and revegetation measures once they complete activities in a specific area.

Several of these mitigation activities are already included in the environmental management plans for the Project (12 of the Application/EIS).

7.5 CHARACTERIZING CUMULATIVE RESIDUAL EFFECTS FOR CURRENT ABORIGINAL USE

Cumulative residual effects are those effects remaining after the implementation of mitigation measures. The residual cumulative effects are characterized using the same criteria described in Section 6 of this memorandum.

A cumulative residual effect is characterized by considering the incremental contribution to the cumulative residual effect under two scenarios:

- **Future case without the Project**: a consideration of residual effects from all other past, existing and future project and activities without the proposed Blackwater Gold Mine Project; and
- **Future case with the Project**: a consideration of residual effects from all other past, existing and future project and activities with the proposed Blackwater Gold Mine Project.

This approach helps predict the relative influence of the Project on the residual cumulative effect for Current Aboriginal Use VC, while also considering the interactions of other projects and activities in causing potential effects.

This section characterizes the cumulative residual effects on Current Aboriginal Use by using the criteria outlined for residual effects, namely: magnitude, geographic extent, duration, frequency, reversibility, and context (as defined in Table 6.1-1). Table 7.5-1 summarizes the characterization of potential cumulative residual effects, with and without the proposed Project.

7.5.1 Potential Cumulative Residual Effects on Access to Hunting and Trapping Areas

In the event that all reasonably foreseeable projects start on time and as designed, and in consideration of all current activities continue in the future, there will be reduced access to hunting and trapping areas for UFN and STN within their traditional territories. The potential incremental contribution of the Project to this effect is anticipated to be negligible, given the relatively contained footprint of the Project at the mine site where impacts to accessing hunting and trapping areas may be felt by UFN and STN harvesters.

In consideration for the number of past, current and future project, the context of the effect is **high.** The magnitude of the potential cumulative residual effect is rated as **moderate** as UFN and STN hunters and trappers will need to use alternate routes to access harvesting areas. As the various project timelines are staggered, the effect is considered to be **continuous** and **permanent**, lasting more than one generation of land users. The effect will be **reversible** as projects and activities end and will occur **regionally**.

The likelihood of a cumulative residual effect on access to hunting and trapping areas for LDN, UFN and STN members is **high** given the presence of proposed and existing projects and activities considered in the CEA.

The potential cumulative residual effect on hunting and trapping success is determined to be **not significant (moderate)** in consideration of the moderate magnitude and reversibility of the effect as projects are closed. The confidence rating is **medium** given the limited information about proposed projects, limited understanding of routes used by Aboriginal people to access hunting and trapping areas.

Given the limited extent of overlap of the Project component and activities with Aboriginal traditional territories, the determination of the cumulative residual effect on UFN and STN hunting and trapping access is characterized the same way with or without the Project (i.e., **not significant (moderate)**).

7.5.2 Potential Cumulative Residual Effects on Access to Other Cultural and Traditional Lands

In the event that all reasonably foreseeable projects start on time and as designed, and in consideration of all current activities continue in the future, there will be reduced access to other cultural and traditional land use sites for UFN and STN within their traditional territories. The potential incremental contribution of the Project to this effect is anticipated to be small, given the relatively small footprint of the Project, particularly at the mine site where UFN and STN have identified campsites, trails and placenames.

In consideration for the number of past, current and future project, the context of the effect is **high.** The magnitude of the potential cumulative residual effect is rated as **moderate** as alternate routes will need to be used to access other cultural and traditional lands. As the various project timelines are staggered, the effect is considered to be **continuous** and **permanent**, lasting more than one generation of land users. The effect will be **reversible** as projects and activities end and will occur **regionally**.

The likelihood of a cumulative residual effect on access to other cultural and traditional land use sites for UFN and STN members is **high** given the presence of proposed and existing projects and activities considered in the CEA.

The potential cumulative residual effect is determined to be **not significant (moderate)** in consideration of the moderate magnitude and reversibility of the effect. The confidence rating is **low** given the limited information about proposed projects and the limited knowledge of locations and routes to access other cultural and traditional lands.

Given the limited extent of overlap of the Project component and activities with Aboriginal traditional territories, the determination of the cumulative residual effect on UFN and STN access to other cultural and traditional lands is characterized the same way with or without the Project (i.e., **not significant (moderate)**).

7.5.3 Potential Cumulative Residual Effects on Access to Gathering Areas

In the event that all reasonably foreseeable projects start on time and as designed, and in consideration of all current activities continue in the future, there will be reduced access to traditional plant harvesting areas for UFN within their traditional territories. The potential incremental contribution of the Project to this effect is anticipated to be small, given the relatively small footprint of the Project and the limited overlap of the Project on UFN harvesting areas.

In consideration for the number of past, current and future project, the context of the effect is **high.** The magnitude of the potential cumulative residual effect is rated as **moderate** as alternate routes will need to be used to access harvesting areas. As the various project timelines are staggered, the effect is considered to be **continuous** and **permanent**, lasting more than one generation of land users. The effect will be **reversible** as projects and activities end and will occur **regionally**.

The likelihood of a cumulative residual effect on access to harvesting areas for UFN members is **low** given the number of harvesting areas available to UFN members throughout the traditional territory.

The potential cumulative residual effect on access to gathering areas is characterized as **not significant (moderate)** in consideration of the moderate magnitude and reversibility of the effect. The confidence rating is **medium** given the limited information about proposed projects.

Given the limited extent of overlap of the Project component and activities with Aboriginal traditional territories, the determination of the cumulative residual effect on UFN harvesting access is characterized the same way with or without the Project (i.e., **not significant (moderate)**).

7.5.4 Potential Cumulative Residual Effects on Hunting and Trapping Success

In the event that all reasonably foreseeable projects start on time and as designed, and in consideration of all current activities continue in the future, there will be increased habitat loss, fragmentation and alteration and increased potential for direct mortality from project-related traffic. These effects will potentially reduce the hunting and trapping success rates of LDN, NWFN, SFN, StFN, UFN and STN within their traditional territories. The potential incremental contribution of the Project to this effect is anticipated to be small, given the relatively small footprint of the Project relative to the size of traditional territories of each Aboriginal group.

The magnitude of the potential cumulative residual effect is rated as **moderate** because reduced hunting and trapping success is anticipated in more than one harvesting area. The effect will be **continuous** as projects and activities may contribute to wildlife habitat impacts, and additionally predators and hunters may continue to use the area as a result of increased access routes. As the various project timelines are staggered, the effect is considered to be **permanent**, lasting more than one generation of land users. The effect will be **reversible** as projects and activities end and will occur **regionally**. In consideration for the number of past, current and future project, the context of the effect is **high.**

The likelihood of a cumulative residual effect on LDN, NWFN, SFN, StFN, UFN and STN hunting and trapping success is **high** given the presence of proposed and existing projects and activities considered in the CEA.

The potential cumulative residual effect on hunting and trapping success is determined to be **not significant (moderate)** in consideration of the moderate magnitude and reversibility of the effect. The confidence rating is **medium** given the limited information about proposed projects and limited information about the success rates of Aboriginal hunters and trappers.

Given the limited extent of overlap of the Project component and activities the cumulative residual effect on LDN, NWFN, SFN, StFN, UFN and STN hunting and trapping success is characterized the same way with or without the Project (i.e., **not significant (moderate)**).

7.5.5 Potential Cumulative Residual Effects on Gathering Success

In the event that all reasonably foreseeable projects start on time and as designed, and in consideration of all current activities continue in the future, there will be loss and alteration of habitats where traditional plant gathering activities occur for UFN within their traditional territories. The potential incremental contribution of the Project to this effect is anticipated to be small, given the relatively small footprint of the Project.

In consideration for the number of past, current and future project, the context of the effect is **high.** The magnitude of the potential cumulative residual effect is rated as **moderate** because reductions in harvesting success may occur in more than one harvesting area. The effect will be **continuous** as industry users, including associated traffic, may contribute to reduced harvesting success. As the various project timelines are staggered, the effect is considered to be **permanent**, lasting more than one generation of land users. The effect will be **reversible** as projects and activities end and will occur **regionally**.

The likelihood of a cumulative residual effect on UFN harvesting success is **moderate** given the presence of proposed and existing projects and activities considered in the CEA.

The potential cumulative residual effect on gathering success for UFN is determined to be **not significant (moderate)** in consideration of the moderate magnitude and reversibility of the effect. The confidence rating is **medium** given the limited information about proposed projects.

Given the limited extent of overlap of the Project component and activities with Aboriginal traditional territories, the determination of the cumulative residual effect on UFN harvesting success is characterized the same way with or without the Project (i.e., **not significant (moderate)**).

7.5.6 Characterization of Potential Residual Effects on Experience of Using the Land and Resources for Aboriginal People

In the event that all reasonably foreseeable projects start on time and as designed, there will be additional disturbance to LDN, NWFN, SFN, StFN, UFN and STN using lands and resources within their traditional territories. Disturbances may include noise from project construction or

decommissioning, noise disturbances associated with project traffic, and there may be additional visual effects relating to proposed project components (e.g., wind turbines from the proposed Nulki Hills Wind Project and proposed pipeline projects). The potential incremental contribution of the Project to this effect is anticipated to be small, given the relatively small footprint and the limited contribution of noise and visual effects (e.g., noise during construction of the transmission line).

In consideration for the number of past, current and future project, the context of the effect is **high.** The magnitude of the potential cumulative residual effect is rated as **low** as it is not anticipated that other projects and activities will introduce noise effects above annoyance thresholds, or that there will be visual disturbances dominating the landscape for Aboriginal people. As the various project timelines are staggered, the effect is considered to be **continuous** and **permanent**, lasting more than one generation of land users. The effect will be **reversible** as projects and activities end and will occur **regionally**.

The likelihood of a cumulative residual effect on experience of using the land and resources is **moderate** given the presence of proposed and existing projects and activities in the current use RSA.

The potential cumulative residual effect is determined to be not significant (**minor**), and confidence rating is **medium** given the limited information about proposed projects and how they may interact with various current Aboriginal land uses.

Given the limited extent of overlap of the transmission line with Aboriginal traditional territories and the one-year construction phase for the transmission line, the determination of the cumulative residual effect on quality of experience for using the land is characterized the same way with or without the Project (i.e., **not significant (minor)**).

7.5.7 Summary of Cumulative Residual Effects

Table 7.5-1 provides a summary of the cumulative residual effects.

Table 7.5-1. Characterization of Residual Cumulative Effects, Significance, Likelihood, and Confidence With and Without the Project

Cumulative Residual Effect	Cumulative Residual Effects Characterization Criteria (*context, magnitude, geographic extent, duration, frequency, reversibility*)	Likelihood	Confidence	Significance of Adverse Cumulative Residual Effects without the Project	Significance of Adverse Cumulative Residual Effects with the Project
Cumulative effects on access to hunting and trapping sites for UFN and STN	Context: High; Magnitude: Moderate; Duration: Permanent; Frequency: Continuous; Extent: Regional; Reversibility: Reversible	Moderate	Medium	Not significant (moderate)	Not significant (moderate)
Cumulative effects on access to other cultural and traditional lands for UFN and STN	Context: High; Magnitude: Moderate; Duration: Permanent; Frequency: Continuous; Extent: Regional; Reversibility: Reversible	Low	Medium	Not significant (moderate)	Not significant (moderate)
Cumulative residual effect on access to gathering areas UFN	Context: High; Magnitude: Moderate; Duration: Permanent; Frequency: Continuous; Extent: Regional; Reversibility: Reversible	Low	Medium	Not significant (moderate)	Not significant (moderate)
Cumulative effects on hunting and trapping success for LDN, NWFN, SFN, StFN, UFN and STN.	Context: High; Magnitude: Moderate; Duration: Permanent; Frequency: Continuous; Extent: Regional; Reversibility: Reversible	Moderate	Medium	Not significant (moderate)	Not significant (moderate)
Cumulative effects on UFN gathering success.	Context: High; Magnitude: Moderate; Duration: Permanent; Frequency: Continuous; Extent: Regional; Reversibility: Reversible	Moderate	Medium	Not significant (moderate)	Not significant (moderate)
Cumulative effect to the experience of using land and resources by LDN, NWFN, SFN, StFN, UFN and STN	Context: High; Magnitude: Low; Duration: Permanent; Frequency: Continuous; Extent: Regional; Reversibility: Reversible	Moderate	Medium	Not significant (minor)	Not significant (minor)

8. EFFECTS ASSESSMENT CONCLUSIONS FOR CURRENT ABORIGINAL USE

The results of the Project effects assessment and CEA for Current Aboriginal Use are summarized in Table 8.1-1.

Table 8.1-1. Summary of Project and Cumulative Residual Effects, Mitigation, and Significance for Current Aboriginal Use

Residual Effects	Project Phase(s)	Mitigation Measures	Significance of Residual Effects	
			Project	Cumulative
Reduced access to hunting and trapping sites for UFN and STN	C, O, CL	Establish access management working group with Aboriginal participation; post and enforce speed limits; use existing roads; communicate with trappers and guide outfitters; facilitate access to the mine site area by designated Aboriginal groups for cultural purposes, provided access can be accommodated; transportation and operation of on- and off-road vehicles conducted in a safe and responsible manner	Not significant (moderate)	Not significant (moderate)
Reduced access to other cultural and traditional land use sites for UFN and STN	C, O, CL	Establish access management working group with Aboriginal participation; post and enforce speed limits; use existing roads; communicate with trappers and guide outfitters; facilitate access to the mine site area by designated Aboriginal groups for cultural purposes, provided access can be accommodated; transportation and operation of on- and off-road vehicles conducted in a safe and responsible manner	Not significant (moderate)	Not significant (moderate)
Reduced access to gathering areas for UFN	C, O, CL	Establish access management working group with Aboriginal participation; post and enforce speed limits; use existing roads; communicate with trappers and guide outfitters; facilitate access to the mine site area by designated Aboriginal groups for cultural purposes, provided access can be accommodated; transportation and operation of on- and off-road vehicles conducted in a safe and responsible manner	Not significant (moderate)	Not significant (moderate)

(continued)

Table 8.1-1. Summary of Project and Cumulative Residual Effects, Mitigation, and Significance for Current Aboriginal Use (completed)

Residual Effects	Project Phase(s)	Mitigation Measures	Significance of Residual Effects	
			Project	Cumulative
Reduced wildlife harvesting success for LDN, NWFN, SFN, StFN, UFN and STN	C, O, CL	Participate in regional wildlife and resource management initiatives; follow wildlife "least risk windows"; enforce speed limits and manage transportation; implement Environmental Management Plans (EMPs) for wildlife management, visual resources and traffic management (Section 12 of the Application/EIS)	Not significant (moderate)	Not significant (moderate)
Reduced gathering success for UFN	C, O, CL	Participate in regional wildlife and resource management initiatives; implement Environmental Management Plans (EMPs) for soils, vegetation/ecosystem management (Section 12 of the Application/EIS)	Not significant (moderate)	Not significant (moderate)
Reduced quality of experience using the lands and resources for hunting and trapping, fishing, plant gathering and use of cultural and traditional lands for LDN, NWFN, SFN, StFN, UFN and STN	C, O, CL, PC	Establish a TK/TLU Committee; establish an access management working group with Aboriginal participation; paint or stain structures to blend with the character of the surrounding environment as needed in visually sensitive areas, mitigate physical remains of cultural sites, archaeological sites, culturally modified trees, and trails identified through the heritage effects assessment; soften visual effects associated with overhead cables	Not significant (minor to moderate)	Not significant (moderate)

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