

25. Assessment of Potential Effects to Current Use of Lands and Resources for Traditional Purposes

25.1 INTRODUCTION

This chapter assesses the potential effects of the Brucejack Gold Mine Project (the Project) during the Construction, Operation, Closure, and Post-closure phases on the current use of lands and resources for traditional purposes by Aboriginal groups, hereafter referred to as “Current Aboriginal Use.”

The British Columbia Environmental Assessment Office (BC EAO) Section 11 Order issued for the Project directs the Proponent to consult with Skii km Lax Ha, Nisga’a Nation, and Tahltan Nation about the Project. In addition to these Aboriginal groups, the Canadian Environmental Assessment Agency (CEA Agency) requires the Proponent to consult with Métis.

The assessment of effects on Current Aboriginal Use is informed by the assessment of potential effects of Valued Components (VCs) related to fish and fish habitat, surface water quality, wildlife, terrestrial ecosystems, heritage, navigation and human health.

25.2 REGULATORY AND POLICY CONTEXT

In addition to provincial land and resource management plans (see below), Pretium used the BC EAO (2013a) guidance document, *Guide to Involving Proponents when Consulting First Nations in the Environmental Assessment Process* to inform the preparation and completion of the Application.

25.2.1 Provincial Land and Resource Management Plans

Two provincial land and resource management plans partially overlap Project components—the Cassiar-Iskut Stikine Land and Resource Management Plan (CIS LRMP) and the Nass South Sustainable Resource Management Plan (SRMP; BC MFLNRO 2000, 2012). Both plans were developed with input from Aboriginal groups: the Tahltan Nation for the CIS LRMP, and Nisga’a Lisims Government and Gitanyow Nation for the Nass South SRMP. Both plans provide broad direction on the management of resources of interest to Aboriginal groups and provide for the continued use of lands and resources by Aboriginal groups in the plan areas.

25.2.1.1 Cassiar Iskut Stikine Land and Resource Management Plan

The CIS LRMP was completed in October 2000 and developed by 25 stakeholder, Aboriginal, and provincial government representatives. It covers the management of Crown lands and resources for the Stikine and Unuk River watersheds in Canada. The Tahltan were represented on the Technical Support Team and the Plan table (BC MFLNRO 2000).

The CIS LRMP area encompasses 5.2 million hectares (ha) in northwestern BC (BC MFLNRO 2000). Three categories of management direction are included in the plan: general management direction (GMD), area-specific management, and protected area management. The GMD provides for management of resource activities on Crown land outside of protected areas. GMDs relevant to Current Aboriginal Use include:

- **Access Management** – the goal of the GMD is to manage access to respect ecological and cultural heritage values of the area while providing for a full range of user needs. Objectives include conserving archaeological resources and heritage trails, and minimizing impacts on First

Nations' traditional use sites. Strategies to comply with these objectives include consulting with First Nations before introducing access restrictions that may affect traditional hunting or fishing activities.

- **Botanical Forest Products and Medicinal Plants** – the goal of the GMD is a sustainable supply of botanical forest products (mushrooms, berries, and medicinal plants). Objectives include maintaining opportunities for sustainable harvesting of pine mushrooms and other mushroom species, maintaining accessible berry producing areas, and maintaining opportunities for the sustainable harvesting of medicinal plants.
- **Cultural Heritage Resources** – the goal of this GMD is to recognize and respect the heritage and cultural values of archaeological sites and First Nations' traditional use sites in planning and management of resource development activities. Objectives include minimizing impacts on First Nations' traditional use sites, and conserving certain heritage trails.
- **Hunting, Trapping, Guide Outfitting, and Fishing** – the goal of the GMD is to maintain viable fish, game, and furbearer populations that continue to support the sustenance, cultural, economic, and recreational needs of First Nations and local residents. Objectives include maintaining opportunities for First Nations subsistence and traditional use hunting and fishing.

25.2.1.2 Nass South Sustainable Resource Management Plan

The Nass South SRMP was completed in June 2012 and developed by the British Columbia Ministry of Forests, Lands and Natural Resource Operations (BC MFLNRO) in partnership with Nisga'a Lisims Government (NLG) and the Gitanyow Nation, as well as stakeholders, to address sustainable management of land, water, and resources in the southern portion of the Nass Timber Supply Area (TSA; BC MFLNRO 2012).

The plan provides management direction on a number of resource values. GMDs relevant to Current Aboriginal Use in the SRMP include:

- **Biodiversity** – one of the goals of this GMD is to preserve Gitanyow and Nisga'a traditional use sites and maintain opportunities for traditional uses of the land.
- **Pine Mushrooms** – the goal of this GMD is to maintain pine mushroom resources and provide opportunities for a sustainable harvest.
- **Cultural Heritage Resources¹** – the goal of this GMD is to recognize and respect Gitanyow and Nisga'a traditional areas, values, and activities so that they may exercise their Aboriginal rights on the landscape. Objectives include preserving cultural sites² and cultural heritage resources; addressing Gitanyow and Nisga'a interests in access to cultural sites; identifying and minimizing impacts to culturally modified trees (CMTs); and maintaining a sustainable source of cedar for Gitanyow traditional, cultural, and subsistence use.

25.2.2 Canadian Environmental Assessment Act, 2012

Section 5(1)(c) of the *Canadian Environmental Assessment Act, 2012* (2012) requires that: “for the purposes of this Act, the environmental effects that are to be taken into account in relation to an act

¹ Defined in the SRMP as “An object, a site or a location of a traditional societal practice that is of historical, cultural or archaeological significance to the province, a community, or an aboriginal people. Cultural heritage resources include archaeological sites, structural features, heritage landscape features, and traditional use sites.”

² Cultural sites, as defined in the SRMP, include but are not limited to culturally modified trees (CMTs), trails, cache pits, house pits, grave sites, fishing sites, pictograph sites, smoke houses, cabins, camping sites, and archaeological sites. Cultural areas include hunting, fishing, and berry-picking areas.

or thing, a physical activity, a designated project or a project are ... (c) with respect to Aboriginal peoples, an effect occurring in Canada of any change that may be caused by the environment on... (iii) the current use of lands and resources for traditional purposes.” This chapter is intended to address the requirement under CEAA 2012 5(1)(c)(iii).

25.2.3 Nisga’a Final Agreement

Nisga’a is a signatory to the NFA (NLG, Province of BC, and Government of Canada 2000), a treaty and land claims agreement within the meaning of Sections 25 and 35 of the *Constitution Act* (1982). Nisga’a signed the NFA in 1998. The NFA was given effect by British Columbia in 1999 under the *BC Nisga’a Final Agreement Act* (1999), and by Canada in 2000 under the federal *Nisga’a Final Agreement Act* (2000). The NFA grants Nisga’a a number of rights including rights over land and resources in the Nass Area. Under the NFA, Nisga’a owns approximately 1,992 km² of Nisga’a Lands in fee simple, has wildlife harvesting rights in the Nass Wildlife Area (16,101 km²), migratory bird harvesting rights in the Nass Area (28,838 km²), and has rights to harvest fish and aquatic plants (NLG, Province of BC, and Government of Canada 1998).

Chapter 8 of the NFA provides Nisga’a citizens’ rights to harvest fish and aquatic plants subject to measures that are necessary for conservation and legislation enacted for the purposes of public health and safety. Nisga’a fish allocation is set out as a percentage of the total allowable catch and includes specific allocations for Nass salmon and steelhead as well as oolichan and intertidal bivalves. Chapter 8 also identifies Nisga’a fish entitlements of non-salmon species and aquatic plants as well as fisheries management and Nisga’a rights to participate in the general commercial fishery.

Chapter 9 of the NFA addresses Nisga’a citizens’ right to harvest wildlife and migratory birds in the Nass Wildlife Area and Nass Area, respectively, subject to measures that are necessary for conservation and legislation enacted for the purposes of public health and safety. Pursuant to Chapter 9 of the NFA, Nisga’a wildlife allocation is set out as a percentage of the total allowable harvest consistent with the priorities for the recreational and commercial harvest of the total allowable harvest of designated species; designated species identified in the NFA are moose, grizzly bear and mountain goat. Chapter 9 also identifies responsibilities regarding trapping and guiding as well as the management and trade (barter and the sale) of marine wildlife.

Under the NFA, moose, mountain goat, and grizzly bear are designated species for which there are specific Nisga’a allocations. Hunting and trapping of non-designated species continues in accordance with traditional practices and as set out in the Nisga’a Fisheries and Wildlife Act and associated regulations (NLG n.d.-c). To address recent moose population declines, NLG and BC have reduced moose harvest allocations in the Nass Wildlife Area (NWA) for both Nisga’a citizens and resident/non-resident hunters. NLG has also introduced a five-year moose conservation plan to help the population rebuild itself and mitigate for the impacts of over-harvesting and resource development on moose (NLG 2008).

25.3 BASELINE CHARACTERIZATION

25.3.1 Regional Overview

On the Coast Mountain landscape that characterizes northwestern British Columbia (BC), Aboriginal peoples have developed similar cultural and social adaptations throughout history, including patterns of community organization and land and resource use practices. Within northwest BC, Aboriginal people traditionally followed a seasonal round, harvesting resources as they were available at different times of the year. Ethnographers have identified common seasonal cycles, hunting methods, and ceremonies among the Tsetsaut, Tsimshian, and Tahltan ethnolinguistic groups, from which the Aboriginal groups in

the area descend. Seasonal rounds were significant events as they brought people together in the summer to catch and process salmon and in the fall and winter to hunt moose, caribou, and other ungulates (McLellan and Denniston 1981; Halpin and Seguin 1990).

Hunting, trapping, fishing, gathering plant foods, and pursuing other traditional activities are central to the economies of Aboriginal groups inhabiting the northwest region surrounding the Project. The most significant species hunted in the region in the pre-contact period was “groundhog”, or hoary marmot, which was plentiful; the furs were used for ceremonial regalia (Halpin and Seguin 1990). Other species hunted included caribou (prior to their disappearance from the area), mountain goat, and more recently, moose. Beaver was trapped along creeks and lake edges. Hunting and trapping was done using snares, deadfalls, spears, or bows-and-arrows. Fish were harvested along the Nass, Skeena, and Stikine rivers and their major tributaries using nets, spears, gaffs, and weirs. Groups congregated at productive salmon fishing spots during the summer months, many of these also being permanent winter villages. Plant-derived foods and medicines were used extensively by Aboriginal groups, with a reliance on a number of plants including a variety of berries, edible tubers and bulbs, and cambium from trees such as pine and hemlock. The bark and wood of trees, particularly red cedar, was used to create baskets and other implements, canoes, and housing structures.

25.3.2 Baseline Study Methodology

25.3.2.1 Information Sources and Methods

Baseline information was collected from primary and secondary sources between April 2012 and May 2014. An ethnographic literature review was undertaken to describe cultural and land use trends within the region ([Appendix 25-A](#)). A Traditional Knowledge and Traditional Use (TK/TU) Study ([Appendix 25-B](#)) was prepared to identify Skii km Lax Ha land and resource use in the Project area and a desk top study was undertaken to identify Métis land and resource use in northwest BC ([Appendix 25-C](#)).

Secondary sources included:

- publically-available internet and print materials prepared by Aboriginal Affairs and Northern Development Canada (AANDC 2014), and the Ministry of Aboriginal Relations and Reconciliation (MARR n.d.);
- publically-available internet and print materials prepared by Aboriginal groups and organizations (e.g., Gitanyow Hereditary Chiefs 2007, 2009; THREAT 2009; TCC 2010; GFA 2012; Gitanyow Nation and BC 2012; TCC 2012; Gitanyow Hereditary Chiefs n.d.; Gitxsan Chiefs Office n.d.; NLG n.d.-b, n.d.-a, n.d.-c; School District 87 n.d.);
- the *Nisga’a Final Agreement* (NFA; NLG, Province of BC, and Government of Canada 2000) and related treaty documents (e.g., NLG, Province of BC, and Government of Canada 1998; NLG 2002; NLG, Province of BC, and Government of Canada 2004; NLG 2008, 2009);
- ethnohistorical and anthropological literature (e.g., F. Boas 1895; Franz Boas 1895; Boas 1896, 1897; Teit 1906, 1909; Barbeau 1910-1969; Teit 1914, 1915; Boas 1916; Teit 1919, 1920, 1921; Boas and Goddard 1924; Barbeau 1929; Barbeau and Beynon 1950a, 1950b; Teit 1956);
- local histories of the Stewart/Portland Canal area (Hutchings 1976; McLeod and McNeil 2004); and
- other recent environmental assessment (EA) Applications such as the KSM mine project (Rescan 2013b); the Northwest Transmission Line (NTL) Project (BC EAO 2010); and the Kitsault mine project (Avanti 2012).

Bibliographies of all sources reviewed for the Brucejack Gold Mine Project are presented at the end of [Appendices 25-A](#), [25-B](#), and [25-C](#).

25.3.2.2 Study Areas

The baseline Local Study Area (LSA) for the Skii km Lax Ha TK/TU study corresponds with the wildlife and terrestrial ecology LSA, including the Project footprint. The Regional Study Area corresponds with the Skii km Lax Ha traditional territory.

25.3.3 Resource Use by Aboriginal Group

Tables 25.3-1 to 25.3-3 lists fish, wildlife and plant resources harvested by Skii km Lax Ha, Nisga'a, Tahltan, and Métis. The lists were developed based on TK/TU studies undertaken by the Proponent, the NFA, other EA Applications, and publically available reports. The tables are not intended to be an exhaustive list.

Table 25.3-1. Fish Resources Harvested by Skii km Lax Ha, Nisga'a, Tahltan, and Métis

Species	Skii km Lax Ha	Nisga'a Nation	Tahltan Nation	Métis
Pacific salmon	✓	✓	✓	Unknown
Steelhead trout	✓	✓	✓	Unknown
Trout (other)	✓	✓	✓	Unknown
Dolly Varden	✓	✓		Unknown
Char				Unknown
Whitefish				Unknown
Grayling			✓	Unknown
Oolichan	✓	✓		Unknown

Note: This table is not an exhaustive list and it is not intended to represent the importance placed on fish resources harvested by the Aboriginal groups discussed in this chapter.

Table 25.3-2. Wildlife Species Harvested by Skii km Lax Ha, Nisga'a, Tahltan, and Métis

Species	Skii km Lax Ha	Nisga'a Nation	Tahltan Nation	Métis
Moose	✓	✓	✓	✓
Caribou	✓	✓	✓	
Deer		✓		✓
Mountain Goat	✓	✓	✓	
Mountain Sheep			✓	
Bison			✓	
Grizzly Bear	✓	✓	✓	✓
Black Bear	✓	✓	✓	✓
Hoary Marmot	✓	✓	✓	
Porcupine	✓	✓	✓	
Ground Squirrel			✓	
Grouse (species available)	✓	✓	✓	
Ducks (species available)	✓	✓	✓	
Geese (species available)	✓	✓	✓	
Ptarmigan (species available)	✓	✓	✓	
Hare/rabbit	✓	✓	✓	
Beaver	✓	✓	✓	

(continued)

Table 25.3-2. Wildlife Species Harvested by Skii km Lax Ha, Nisga’a, Tahltan, and Métis (completed)

Species	Skii km Lax Ha	Nisga’a Nation	Tahltan Nation	Métis
Wolf	✓	✓		
Eagle	✓	✓		
Otter		✓		
Mink		✓		
Weasel		✓		
Coyote		✓		
Marten	✓	✓	✓	
Wolverine	✓		✓	
Fisher	✓		✓	
Lynx			✓	
Fox			✓	
Muskrat	✓		✓	

Note: This table should not be construed as an exhaustive list and it is not intended to capture the importance placed on wildlife resources harvested by the Aboriginal groups discussed in this chapter.

Table 25.3-3. Plant Species Harvested by Skii km Lax Ha, Nisga’a Nation, Tahltan, and Métis

Species	Skii km Lax Ha	Nisga’a Nation	Tahltan Nation	Métis
Wild Ginger	✓			Unknown
Devil’s Club	✓	✓		Unknown
Soapberries	✓	✓	✓	Unknown
Pine Mushroom	✓	✓	✓	Unknown
Salmonberries	✓	✓		Unknown
Wild crabapple		✓		Unknown
Highbush Cranberry	✓	✓	✓	Unknown
Swamp (low bush?) cranberry	✓	✓	✓	Unknown
Thornberry (?)		✓		Unknown
Blueberry	✓	✓	✓	Unknown
Strawberry		✓	✓	Unknown
Raspberry		✓	✓	Unknown
Chokecherry		✓		Unknown
Huckleberry	✓	✓		Unknown
Bilberry		✓		Unknown
Thimbleberry		✓		Unknown
Saskatoon berry		✓	✓	Unknown
Gooseberry		✓		Unknown
Squash berry (<i>Viburnum edule?</i>)		✓		Unknown
Rose (hips)		✓		Unknown
Bearberry (kinnikinnick)		✓		Unknown
Wild onion		✓		Unknown
“Indian Rice” (Northern Rice Root, Chocolate Lily)		✓		Unknown

(continued)

Table 25.3-3. Plant and Tree Species Harvested by Skii km Lax Ha, Nisga'a, Tahltan, and Métis (completed)

Species	Skii km Lax Ha	Nisga'a Nation	Tahltan Nation	Métis
Hazelnuts		✓		Unknown
Labrador Tea		✓	✓	Unknown
Cow Parsnip		✓		Unknown
Skunk Cabbage		✓		Unknown
Water Lily		✓	✓	Unknown
Wild Celery		✓		Unknown
Wild Rhubarb			✓	Unknown
Cedar (red or yellow)	✓	✓		Unknown
Spruce	✓		✓	Unknown
Alpine Fir			✓	Unknown
Yew	✓			Unknown
Red willow		✓		Unknown
Maple		✓		Unknown
Birch		✓		Unknown
Hemlock (cambium)		✓	✓	Unknown
Mountain Ash			✓	Unknown
Pine (cambium)		✓	✓	Unknown
Juniper			✓	Unknown
Moss (var.)		✓		Unknown
Stinging Nettle		✓	✓	Unknown
Lamb's quarter			✓	Unknown
Mountain sorrel			✓	Unknown
Dandelion			✓	Unknown
"Caribou leaves" (<i>Artemisia telesii</i>)			✓	Unknown
Yarrow			✓	Unknown

Note: This table should not be construed as an exhaustive list and it is not intended to capture the importance placed on plant resources harvested by the Aboriginal groups discussed in this chapter.

25.3.4 Skii km Lax Ha Current Use of Lands and Resources

25.3.4.1 Background

Figure 25.3-1 identifies the location of the Project in relation to the traditional territory claimed by Skii km Lax Ha. A description of the traditional territory is provided in Chapter 26, Section 26.2.1. Current land and resource use baseline information summarized in this section is based on information provided through consultations with Skii km Lax Ha, the ethnographic literature review ([Appendix 25-A](#)) and the Skii km Lax Ha TK/TU report ([Appendix 25-B](#)). Figures 4.3-1b and 4.3-1c in [Appendix 25-B](#) identify fishing, hunting and plant gathering areas as well as trails, burial/spiritual sites, and cabins within the Skii km Lax Ha traditional territory.

Current Fishing

Figure 25.3-2 maps the fishing areas and fishing sites identified by Skii km Lax Ha in relation project components and activities. Skii km Lax Ha reported they harvest all Pacific salmon species, steelhead and other trout species, Dolly Varden and oolichan. Fishing areas include Todedada Lake, located 150 m west of the Brucejack Access Road, the confluence of Wildfire Creek and the Bell-Irving River

(near the Bell-Irving River bridge on the access road) and Gilbert Lake. Skii km Lax Ha did not comment on the level of use of these areas. These areas are fished for rainbow trout and/or steelhead. Based on the information in the TK/TU study, Skii km Lax Ha have not provided any evidence to date indicating they traditionally or currently fish in Brucejack Lake or the mine site area.

Current Hunting and Trapping

Figure 25.3-3 maps hunting and trapping areas identified by the Skii km Lax Ha in relation to project components and activities. Moose is the preferred species for meat, and it is consumed two or three times per week throughout the year. Skii km Lax Ha indicated hunting generally follows a circular route starting at Bowser Lake. The route then follows the north side of Mount Anderson, Scott Creek and Treaty Creek valleys, and back to the Bell-Irving River at Awijjii (the Skowill Creek / Oweegee Creek confluence, approximately 11 km from the access road and Highway 37). Moose, grizzly bear, and mountain goat are typically hunted along this route. The access road passes through this hunting route.

Other historical hunting areas identified by Skii km Lax Ha include the Salmon and Bear River valleys for mountain goat and groundhog. These areas were used by as Skii km Lax Ha travelled between Stewart and Bowser Lake. The proposed Brucejack Transmission Line entirely overlaps the Skii km Lax Ha historical hunting area in the Salmon River valley.

Skii km Lax Ha indicated they hunt ducks, Canadian geese, ptarmigan and grouse ([Appendix 21-A, Country Foods Baseline Assessment](#)) but no harvest areas were identified in their traditional territory.

Approximately 123 ha of the access road footprint overlaps Skii km Lax Ha trapline (TR 0616 T011) which covers a total of 211,649 ha (Figure 25.3-3). This overlap represents about 0.06% of the total area of the trapline. Skii km Lax Ha advise they have not used the trapline since 2009 due to their involvement with power and mineral exploration projects.

Current Gathering

Figure 25.3-4 maps Skii km Lax Ha gathering areas in relation to project components and activities. Skii km Lax Ha harvest berries (huckleberries, blueberries, cranberries, and soapberries), mushrooms, and medicinal plants such as Devil's club, within the Bell-Irving and Ningunsaw valleys, and around Bowser Lake (Rescan 2009). Other plant harvest areas include the east side of the Bell-Irving River north of Mehan Lake, Bell Creek (or Spruce Creek), Oweegee Creek, and Oweegee Lake. The area near Graveyard Point is also utilized for berry picking. The upper Bowser River, before it runs into Bowser Lake, is a productive cranberry-picking area. The access road passes through this gathering area.

Habitations, Trails, Burial Sites and Cultural Landscapes³

Figure 25.3-5 maps Skii km Lax Ha trails, cabins and cabin sites in relation to project components and activities. Skii km Lax Ha reported they currently use cabins located at Skowill Creek, Bell Creek (or Spruce Creek), and the outlet of Bowser Lake. None of these cabins overlap with project components.

³ "Habitations" include working cabins, unused cabins, cabin remnants, and camp sites. "Trails" include the worn path line created by foot travel, as well as trail markers such as cairns and trail blazes on trees. "Burial sites" include cemeteries or lone graves, as well as grave markers. "Cultural Landscapes" include places that have been identified by Aboriginal groups that may or may not have evidence of cultural modification. This includes spirit questing sites, Transformer sites, puberty ritual sites, culturally modified trees (CMTs), important landscape features referred to in oral histories, or landscape features tied to a particular historic event.

Figure 25.3-1
Skii km Lax Ha Traditional Territory,
Brucejack Gold Mine Project

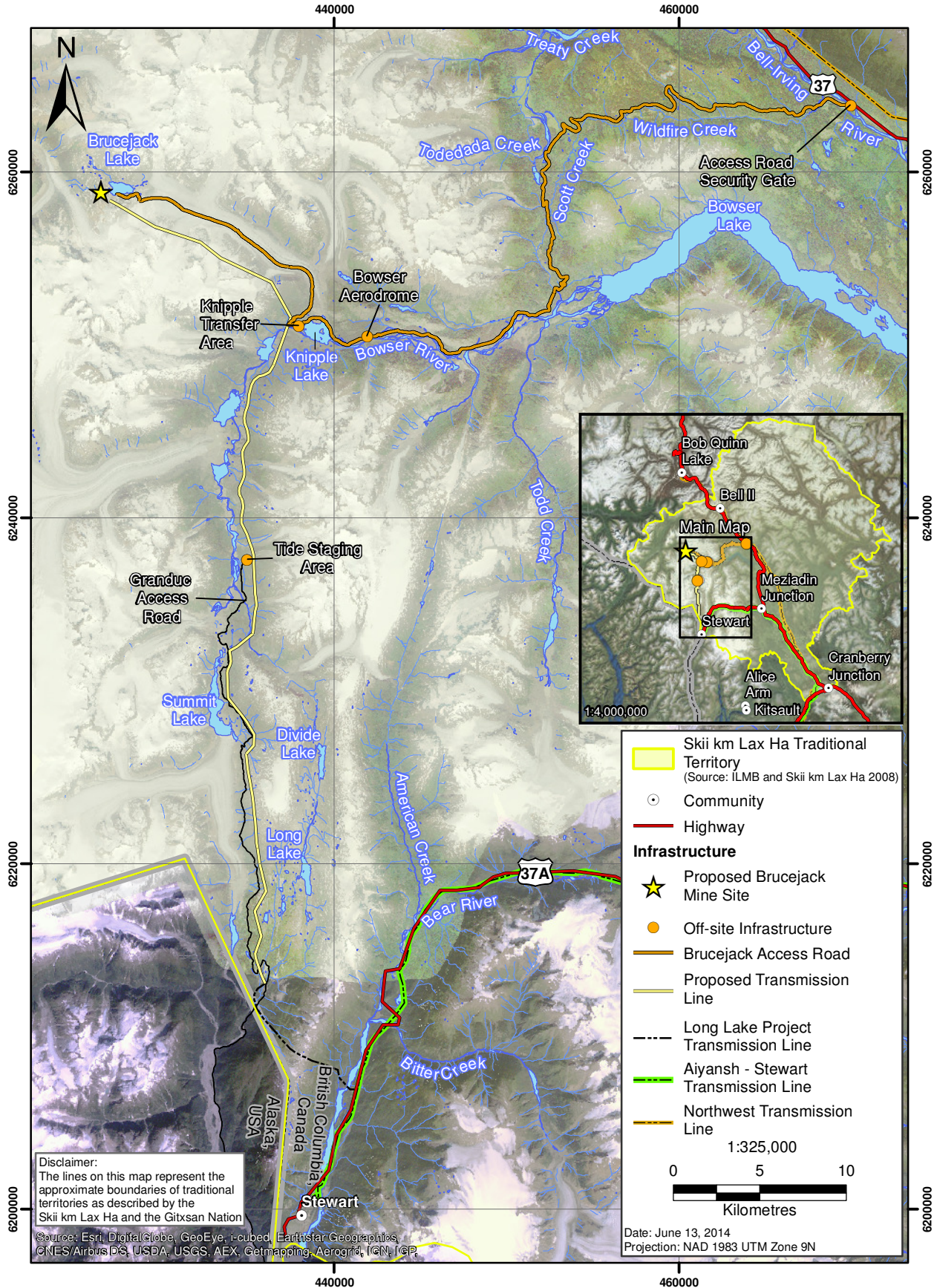


Figure 25.3-2

Skii km Lax Ha Fishing Places in Relation to Project Components and Activities

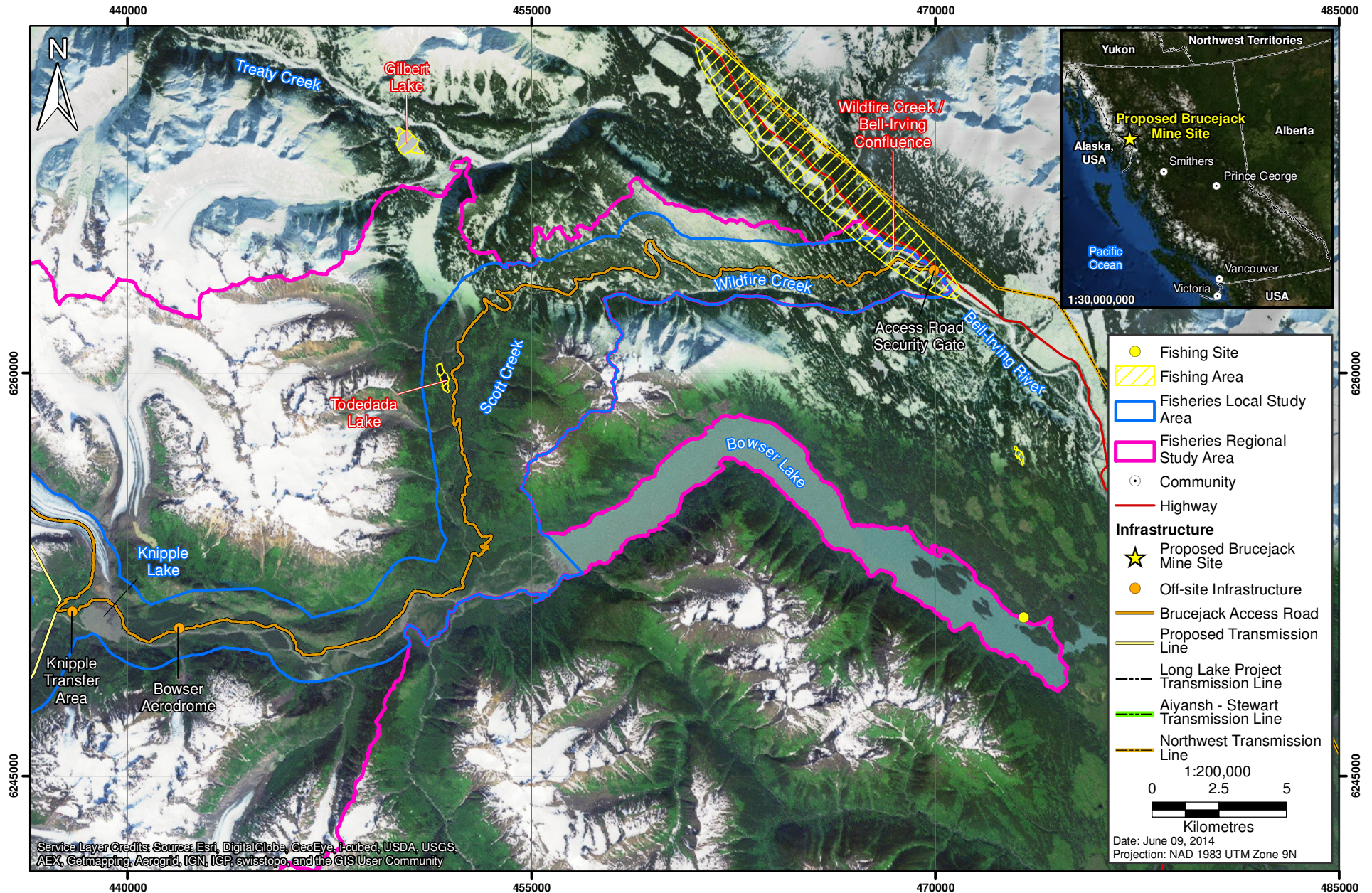


Figure 25.3-3

Skii km Lax Ha Hunting and Trapping Areas in Relation to Project Components and Activities

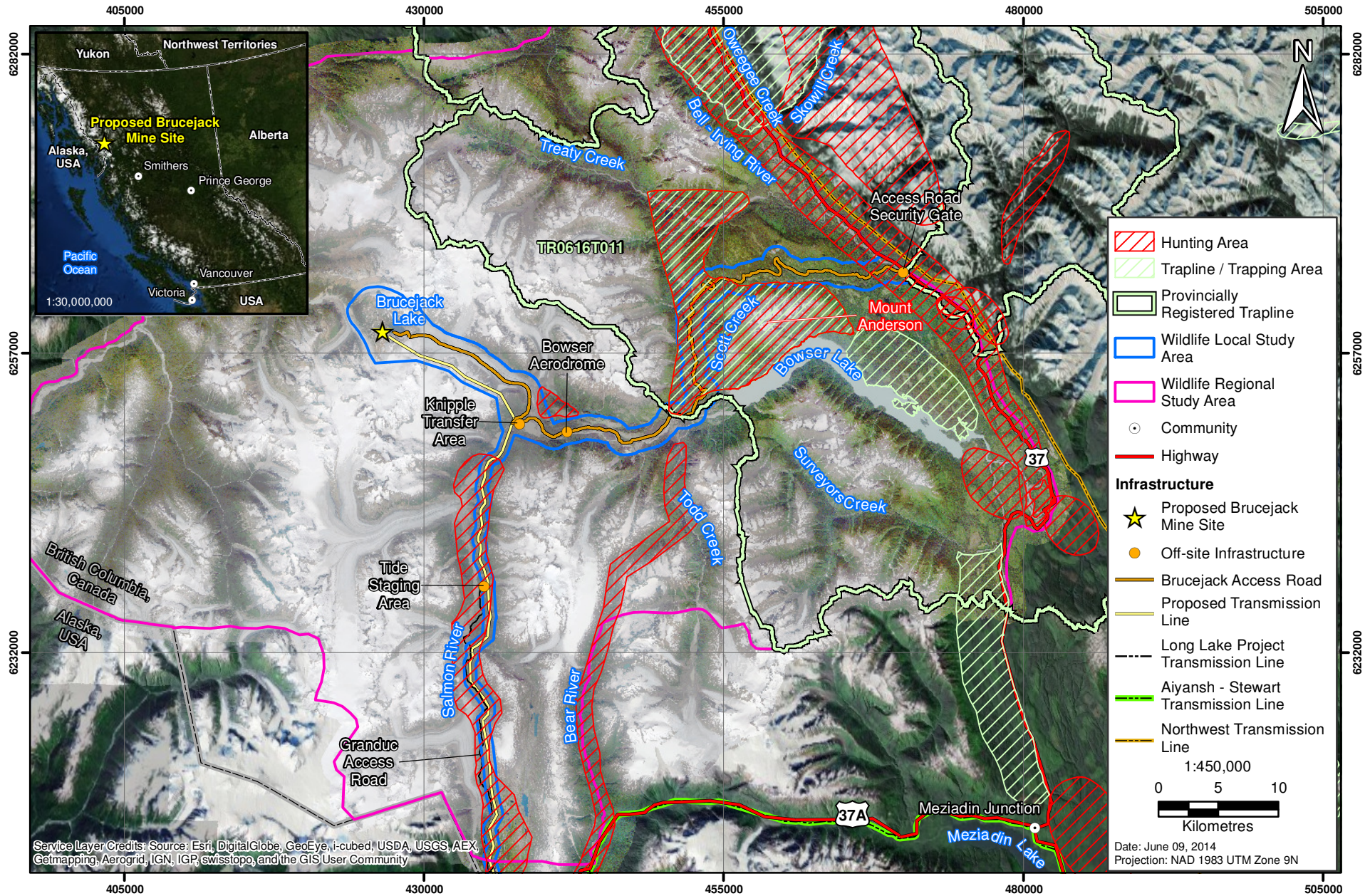


Figure 25.3-4

Ski km Lax Ha Plant Gathering Sites and Areas in Relation to Project Components and Activities

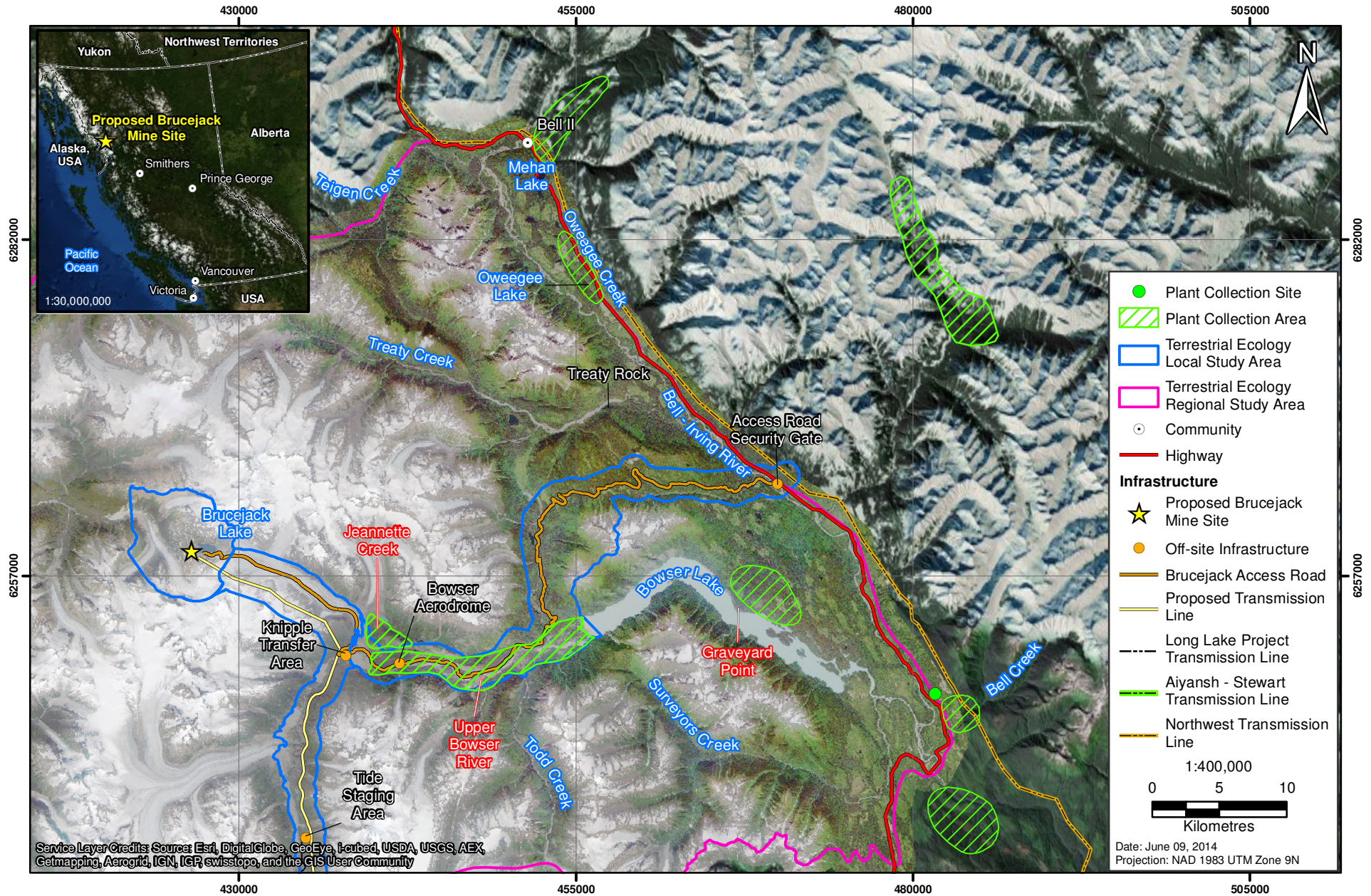
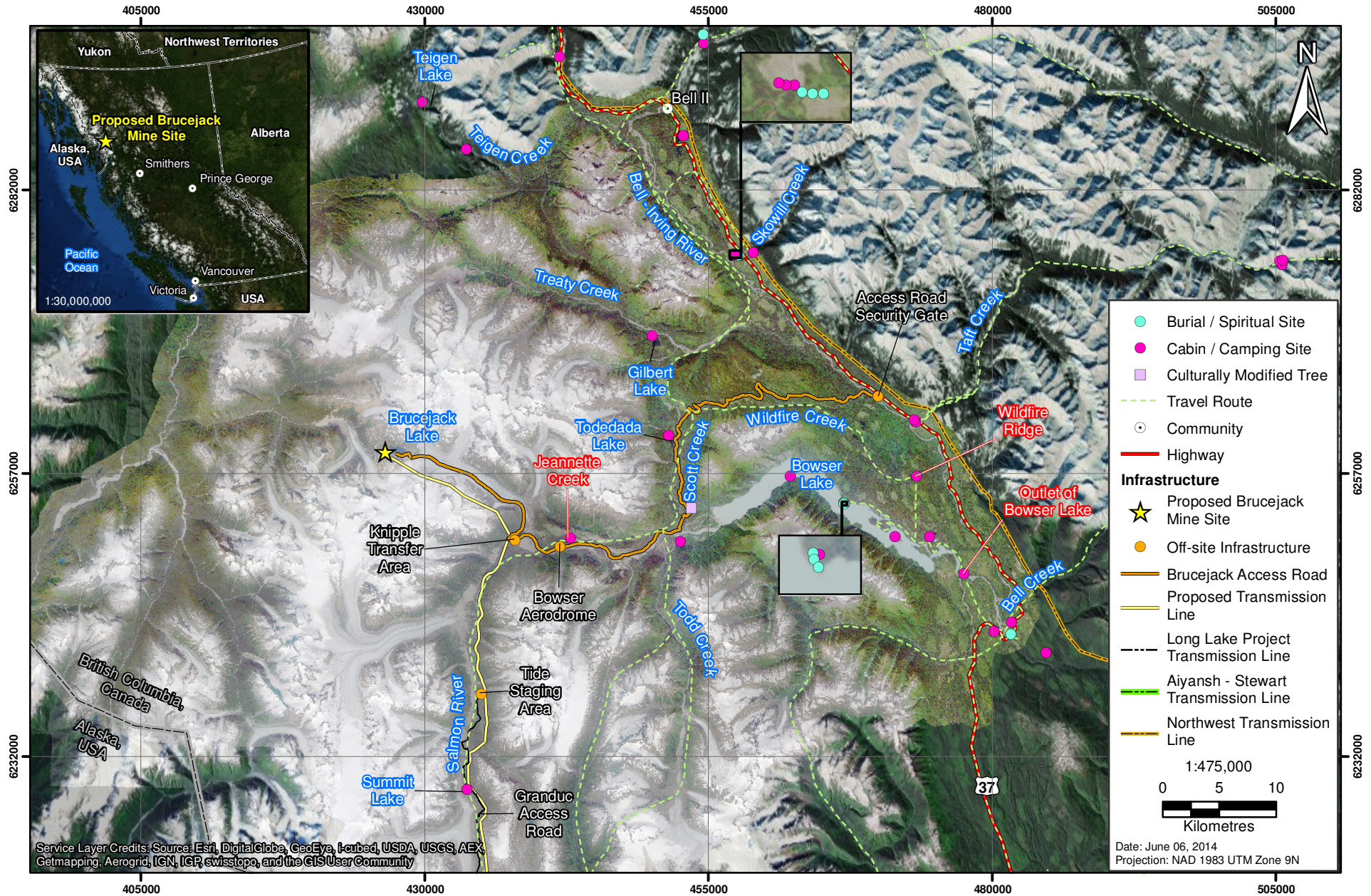


Figure 25.3-5

Skii km Lax Ha Habitations, Trails, Burial Sites and Cultural Landscapes in Relation to Project Components and Activities



Skii km Lax Ha historically had three cabins in the area between the north side of Mount Anderson and the Treaty Creek headwaters. These cabins were located at Gilbert Lake, and Todedada Lake and the confluence of Treaty and North Treaty Creek (Figure 25.3-5).

Historical cabin sites (not currently used by Skii km Lax Ha) include: Summit Lake along the Salmon River (adjacent to the Brucejack Transmission Line corridor); Jeannette Creek (near the Bowser Aedrome); and the confluence of Todd Creek and the upper Bowser River (Figure 25.3-5).

There are also historic cabins located along the Bell-Irving River near Wildfire Ridge, Hidden Lake, Teigen Lake and Taft Creek (Figure 25.3-5). These cabins were used during harvesting trips and served as stopping points while travelling from one area to another.

Skii km Lax Ha have identified trails and travel corridors along the Salmon River valley (portions of which are now most likely covered by the Granduc Access Road, along Wildfire Creek and Wildfire Ridge, and along Scott Creek overland to Treaty Creek (Figure 25.3-5). The latter two trails are most likely either adjacent to or covered by the Brucejack Access Road. The location of these trails have not been ground-truthed to confirm their location.

Skii km Lax Ha would occasionally use canoes (and later boats) in the summer along lakes and larger rivers (particularly Bowser Lake, Bowser River, and the lower portion of the Bell-Irving River / Nass River confluence) to hunt bear and moose that foraged near the banks. Boats were used when water levels were high after the Spring freshet. At other times of the year, river travel was limited due to low water levels. The upper Bell-Irving River was never navigated because it was too braided and marshy. Skii km Lax Ha would use wooden rafts to cross the upper Bell-Irving River where it was shallow, particularly when crossing the river from the mouth of Treaty Creek to Oweegee Creek, or vice versa, during harvesting excursions. Crossing locations changed annually with river movements, although they were generally in the same area where the river was braided and shallow with gravel and sand bars (Rescan 2009). No navigable waters utilized by Skii km Lax Ha for water travel overlap with any Project components and activities.

Skii km Lax Ha advise they have burial sites at Graveyard Point (designated heritage site, Borden number HcTj-1) on Bowser Lake, Bell I (designated heritage site, Borden number HbTh-1), and Awijjii (designated heritage site, Borden numbers HdTk-1 and HdTk-2) (Figure 25.3-4). Skii km Lax Ha advise these burial sites contain Skii km Lax Ha ancestors, such as Simon Gunanoot, Johnson Nagun, Peter Morrison, and their children ([Appendix 25-B](#), Skii km Lax Ha Traditional Knowledge/Traditional Use Report).

25.3.5 Nisga'a Nation Current Use of Lands and Resources

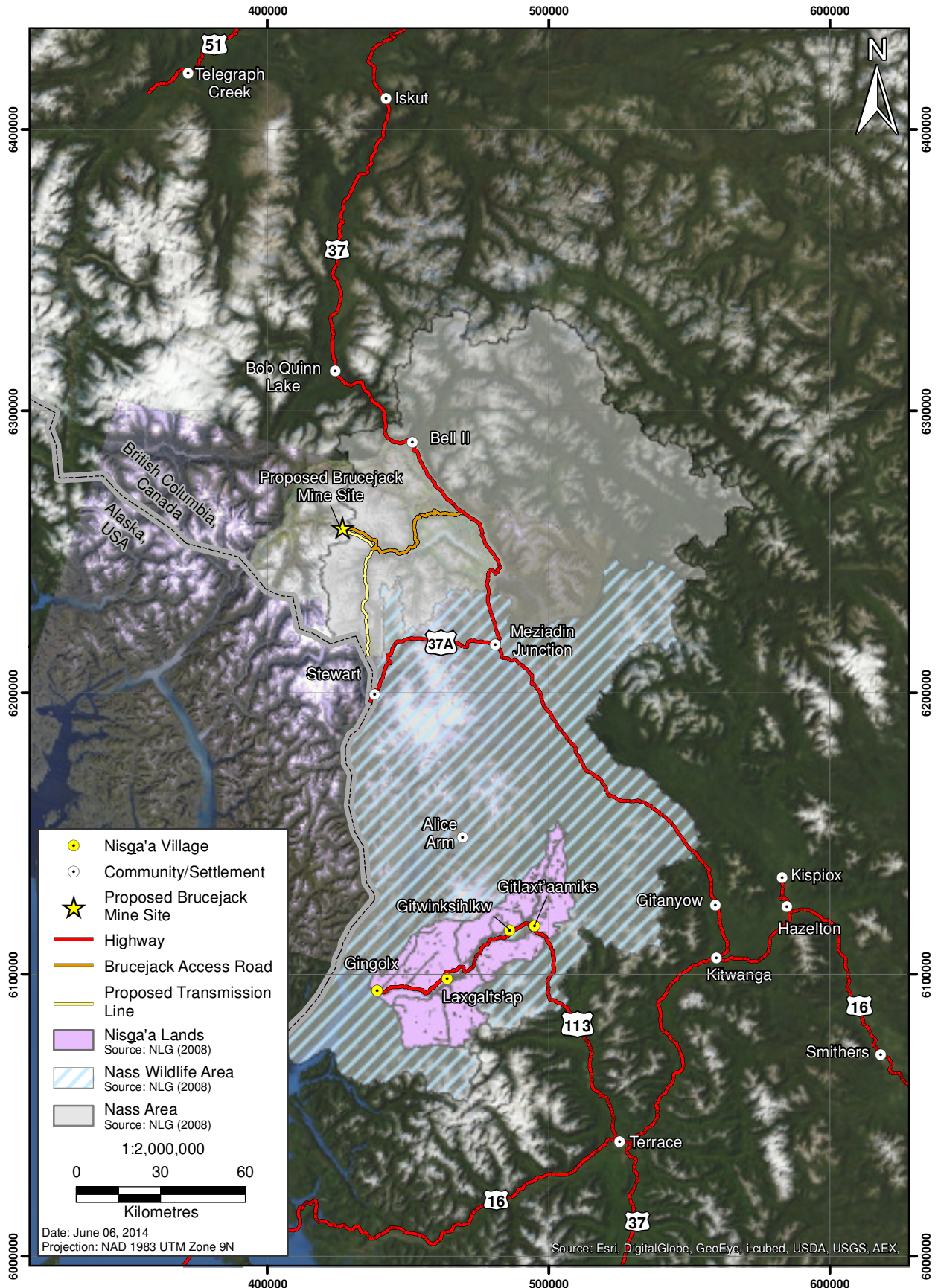
25.3.5.1 Background

Information on current Nisga'a use of lands and resources was obtained from other EA Applications, through consultations with Nisga'a, and from the NFA. No Nisga'a knowledge has been specifically gathered for this assessment as NLG advised the Proponent that they do not wish to carry out TK/TU studies focused on site-specific Nisga'a knowledge. Figure 25.3-6 identifies the location of the Project in relation to the Nass Area, Nass Wildlife Area and Nisga'a Lands as defined in the NFA.

Further information related to the NFA is provided in Chapter 27, Section 27.3.1.

Figure 25.3-6

Nass Area, Nass Wildlife Area, and Nisga'a Lands as Defined in the Nisga'a Final Agreement



Current Fishing

Nisga'a harvest a variety of aquatic resources including sockeye, pink, chinook, coho and chum, steelhead, oolichan, intertidal bivalves, seaweed, halibut and marine mammals and freshwater fish. NLG and the Government of Canada manage the Nass salmon fishery. Between the effective date of the NFA (2000) and 2009, approximately \$6.7 million has entered the Nisga'a economy through the harvest of salmon (NLG 2009). Nisga'a Fisheries Ltd. oversees the harvest and sale of Nisga'a fish and operates three landing sites on the Nass River (NLG n.d.-c).

Nisga'a reported they fish for sockeye and chinook salmon in Bowser Lake, where 8% of Nass River sockeye spawn. Bowser Lake drains into Bell-Irving River approximately 36 km upstream from the Bell-Irving confluence with the Nass River (Figure 25.3-7).

Current Hunting and Trapping

Nisga'a hunt various mammal and bird species, including moose, mountain goats, deer, bears, grouse, ducks and geese (Table 25.3-2). Available information identifies hunting activity to be occurring in more southerly areas of their territory, particularly within the NWA (McNeary 1976; Sterritt et al. 1998).

NLG manages and regulates wildlife harvesting. For example, to address recent moose population declines, NLG and BC have reduced moose harvest allocations in the Nass Wildlife Area for both Nisga'a citizens and resident/non-resident hunters (Rescan2013b). NLG has introduced a five-year moose conservation plan to help the population rebuild itself and mitigate for effects of over-harvesting and resource development on moose (NLG 2008).

Nisga'a people have traditionally trapped fur-bearing mammals, including marmot, fisher, marten, mink, and weasel, although the level of trapping activity, according to recent data collection in Nisga'a communities may be in decline.

There is a lack of information on Nisga'a use of the Project area for hunting or trapping.

Current Gathering

Nisga'a harvest a variety of berries, plants and trees for domestic, medicinal and commercial uses (Table 25.3-3). For example, pine mushrooms are commercially harvested throughout Nisga'a Lands. Lisims. NLG requires all Nisga'a and non-Nisga'a pine mushroom harvesters to acquire a permit (Avanti 2012). Lisims Forest Resources LP, a Nisga'a-owned corporation, is engaged in the harvest and sale of non-timber forest products, including pine mushrooms (NLG n.d.-a). In 2008, Nisga'a harvested 11,656 kilograms (kg) of mushrooms, which generated over \$43,000 in revenue (NLG 2009). There is a lack of information on the use of the Project area for gathering.

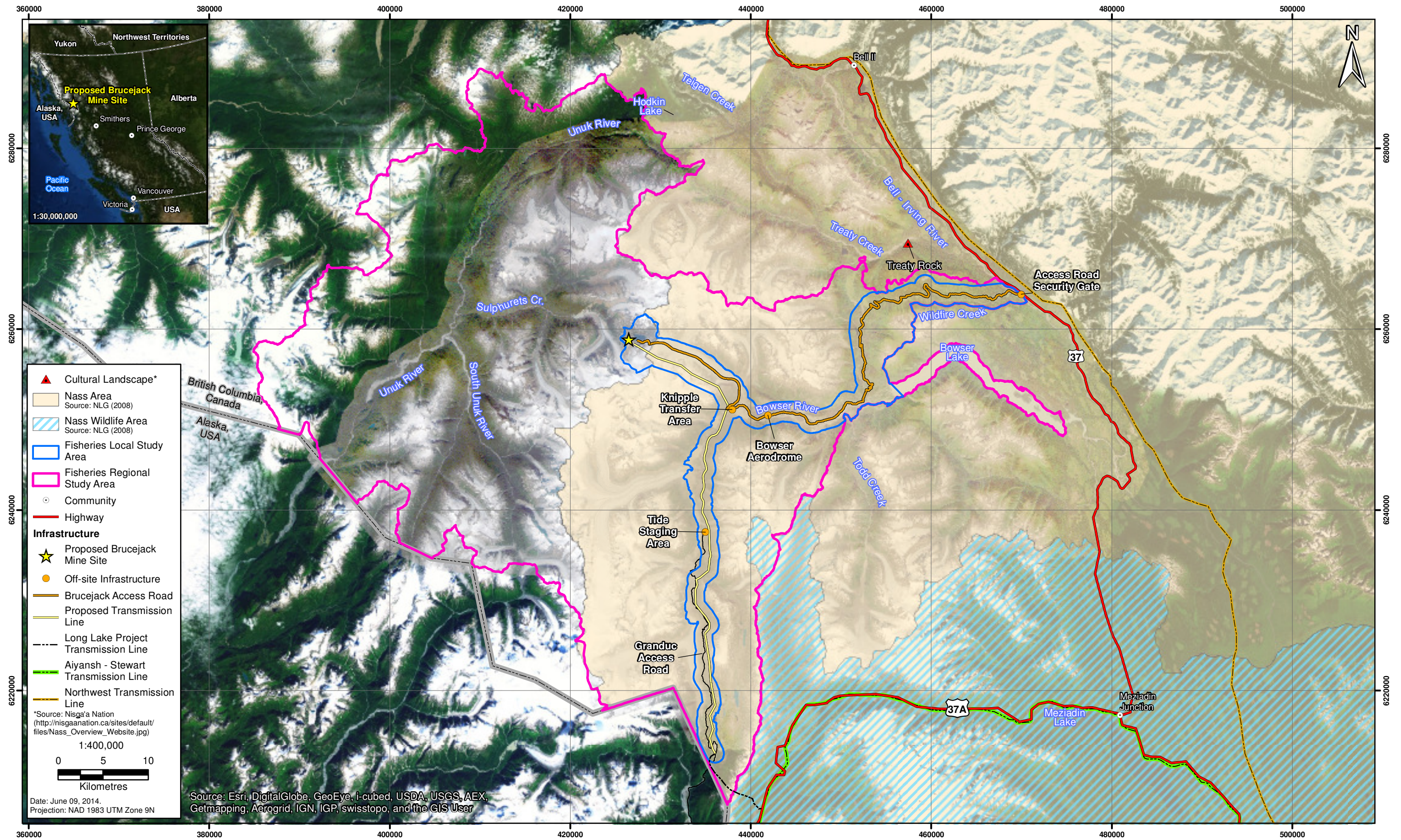
There is a lack of information on Nisga'a gathering in the Project area.

Habitations, Trails, Burial Sites and Cultural Landscapes

Under the NFA, Treaty Rock is a designated heritage site (Borden number HdTj-1). The one ha site is located 5 km northwest of the access road. Both the Tahltan Nation and Nisga'a Nation have identified Treaty Rock as an important cultural site. There are no other sites identified in the NFA in the Project area (Figure 22.1-1).

Figure 25.3-7

Location of the Nass Area and Nass Wildlife Area in Relation to Project Components and Activities



25.3.6 Tahltan Nation Current Use of Lands and Resources

25.3.6.1 Background

Baseline information of current land use summarized in this section is based on information that has been obtained from other EAs involving the Tahltan. The Proponent has provided funding to the Tahltan to complete a TK/TU report which will be submitted during the Application/EIS review stage. Tahltan may also provide current use information during the Application/EIS review stage. Figure 25.3-8 identifies the traditional territory claimed by the Tahltan Nation. Approximately 9 kms of the Brucejack Access Road overlaps the Tahltan traditional territory.

Current Fishing

Tahltan harvest the five Pacific salmon species, steelhead, grayling and trout (Table 25.3-1). Salmon feature prominently in Tahltan cultural identity and practice, with numerous fish-bearing river systems running through their traditional territory. The traditional summer fisheries are located in the mid-Stikine, upper-Nass and upper-Skeena basins (THREAT 2009). Sixty-four percent of the Tahltan eat salmon at least once a week, and 22 percent of the Tahltan eat other fish at least once a week (GMG Consulting 2009).

Fishing generally occurs along the Stikine River and its tributaries, between the Tahltan and Tuya Rivers (Emmons 1911; Friesen 1985). Most of the salmon swim up the Stikine or Iskut rivers and then move to spawning beds in the Tahltan, Nahlin, and Shesley rivers. Gill nets are currently the most common way to harvest fish (School District 87 2000).

In the southern portion of Tahltan territory, The Iskut fish for lake trout, whitefish, burbot, rainbow trout and grayling in Cold Fish Lake, and rainbow trout year round in Kluachon Lake near Iskut (McIlwraith 2007).

There is lack of information on Tahltan use of the Project area for fishing.

Current Hunting and Trapping

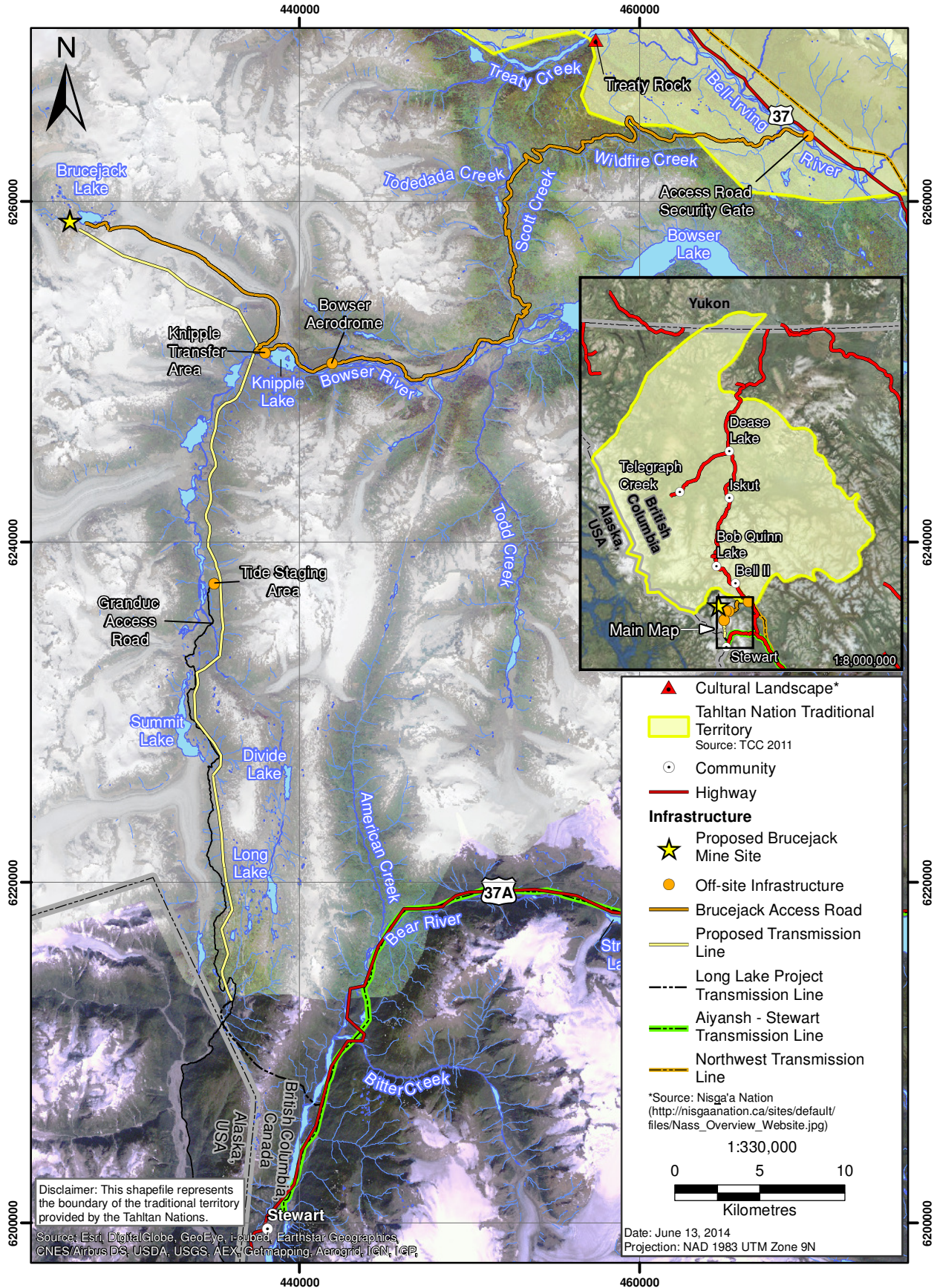
Wildlife species of importance to the Tahltan include mountain goat, moose, grizzly bear, black bear, wolves, marten, fisher, lynx, river otter, snowshoe hare, porcupine, red and flying squirrels, mink and wolverine. Wolf, mink and wolverine in particular were traditionally held in high regard for their fur. Moose have effectively replaced caribou as a game species for the Tahltan. Mountain goat is culturally important for Tahltan for both its meat and hair. Mountain goat is not as prominent in Tahltan livelihoods as it once was.

Moose are a primary food source in the Tahltan diet. According to a recent survey (GMG Consulting 2009), three quarters of the Tahltan eat moose meat at least once a week. The Teigen-Snowbank-Ningunsaw corridor was identified as important to the Tahltan for its wildlife values. Trapping for fur-bearing mammals continues to provide a nominal source of income for individuals and families who hold traplines. The 2007 Tahltan Census (GMG Consulting 2009) provides no information on the percentage of Tahltan people who trap versus those who do not. However, traditional foods that are still eaten at least once a week include caribou (10%), rabbit (10%), beaver, groundhog (hoary marmot), and porcupine (each less than 5%; GMG Consulting 2009).

There is a lack of information on Tahltan use of the Project area for hunting or trapping activities.

Figure 25.3-8

Tahltan Nation Traditional Territory,
Brucejack Gold Mine Project



Current Gathering

The Tahltan harvest approximately 25 species of berries and numerous wild green vegetables, roots, and plants, some of which are used medicinally to treat a variety of minor ailments (Albright 1984; School District 87 2000). Soapberries and blueberries are commonly eaten (GMG Consulting 2009). Several species of edible mushrooms are found within the Tahltan traditional territory. Pine mushroom gathering is economically important, especially for Iskut community members (Coast Mountain Hydro Corp 2002).

A Tahltan study for the Northwest Transmission Line Project noted Tahltan plant harvesting is concentrated in the Bob Quinn area (THREAT 2009), which is outside of the Terrestrial Ecosystem RSA. Areas along the Eskay Creek mine access road were formerly noted to be accessed for mushroom harvesting (Coast Mountain Hydro Corp 2002).

There is lack of information on Tahltan use of the Project area for gathering.

Habitations, Trails, Burial Sites, and Cultural Landscapes

Aside from the Treaty Rock heritage site discussed in section 25.3.5, the Tahltan have not identified any habitations, trails, or burial sites that would overlap project components and activities.

25.3.7 Métis Nation of BC Current Use of Lands and Resources

25.3.7.1 Background

The Métis Nation of BC (MNBC) was created in 1996 to represent the Métis people in the Province and incorporated under the Métis Provincial Council of British Columbia. There are Métis Chartered Communities in Terrace (Northwest BC Métis Association) and Smithers (Tri River Métis Association). Based on 2006 Census data, there are 935 Métis residing in the Regional District of Kitimat Stikine and 195 in the Bulkley-Nechako Regional District (Statistics Canada 2007). Further information on the Métis is provided in Chapter 26, Section 26.2.3.

25.3.7.2 Current Use of Lands and Resources

Information on MNBC current use and past use of lands and resources was obtained from the British Columbia Métis Mapping Research Project (BC MMRP) Harvester Survey and Mapping Tool for the KSM Project, and a desk-based TK/TU report ([Appendix 25-C](#)).

Data recovered from the harvest survey and mapping tool for the KSM Project indicates there have been (Rescan 2013a):

- 320 separate incidences of fish harvesting in both the lower and upper Bell-Irving River watersheds.
- 455 separate incidences of harvesting of deer, bear, and moose in the lower and upper Bell-Irving watersheds
- 320 incidences of small game harvesting in the lower and upper Bell-Irving watersheds
- 135 separate incidences of deer, bear, and moose harvesting in the Unuk River watershed
- 320 separate incidences of plant (non-timber) harvesting on both the lower and upper Bell-Irving River watersheds.

No information is available on the locations of harvesting areas, the types of species harvested, or the numbers harvested (Rescan 2013a).

25.4 ESTABLISHING THE SCOPE OF THE ASSESSMENT FOR CURRENT ABORIGINAL USE

The following section describes the scoping process used to: a) identify potentially affected Valued Components (VCs); b) select VC assessment boundaries; and c) identify potential effects that are likely to arise from the Project's interaction with an intermediate component or receptor VC. Scoping is fundamental to focusing the Application/EIS on those issues where there is the greatest potential to cause significant adverse effects. The scoping process for the assessment of effects to Current Aboriginal Use consisted of the following four steps:

- *Step 1:* undertaking an issues scoping process to select Current Aboriginal Use receptor VC subcomponents and indicators based on a consideration of the Project's potential to interact;
- *Step 2:* consideration of feedback on the results of the scoping process from technical experts and the EA Working Group;
- *Step 3:* definition of assessment boundaries for Current Aboriginal Use; and
- *Step 4:* identification of key potential effects on Current Aboriginal Use VC.

Each of these steps is described below.

25.4.1 Selecting Receptor Valued Components

As described in Section 6.4.1.1, Scoping Potential Interactions between the Project and Candidate Components, a scoping exercise was conducted during the development of the draft Application Information Requirements (AIR) to explore potential Project interactions with candidate receptor VCs, and to identify the key potential adverse effects associated with that interaction. The results of the scoping exercise were circulated for review and approval by the EA Working Group, and feedback from that process was integrated into the Application. Current Aboriginal Use VCs were identified based on the following:

- input from Skii km Lax Ha, Nisga'a and Tahltan during project consultations;
- review of issues identified during consultations with the Working Group;
- desk-based research and literature review;
- project-specific, and publically-available, TK/TU information;
- previous engagement with Aboriginal groups;
- past research conducted in the region;
- government reports;
- other EA reports; and
- professional judgment.

Current Aboriginal Use VCs meet the following criteria:

1. There is a spatial and temporal overlap between the Project and the VC such that interactions may occur.
2. There is a suitable knowledge base and measurable parameters for the VC that can be used to characterize the Project interactions and serve as the basis for assessing the potential effects of the Project.
3. There is a perceived, reasonable likelihood (i.e., as assessed by Aboriginal groups or discipline specialists) that the VC could be affected by the Project.

Current Aboriginal Use VCs include:

- fishing opportunities and practices;
- hunting and trapping opportunities and practices;
- gathering opportunities and practices; and
- habitations, trails, burial sites, and cultural landscapes.

Information and results from the following chapters have also informed the effects assessment for Current Aboriginal Use VCs:

- Chapter 13, Assessment of Potential Surface Water Quality Effects;
- Chapter 15, Assessment of Potential Fish and Fish Habitat Effects;
- Chapter 16, Assessment of Potential Terrestrial Ecology Effects;
- Chapter 18, Assessment of Potential Wildlife Effects;
- Chapter 21, Assessment of Potential Health Effects;
- Chapter 22, Assessment of Potential Heritage Effects; and
- Chapter 23, Assessment of Potential Navigation Effects.

Table 25.4-1 identifies the indicators for each VC.

Table 25.4-1. Valued Components and Indicators for Current Aboriginal Use

Valued Component	Indicator(s)
Fishing Opportunities and Practices	Current use of lands and resources for fishing; location of activity; access to harvest areas; species harvested; species quantity and quality; harvesters' experience
Hunting and Trapping Opportunities and Practices	Current use of lands and resources for hunting and trapping; location of activity; access to harvest areas; species harvested; species quantity and quality; harvesters' experience
Plant-gathering Opportunities and Practices	Current use of lands and resource for plant harvesting; location of activity; access to harvest areas; species harvested; species quantity and quality; harvesters' experience
Habitations, Trails, Burial Sites, and Cultural Landscapes	Current use; location of feature; access to feature

25.4.1.1 Potential Interactions between the Project and Current Aboriginal Use

Adverse effects on Current Aboriginal Use VCs can occur where there is an interaction between Project components and activities. Professional judgement, knowledge of potential project effects and Aboriginal current uses of lands and resources, experience from previous mining projects in the area (e.g., KSM Project), and comments provided by Skii km Lax Ha, Nisga'a, and the Tahltan during project consultations helped identify the potential interactions with the Project and Current Aboriginal Use. Table 25.4-2 identifies the Project components and activities that could interact with Current Aboriginal Use VCs. Interactions between the Project and Current Aboriginal Use were assigned a colour code as follows:

- not expected (white);
- possible (grey); and
- likely (black).

Interactions coded as not expected (white) are considered to have no potential for adverse effects on Current Aboriginal Use, and are not considered further.

Table 25.4-2. Interaction of Project Components and Activities with Current Aboriginal Use

Project Components and Physical Activities by Phase	Current Aboriginal Use
Construction Phase	
Activities at existing adit	
Air transport of personnel and goods	
Avalanche control	
Chemical and hazardous material storage, management, and handling	
Construction of back-up diesel power plant	
Construction of Bowser Aerodrome	
Construction of detonator storage area	
Construction of electrical substation at the Brucejack Mine Site	
Construction of equipment laydown areas	
Construction of helicopter pad	
Construction of incinerator	
Construction of Knipple Transfer Area	
Construction of local site roads	
Construction of mill building (electrical induction furnace, backfill paste plant, warehouse, mill/concentrator)	
Construction of mine portal and ventilation shafts	
Construction of Brucejack Operations Camp	
Construction of ore conveyer	
Construction of tailings pipeline	
Construction and decommissioning of Tide Staging Area construction camp	
Construction of truck shop	
Construction and use of sewage treatment plant and discharge	
Construction and use of surface water diversions	
Construction of water treatment plant	
Development of the underground portal and facilities	
Employment and Labour	
Equipment maintenance/machinery and vehicle refuelling/fuel storage and handling	
Explosives storage and handling	
Grading of the mine site area	
Helicopter use	
Installation and use of Project lighting	
Installation of surface and underground crushers	
Installation of the transmission line and associated towers	
Machinery and vehicle emissions	

(continued)

Table 25.4-2. Interaction of Project Components and Activities with Current Aboriginal Use (continued)

Project Components and Physical Activities by Phase	Current Aboriginal Use
Construction Phase (cont'd)	
Potable water treatment and use	
Pre-production ore stockpile construction	
Procurement of goods and services	
Quarry construction	
Solid waste management	
Transportation of workers and materials	
Underground water management	
Upgrade and use of exploration access road	
Use of Granduc Access Road	
Operation Phase	
Air transport of personnel and goods and use of Bowser Aerodrome	
Avalanche control	
Backfill paste plant	
Back-up diesel power plant	
Bowser Aerodrome	
Brucejack Access Road use and maintenance	
Brucejack Camp	
Chemical and hazardous material storage, management, and handling	
Concentrate storage and handling	
Contact water management	
Detonator storage	
Discharge from Brucejack Lake	
Electrical induction furnace	
Electrical substation	
Employment and Labour	
Equipment laydown areas	
Equipment maintenance/machine and vehicle refuelling/fuel storage and handling	
Explosives storage and handling	
Helicopter pad(s)	
Helicopter use	
Knipple Transfer Area	
Machine and vehicle emissions	

(continued)

Table 25.4-2. Interaction of Project Components and Activities with Current Aboriginal Use (continued)

Project Components and Physical Activities by Phase	Current Aboriginal Use
Operation Phase (cont'd)	
Mill building	
Non-contact water management	
Ore conveyer	
Potable water treatment and use	
Pre-production ore storage	
Procurement of goods and services	
Project lighting	
Quarry operation	
Sewage treatment and discharge	
Solid waste management/incinerator	
Subaqueous tailings disposal	
Subaqueous waste rock disposal	
Surface crushers	
Tailings pipeline	
Transmission line operation and maintenance	
Truck shop	
Underground backfill tailing storage	
Underground backfill waste rock storage	
Underground crushers	
Underground: drilling, blasting, excavation	
Underground explosives storage	
Underground mine ventilation	
Underground water management	
Use of mine site haul roads	
Use of portals	
Ventilation shafts	
Warehouse	
Waste rock transfer pad	
Water treatment plant	
Closure Phase	
Air transport of personnel and goods	
Avalanche control	

(continued)

Table 25.4-2. Interaction of Project Components and Activities with Current Aboriginal Use (continued)

Project Components and Physical Activities by Phase	Current Aboriginal Use
Closure Phase (cont'd)	
Chemical and hazardous material storage, management, and handling	
Closure of mine portals	
Closure of quarry	
Closure of subaqueous tailing and waste rock storage (Brucejack Lake)	
Decommissioning of Bowser Aerodrome	
Decommissioning of back-up power plant	
Decommissioning of Brucejack Access Road	
Decommissioning of camps	
Decommissioning of diversion channels	
Decommissioning of equipment laydown	
Decommissioning of fuel storage tanks	
Decommissioning of helicopter pad(s)	
Decommissioning of incinerator	
Decommissioning of local site roads	
Decommissioning of mill/concentrators	
Decommissioning of ore conveyer	
Decommissioning of Project lighting	
Decommissioning of sewage treatment plant and discharge	
Decommissioning of surface crushers	
Decommissioning of surface explosives storage	
Decommissioning of tailings pipeline	
Decommissioning of transmission line and ancillary structures	
Decommissioning of underground crushers	
Decommissioning of waste rock transfer pad	
Decommissioning of water diversion channels	
Decommissioning of water treatment plant	
Employment and labour	
Helicopter use	
Machine and vehicle emissions	
Procurement of goods and services	
Removal or treatment of contaminated soils	

(continued)

Table 25.4-2. Interaction of Project Components and Activities with Current Aboriginal Use (completed)

Project Components and Physical Activities by Phase	Current Aboriginal Use
Closure Phase (cont'd)	
Solid waste management	
Transportation of workers and materials (Brucejack Mine Site and access roads)	
Post-closure Phase	
Discharge from Brucejack Lake	
Employment and labour	
Environmental monitoring	
Procurement of goods and services	
Subaqueous tailing and waste rock storage	
Underground mine	

Notes:

White = unlikely interaction between Project components/physical activities and a receptor VC

Grey = possible interaction between Project components/physical activities and a receptor VC

Black = likely interaction between Project components/physical activities and a receptor VC

25.4.1.2 Consultation Feedback on Receptor Valued Components

Feedback on Current Aboriginal Use VCs was provided by the Working Group during the review of the draft AIR. In response to a Skii km Lax Ha request, the BC EAO revised the draft AIR to include a separate chapter on Current Aboriginal Use. This change also met the CEA Agency’s requirements.

25.4.1.3 Summary of Receptor Valued Components Included and Excluded in the Application/EIS

The Current Aboriginal Use VCs selected for the Project are provided in Table 25.4-3, along with the rationale for including them in the assessment. VCs that were considered but not included in the assessment are presented in Table 25.4-4, along with the rationale for not including them.

Table 25.4-3. Current Aboriginal Use: Receptor Valued Components Included in the Application/EIS

Valued Component	Identified by*				Rationale for Inclusion
	AG	G	P/S	IM	
Fishing opportunities and practices	X	X		X	<ul style="list-style-type: none"> The AIR requires consideration of fishing opportunities and practices. There is potential for change in access to fishing areas and the ability to access or use fishing areas. There is potential for change in quality of the natural experience for Aboriginal harvesters. There is potential for changes in fished species and associated habitat (abundance, distribution/behaviour). There is potential for change in the quality of fished species (health).

(continued)

Table 25.4-3. Current Aboriginal Use: Receptor Valued Components Included in the Application/EIS (completed)

Valued Component	Identified by*				Rationale for Inclusion
	AG	G	P/S	IM	
Hunting and trapping opportunities and practices	X	X		X	<ul style="list-style-type: none"> The AIR requires consideration of hunting and trapping opportunities and practices. There is potential for change in access to hunting and trapping areas and ability to access or use hunting and trapping areas. There is potential for change in quality of the natural experience for Aboriginal harvesters. There is potential for changes in hunted species and associated habitat (abundance, distribution/behaviour). There is potential for change in the quality of hunted species (health).
Gathering opportunities and practices	X	X		X	<ul style="list-style-type: none"> The AIR requires consideration of gathering opportunities and practices. There is potential for change in access to gathering areas and the ability to access or use gathering areas. There is potential for change in harvested plant species (abundance and quality) and associated habitat. There is potential for changes in quality of plant resources.
Habitations (e.g., camps and cabins), trails, burial sites, and cultural landscapes	X	X		X	<ul style="list-style-type: none"> The AIR requires consideration of habitations, trails, burial sites, and other cultural landscapes. There is potential for change in habitations, trails, burial sites, and cultural landscapes and the ability to access or use these areas or sites.

*AG = Aboriginal Group; G = Government; P/S = Public/Stakeholder; IM = Impact Matrix

Table 25.4-4. Current Aboriginal Use: Receptor Valued Components Excluded from the Application/EIS

Valued Components	Identified by*				Rationale for Exclusion
	AG	G	P/S	IM	
Spiritual or ceremonial (non-harvesting) customs and practices involving lands and resources		X		X	Skii km Lax Ha, Nisga’a and Tahltan did not raise any concerns regarding potential effects on spiritual or ceremonial customs and practices in the Project area. Ethnographic, TK/TU studies, Heritage chapter (Chapter 22) and Aboriginal consultations did not identify any spiritual or ceremonial sites.

*AG = Aboriginal Group; G = Government; P/S = Public/Stakeholder; IM = Impact Matrix

25.4.2 Assessment Boundaries for Current Aboriginal Land and Resource Use

Assessment boundaries define the maximum geographic extent within which the effects assessment is conducted. They encompass the areas within, and times during which, the Project is expected to interact with the receptor VCs.

25.4.2.1 Spatial Boundaries

Three study areas were used to assess potential effects on Current Aboriginal Use:

Project Footprint - encompasses project components and activities within current land and resource use areas identified by Aboriginal groups (Figure 25.3-2 through 25.3-5) and Nisga’a Nass Area (Figure 25.3-7).

Local Study Area - encompasses the LSA for the relevant VC associated with Current Aboriginal Use as follows: the Fish and Fish Habitat LSA (Figure 15.4-1) was used to assess effects on fishing opportunities and practices; the Wildlife LSA (Figure 18.4-1) was used to assess effects on hunting opportunities and practices; the Terrestrial Ecosystem LSA (Figure 16.3-2) was used to assess effects on gathering opportunities and practices; and the Heritage LSA (Figure 22.1-1; NFA and TK/TU reports) was used to assess effects on habitations, trails, burial sites and cultural landscapes.

Regional Study Area -encompasses the RSA for the relevant VC associated with Current Aboriginal Use as follows: the Fish and Fish Habitat RSA (Figure 15.4-1) was used to assess effects on fishing opportunities and practices; the Wildlife RSA (Figure 18.4-1) was used to assess effects on hunting opportunities and practices; the Terrestrial Ecosystem RSA (Figure 16.3-2) was used to assess effects on gathering opportunities and practices and the Heritage RSA (Figure 22.1-1; NFA and TK/TU reports) was used to assess effects on habitations, trails, burial sites and cultural landscapes.

25.4.2.2 *Temporal Boundaries*

The temporal phases of the Project are:

- **Construction:** 24 months;
- **Operation:** 22-year run-of-mine life;
- **Closure:** 2 years (includes Project decommissioning, abandonment, and reclamation activities); and
- **Post-closure:** minimum of 3 years (includes ongoing reclamation activities and post-closure monitoring).

25.4.3 **Identifying Potential Effects on Current Aboriginal Land and Resource Use**

25.4.3.1 *Effects Included for Assessment*

Potential effects included in the assessment are: (1) change in access or ability to access and use land and resource areas; (2) change in quality of experience of the natural environment; (3) change in the abundance and distribution of resources; and (4) change to the (real or perceived) quality of resources, and are defined as follows:

- **Change in access or ability to access or use land and resource use areas** -During construction, operation, and closure of the Project may change access to harvest areas preventing Aboriginal harvest and result in the loss of opportunities to harvest.
- **Change in quality of experience of the natural environment** – Noise from the Project and the visibility of the Project during construction, operation, and closure may affect the enjoyment or quality of experience for Aboriginal harvesters.
- **Change in the abundance and distribution of resources** – Construction and operation of the Project may change habitat through direct habitat loss due to the upgrading of the access road or site clearing and preparation or indirect habitat loss through sensory disturbance such as noise or human presence. Project activities may also change mortality risk through increased access by humans or predators resulting in increased mortality risk. Mortality risk may also be increased due to project traffic along the access road, attraction to camps.
- **Change to the quality of resources** – Construction and operation of the Project may change the health of hunted, trapped or fished species, and vegetation harvested by Aboriginal groups due to fugitive dust, water contamination from accidental spills, and bioaccumulation of contaminants of potential concern (COPCs) through the food chain. Fishing, hunting, trapping and gathering by Aboriginal people in the Project area may be curtailed due to perceptions that the quality of harvested resources in the Project area has changed.

25.4.3.2 *Effects Excluded from Assessment*

Potential effects on Tahltan and Métis fishing, hunting and gathering opportunities and practices, as well as habitations, trails, burial sites and cultural landscapes, are not assessed as there is a lack of information on Tahltan and MNBC use in the Project area to enable an effects assessment. Should the Tahltan and MNBC provide information to the Proponent, it will be considered during the Application/EIS review stage.

Potential effects on Nisga'a hunting and gathering opportunities and practices are not assessed as there is a lack of information on Nisga'a use of the Project area to gather plants. Should Nisga'a provide information to the Proponent, it will be considered during the Application/EIS review stage.

Potential changes in income and employment, as it relates to Current Aboriginal Use, is considered an economic rather than an environmental effect. This effect is discussed in Chapter 19 (Assessment of Potential Economic Effects).

Effects of Project traffic on Aboriginal people accessing harvesting areas adjacent to Highway 37 is scoped out of the effects assessment as the Project will not contribute a significant volume of traffic on the highway.

25.4.3.3 *Construction*

The Project's Construction phase will include:

- upgrades to the 75-km exploration access road to accommodate mine traffic;
- expansion of exploration camp facilities to accommodate the construction workforce, including an additional bunkhouse and kitchen, sewage, and administration facilities;
- construction of the mill building;
- construction of the tailings pipeline;
- development of the underground portal and facilities;
- grading of the mine site area; and
- installation of the transmission line and towers.

Blasting, heavy equipment operation, chemicals use and storage, and air and ground traffic will either begin or ramp up from current exploration activities.

Potential Project-related effects during the Construction phase include:

- change in access or ability to access or use land and resource areas;
- change in quality of experience of the natural environment;
- change in the abundance and distribution of resources; and
- change to the quality of resources.

25.4.3.4 *Operation*

The Project's Operation phase will include:

- operation of the underground mine, including primary ore crushing underground, and then transport to surface facilities along a conveyor;

- mineral processing using a conventional sulphide flotation and gravity concentration;
- a smelting furnace to produce gold doré from the gravity concentrate;
- a flotation plant to produce gold-silver flotation concentrate that will be dewatered and trucked off site to the port of Stewart for transport to Asian markets or a rail load out facility at Terrace for transport to eastern Canada; and
- a 350-person camp to house employees and mine administration offices.

Potential Project-related effects during the Operation phase include:

- change in access or ability to access or use land and resource areas;
- change in quality of experience of the natural environment;
- change in the abundance and distribution of resources; and
- change to the quality of resources.

25.4.3.5 Closure

The Project's Closure phase will include:

- decommissioning mining equipment and removing material from the underground mine;
- dismantling or demolishing the mill, camp, and other buildings and infrastructure supporting the mine as appropriate;
- disposing of non-hazardous rubble and waste rock in Brucejack Lake, and moving hazardous materials off site;
- decommissioning the Brucejack Access Road; and
- removing the transmission line and towers.

Potential Project-related effects during the Closure phase that are assessed include:

- change in access or ability to access or use land and resource areas;
- change in quality of experience of the natural environment;
- change in the abundance and distribution of resources; and
- change to the quality of resources.

25.4.3.6 Post-closure

Activities during the Project's Post-closure phase include reclamation and environmental monitoring. Potential Project-related effects during Post-closure include change to the quality of resources.

25.5 EFFECTS ASSESSMENT AND MITIGATION FOR CURRENT ABORIGINAL USE

Sections 25.5.1 to 25.5.4 assess the Project's potential effects on Skii km Lax ha current use of lands and resources for traditional purposes during Construction, Operation, Closure, and Post-closure. This assessment is based on: 1) information provided by Skii km Lax Ha and Nisga'a to date; 2) Nisga'a treaty rights and interests under the NFA relating to aquatic, terrestrial and heritage resources; and 3) the effects assessments presented in the Assessment of Potential Surface Water Quality Effects (Chapter 13), Assessment of Potential Fish and Fish Habitat Effects (Chapter 15), Assessment of

Potential Terrestrial Ecology Effects (Chapter 16), Wildlife (Chapter 18), Assessment of Potential Health Effects (Chapter 21), Assessment of Potential Heritage Effects (Chapter 22), and Assessment of Potential Navigation Effects (Chapter 23), where appropriate. The potential effects have been considered for each Aboriginal group. Should an Aboriginal group identify additional potential effects related to one of the Current Aboriginal Use VCs, the Proponent is committed to further consultation on, and consideration of, the matter.

25.5.1 Key Effects on Fishing Opportunities and Practices

25.5.1.1 Identifying Key Effects

The Construction, Operation, and Closure phases of the Project have the potential to affect Skii km Lax Ha and Nisga'a fishing opportunities and practices. These effects would be associated with upgrading, maintaining and closing the access road. No effects are predicted at the mine site due to the absence of fish in this area. Several chapters are of particular relevance to the assessment of impacts on fishing opportunities and practices as they provide information on Project effects on harvested fish species (Chapter 13, Chapter 15, Chapter 21, and Chapter 23).

25.5.1.2 Change in Access or Ability to Access or Use Fishing Areas

Skii km Lax Ha access to fishing areas in the LSA has been by foot or boat as there has been no road access to the Project area until construction of the exploration access road was completed in 2013. When Newhawk Gold Mines Ltd. operated the Sulphurets Advanced Exploration Project between 1986 and 1990, the Project was accessed by vehicle via a barge along Bowser Lake (Section 6.9.2.1, Past Projects). The public is not allowed to use the exploration access road for safety reasons, nor did they have access to the barges on Bowser Lake. The Project is not predicted to impact water navigation (Chapter 23, Assessment of Potential Navigation Effects).

Skii km Lax Ha ability to use Todedada Lake may be impacted due to its proximity to the access road.

Nisga'a have raised concerns related to the potential effects of the Project on chinook and sockeye salmon in Bowser Lake. Nisga'a access or use of Bowser Lake will not be impacted by the Project. Nisga'a will continue to have access and the ability to use Bowser Lake during all phases of the Project.

25.5.1.3 Change in Quality of Experience of the Natural Environment

Project noise during the Construction, Operation, and Closure phases may affect the quality of fishing experience for Skii km Lax Ha and Nisga'a harvesters. Project infrastructure may also be visible from Skii km Lax Ha fishing areas and Nisga'a fishing on Bowser Lake.

According to the Noise Predictive Study, changes to baseline daytime and nighttime noise levels are expected to occur within the Noise LSA (Section 8.6, Predictive Study Results for Noise) during Construction and Operation. Noise sources include blasting, and vehicle, fixed wing and helicopter traffic. Noise modelling did not predict any noise exceedances at most human receptor locations due to Project blasting or traffic (with the exception of non-workers residing at the Skii km Lax Ha Lodge; Section 21.6.1, Residual Effects on Human Health due to Noise), including Skii km Lax Ha cabins located at the mouths of Bowser Lake and Bell Creek (Figure 21.4-1). Helicopter noise is expected to be audible off site and within the RSA, although noise levels are predicted to be below the human annoyance threshold outside the Brucejack Mine Site during Construction and Operation phases ([Appendix 8-B](#), Brucejack Gold Mine Project: Environmental Noise Modelling Study).

The Project will not be visible from Skii km Lax Ha or Nisga'a fishing areas because the Project is located within a valley at a high elevation, and the Brucejack Access Road and transmission line will not be visible from Todedada, Bowser, or Gilbert lakes.

25.5.1.4 *Change in the Abundance and Distribution of Fish Species Harvested*

According to the fish and fish habitat effects assessment (Chapter 15), activities during the Construction, Operation and Closure phases related to the Brucejack Access Road, proposed transmission line, Bowser Aerodrome and Knipple Transfer Area may result in changes to fish and fish habitat:

- During Construction, upgrading of the access may cause erosion and sedimentation due to heavy equipment operating near watercourses, resulting in temporary increases in turbidity, and fish habitat loss or degradation.
- During Operation, maintenance of the Brucejack Access Road may cause fish mortality (bull trout, Dolly Varden and Pacific salmon) due to heavy equipment working near watercourses, salvage and relocation of fish downstream, and dewatering activities during stream crossing maintenance.
- During Operation, there is potential for spills which could result in fish mortality.
- During Construction and Operation, there could be increased fishing pressure in the LSA due to unauthorized access by recreational fishers.
- Decommissioning of the access road, transmission line, Knipple Transfer Area and Bowser Aerodrome may result in fish mortality and erosion and sedimentation due to heavy equipment operation near watercourses.

The proposed Project is not expected to affect sockeye salmon in the Bowser River and Lake watersheds, nor any other watershed with sockeye salmon within the regional study area. Significant effects on sockeye salmon spawning or rearing (e.g., fish habitat loss) habitat are not predicted due to access road upgrades or use with the proposed mitigation measures (Section 15.6.1 to 15.6.4 of Chapter 15). Significant effects on sockeye salmon populations and habitat due to a spill are not predicted because of the spill prevention measures proposed and spill response plan (Sections 31 and 15.5.1). Effects on sockeye salmon populations and habitat downstream in Bowser Lake, due to a change in water quality, are not predicted to occur because tailings are proposed to be deposited in Brucejack Lake, which is located in the Unuk River watershed. Furthermore, the mine site discharges will be directed to Brucejack Lake, which is not hydrologically connected to the Nass River or Bowser Lake watersheds; therefore, there would not be any effects on the downstream receiving environment as a result of the discharge of tailings.

Therefore no impacts on fish abundance and distribution are anticipated.

25.5.1.5 *Change to the Quality of Resources*

In other mine Project EAs, Aboriginal groups have expressed concerns about the contamination of country foods, including fish. Aboriginal groups may also reduce their reliance on country foods where mines are located as they perceive the quality of country foods has been compromised. This perception may limit fishing practices in areas where they perceive to be less environmentally healthy conditions, affecting fish consumption.

The Human Health effects assessment did not predict any residual effects on country foods due to contaminants that may be present in country foods (Section 21.6.4). Surface water quality within the area of the Brucejack Transmission Line and Brucejack Access Road is predicted to remain similar to background conditions (Section 21.6.3 and Chapter 13, Assessment of Potential Surface Water Quality Effects) during all Project phases, and hence the quality of fish from these water bodies is expected to be similar to that measured in baseline studies.

Based on the results of the Human Health effects assessment, there is no potential risk to Skii km Lax Ha and Nisga'a consuming fish harvested in the Fish and Fish Habitat LSA (Chapter 21, Section 21.6.4.2). Bowser Lake is located outside of the LSA.

25.5.1.6 Mitigation- Fishing Opportunities and Practices

At the time of the Application/EIS submission, Aboriginal groups have not suggested any mitigation measures related to fishing interests. Mitigation measures proposed by the Proponent to address potential impacts on fish and fish habitat during the Construction, Operation and Closure of the access road are summarized below:

- adhering to DFO's operational statements
- adhering to timing windows during instream works, where possible
- following best management practices to minimize fish mortality and sediment entry
- implementing a no fishing policy for employees and contractors
- controlling access to the Project
- employing an Environmental Monitor to ensure best management practices are implemented during Construction and Post-closure
- implementing environmental management plans including a Noise Management Plan, (Section 29.11), Soils Management Plan (Section 29.13), Transportation and Access Management Plan (Section 29.16); Aquatic Effects Monitoring Plan (Section 29.3), Hazardous Materials Management Plan (Section 29.7), and Spill Prevention and Response Plan (Section 29.14).

To mitigate potential effects on Skii km Lax Ha access to Todedada Lake, the Proponent is willing to enter into an arrangement with Skii km Lax Ha to allow them to access the lake via the access road, subject to ensuring public safety.

The Proponent will continue to consult Aboriginal groups involved in the review of the Project regarding mitigation measures and will consider new mitigation measures proposed during the Application/EIS review stage.

25.5.2 Key Effects on Hunting and Trapping Opportunities and Practices

25.5.2.1 Identifying Key Effects

The Construction, Operation, and Closure of the Project has the potential to affect Skii km Lax Ha hunting opportunities and practices. These effects are related to the use of the Brucejack Access road, noise from air traffic, and opening up of the Project area to recreational hunters. Several chapters are of particular relevance to the assessment of impacts on hunting opportunities and practices as they provide information on Project effects on hunted wildlife species (Chapter 18, Assessment of Potential Wildlife Effects, and Chapter 21, Assessment of Potential Health Effects). VCs considered in the

wildlife effects assessment were selected in part due to Aboriginal concerns about effects on habitat, changes in the distribution and behaviour of animal populations, and mortality.

25.5.2.2 *Change in Access or Ability to Access or Use Hunting Areas*

Skii km Lax Ha access to hunting areas in the Wildlife LSA has been by foot as there has been no road access to the Project until construction of the access road was completed in 2013. When Newhawk Gold Mines Ltd. operated the Sulphurets Advanced Exploration Project between 1986 and 1990, the Project was accessed by vehicles via a barge along Bowser Lake (Section 6.9.2.1, Past Projects). The public is not allowed to use the access road, nor did they have access to the barges on Bowser Lake.

Skii km Lax Ha's ability to access or use hunting areas in the LSA may be affected by the Project during the Construction, Operation, and Closure phases. The access road will be decommissioned during Closure so Skii km Lax Ha will be able to return to harvesting areas adjacent to the access road. It is assumed that Skii km Lax Ha could make arrangements with Pretivm to allow them to use the Brucejack Access Road if they were interested in accessing hunting areas adjacent to the access road.

25.5.2.3 *Change in Quality of Experience of the Natural Environment*

Project noise during the Construction, Operation, and Closure phases may affect the quality of hunting experience for Skii km Lax Ha harvesters in the Wildlife LSA and Wildlife RSA.

According to the Noise Predictive Study (Chapter 8), changes to baseline daytime and nighttime noise levels are expected to occur within the LSA (Section 8.6, Predictive Study Results for Noise) during Construction and Operation. Noise sources include blasting, vehicle, fixed wing and helicopter traffic. Noise modelling did not predict any noise exceedances at most human receptor locations in the RSA due to Project blasting or traffic (with the exception of non-workers residing at the Skii km Lax Ha Lodge; Section 21.6.1, Residual Effects on Human Health due to Noise), including cabins located at the mouths of Bowser Lake and Bell Creek (Figure 21.4-1). Helicopter noise is expected to be audible off site and within the RSA, although noise levels are predicted to be below the human annoyance threshold (outside the Brucejack Mine Site during Construction and Operation phases; [Appendix 8-B, Brucejack Gold Mine Project: Environmental Noise Modelling Study](#)).

Skii km Lax Ha hunting areas may be visible from the Brucejack Access Road during the Construction, Operation, and Closure phases. These hunting areas have not been ground-truthed to determine the accuracy of their location or to determine the visibility of the road from these areas.

25.5.2.4 *Change in the Abundance and Distribution of Resources*

According to the wildlife effects assessment (Chapter 18), activities during the Construction, Operation, and Closure phases may result in changes to wildlife. Potential effects include habitat loss or alteration, disruption of movement, sensory disturbance, direct and indirect mortality, attractants and chemical hazards.

Potential effects on species harvested by Skii km Lax Ha and designated wildlife species under the NFA (moose, mountain goats and grizzly bear) as well as migratory birds are described below. Effects on wildlife species located in the mine site area are not discussed as Skii km Lax Ha did not identify hunting areas in this area and this area is outside of the Nass Area.

Moose

- Very little (less than 1% of the RSA and less than 2% of the LSA) high-quality winter habitat will be impacted by the Construction of the Project due to the high elevation of the Brucejack Mine Site.

Project infrastructure that falls within moose winter habitat includes the Bowser Aerodrome and transmission line. The effect of habitat loss is expected to be negligible, therefore no residual effect of habitat loss and alteration on moose is predicted.

- Despite mitigation, effects on the disruption of moose movement are predicted to result in a residual effect due to the Brucejack Access Road. The presence of infrastructure along the Bowser River and Wildfire Creek (i.e., Brucejack Access Road) and low traffic volumes are expected to disrupt and partially alter or limit moose movement through these areas.
- Direct mortality from vehicle-moose collisions is expected to result in a residual effect on moose, with the highest potential along the Brucejack Access Road because of the high density of moose in this area. The Brucejack Access Road and transmission line right-of-way could increase hunting pressure on moose in the Wildlife RSA through increased unauthorized access by harvesters (Section 18.6.1, Potential Residual Effects on Moose).
- Sensory disturbance to moose is primarily associated with noise at lower elevations. Moose habitat within areas with elevated noise levels will be mainly associated with traffic and aircraft noise during Operation. However, this noise will be sporadic and short-lived so due to its temporary nature, the effect is considered negligible. After mitigation, no residual effect of sensory disturbance on moose is anticipated.

Mountain Goats

- Habitat mapping identified 98,042 ha of high-quality winter habitat for mountain goats in the RSA, 100 ha (0.1% of the Wildlife RSA, 3.5% of the LSA) will be lost or altered. Most of this loss is due to development of the Brucejack Mine Site. In the Wildlife RSA, 93,578 ha of high-quality summer habitat were identified. Of this area 113 ha (0.1% of the RSA, 2.8% of the LSA) will be lost or altered. The small amount of habitat loss, combined with the low density of mountain goats, means that habitat loss or alteration is not predicted to result in a residual effect on mountain goats.
- Mountain goats are sensitive to aircraft and helicopter noise disturbance (Chapter 18, Assessment of Potential Wildlife Effects). Helicopter noise during Construction and Operation may act as a barrier to wildlife movement. Management of helicopter flight paths to avoid mountain goat habitat and mine site reclamation will reduce the disruption of mountain goat movement. Although noise disturbance will be short in duration (e.g., one aircraft flight per day during Operation), noise is predicted to result in a residual effect on mountain goats due to helicopter and fixed-wing aircraft noise.
- Disruption of movement may result from development of the infrastructure at the Brucejack Mine Site. With mitigation, the effect of disruption of movement is not predicted to result in a residual effect on mountain goats.
- Goats may be at risk of vehicle collisions in areas where proposed roads are located at high elevation, including the area along the access road from the Knipple Transfer Area to the Brucejack Mine Site. Avalanche control may result in incidental mortality. With mitigation, residual effects due to direct mortality are not anticipated for mountain goats.
- A potential source for indirect mortality is an increase in hunting pressure resulting from greater accessibility to the Project area. The Brucejack Access Road and transmission line may provide new access to alpine areas for hunters using ATVs and snowmobiles. Alpine areas along the transmission line contain high-quality winter and summer habitat, including established Ungulate Winter Range (UWR). The access road also puts mountain goat habitat within a 1-km hike of hunters during all seasons. Mitigation measures to reduce the effect of increased access will include controlling access to the Brucejack Access Road. The potential for indirect mortality as a consequence of increased hunting pressure may still occur due to creating access into habitat along the transmission line, thus a potential adverse residual effect is predicted for mountain goats.

Grizzly Bears

- A total of 143 ha of high-quality habitat will be lost, representing 0.11% of the available grizzly bear high-quality habitat within the RSA and 1.43% within the Wildlife LSA. With mitigation, no residual effect on grizzly bear is predicted.
- The effect of sensory disturbance is not anticipated to have a residual effect on grizzly bears. Areas with elevated noise levels that may disturb grizzly bears during Operation are along the Brucejack Access Road as a result of traffic and aircraft, and along the upper Bowser River valley near the transmission line as a result of aircraft activities. Blasting noise will not result in any measureable functional loss of habitat. Traffic noise will result in disturbance to 23% of available high-quality habitat in the LSA and 2% in the Wildlife RSA, while aircraft noise will result in disturbance to 38% of available high-quality habitat in the LSA and 6% in the RSA (Chapter 18, Assessment of Potential Wildlife Effects).
- The Bowser River floodplain, Unuk River, Treaty Creek, Scott Pass, and slopes above Scott Creek link alpine habitat from Treaty Creek to the Knipple Glacier and may function as movement corridors for grizzly bears due to connectivity through an otherwise highly glaciated and steep landscape. The access road is located in the Bowser River valley, which was verified as a movement pathway for grizzly bears during the summer. Bear movement may be disrupted due to traffic, despite volumes remaining below the disturbance threshold of 10 vehicles per hour. Because the road is located in high-quality habitat and near salmon habitat, movement to important high-quality habitat areas may be disturbed at some locations along the access road. Despite mitigation, the effect of disruption of movement is predicted to result in a residual effect on grizzly bears.
- Grizzly bears may be at an elevated risk for a vehicle collision in areas that are adjacent to, provide access to, and directly overlap high-quality habitat. High-quality spring, summer, and fall habitat occurs along the access road ([Appendix 18-B](#), 2013 Wildlife Habitat Suitability Report; McElhanney 2007). Despite mitigation, the possibility of grizzly bear-vehicle collisions may occur and a residual effect is predicted for grizzly bear direct mortality.
- The effect of indirect mortality as a result of increased access into high-quality habitat is predicted to result in a residual effect on grizzly bears. Improved access due to the transmission line corridor and unauthorized access road use could result in increased hunting pressure in high-quality grizzly bear habitat areas such as the Bowser River floodplain and the Todedada wetland complex areas.
- Grizzly bears are also expected to experience a residual effect from attractants such as food waste (Section 18.6.3, Potential Residual Effects on Grizzly Bears).

Migratory Birds

- Waterbird physical habitat loss and alteration will occur within the RSA and LSA; however, the loss is minimal (less than 0.3% suitable habitat within the RSA).
- The extent of the waterbird habitat that is considered functionally lost or disturbed due to noise is less than 1% of the available habitat in the Wildlife RSA for any waterbird group regardless of the Project phase (Chapter 18, Assessment of Potential Wildlife Effects). Waterbirds within disturbed areas may flush or avoid habitat due to noise disturbance. Due to the small area of disturbed habitat, however, no effect of sensory disturbance on migratory waterbirds is anticipated.
- Less than 1% of the available landbird habitat in the Wildlife RSA may be disturbed due to Project noise. Due to the small amount of habitat, no effects from sensory disturbance are predicted for landbirds. Landbird habitat loss is expected to be temporary since birds will eventually establish other territories.

- Direct mortality of landbirds may occur because of traffic along the Brucejack Access Road. Construction activities could result in direct mortality of landbirds through clearing of vegetation actively used for nesting (Chapter 18, Assessment of Potential Wildlife Effects).
- The frequency of wetland bird electrocutions and collisions with the Project transmission lines and structures is expected to be rare and not adversely affect local populations. Some mortality due to collisions with vehicles and the transmission line is possible, particularly in high-use areas such as near large waterbodies, wetlands, or gullies, but this mortality is not expected to adversely affect the population (Chapter 18, Assessment of Potential Wildlife Effects).

American Marten

- The effect of habitat loss and alteration is not predicted to result in a residual effect on American marten due to the low amount of habitat loss (0.06% within the Wildlife RSA and 0.75% within the Wildlife LSA), and potential for reclamation and natural regeneration along the transmission line, where almost all of the disturbance will occur.
- The effect of disruption of movement is not predicted to result in a residual effect. The transmission line will be designed to be constructed with minimal clearing disturbances.
- The effect of direct mortality is not predicted to result in a residual effect. To reduce mortality along access roads, speed limits will be implemented.
- American marten are expected to experience a residual effect from attractants such as food waste (Section 18.6.5, Potential Residual Effects on Hoary Marten).

To date, the Skii km La Hax have not identified hunting areas in the mine site area. The mine site is located outside of the Nass Area. There is potential for effects on the abundance and distribution of species (moose and grizzly bear) harvested by Skii km Lax.

25.5.2.5 Change to the Quality of Resources

In other mine project EAs, Aboriginal groups have expressed concerns about contamination of country foods, including wildlife. Aboriginal groups may also reduce their reliance on country foods where mines are located as they perceive the quality of country foods has been compromised. This perception may limit hunting practices in areas they perceive to be less environmentally healthy, affecting wildlife consumption.

A quantitative Screening Level Risk Assessment (SLRA) for the LSA (Chapter 21, Assessment of Potential Health Effects, Section 21.6.4.2) predicted no potential effects due to Project development on the quality (tissue residues) of moose, snowshoe hare, or grouse (the species selected for assessment as representative of all country food wildlife species in the LSA and RSA) during Operation and Closure. Based on the measured baseline conditions and the modelled Operation and Closure conditions, the quality of wildlife resources is not expected to change substantially as a result of the proposed Project development. The magnitude of health effects due to consumption of foods from the Wildlife LSA is considered negligible and equivalent to baseline risk (Chapter 21).

Therefore no effects on Skii km Lax Ha consumption of wildlife taken from the Wildlife LSA are predicted.

25.5.2.6 Mitigation - Hunting Opportunities and Practices

At the time of Application/EIS submission, Aboriginal groups have not suggested mitigation measures related to wildlife effects. The Proponent has developed mitigation measures through the wildlife effects assessment (Chapter 18, Assessment of Potential Wildlife Effects). The Proponent will continue to consult Aboriginal groups involved in the review of the Project regarding proposed mitigation measures and will consider new mitigation measures proposed during the Application/EIS review stage.

Measures proposed by the Proponent to mitigate potential wildlife effects include:

- implementing provincial guidelines related to air traffic near mountain goat habitat
- controlling access to the Project site
- implementing speed limits along the access road
- clearing snow along the access road to provide escape routes
- avoiding building infrastructure near moose travel networks
- shuttling staff to the site to limit traffic along the access road
- managing vegetation at identified wildlife crossings to improve visibility
- implementing environmental management plans ([Air Quality Management Plan (Section 29.2); Wildlife Management and Monitoring Plan (Section 29.21); Waste Management Plan (Section 29.17); Noise Management Plan (Section 29.11)]).

To mitigate potential effects on Skii km Lax Ha access to hunting areas from the access road, the Proponent is willing to enter into an arrangement with Skii km Lax Ha to allow them to access these areas via the access road, subject to ensuring public safety.

25.5.3 Key Effects on Gathering Opportunities and Practices

25.5.3.1 Identifying Key Effects

The Construction, Operation, and Closure phases of the Project have the potential to affect Skii km Lax Ha gathering opportunities and practices. Potential effects to Skii km Lax Ha gathering areas are largely due to the upgrading and use of the Brucejack Access Road. To date, Nisga'a have not identified any gathering areas in the Terrestrial Ecosystem LSA.

Some chapters are of particular relevance to the assessment of impacts on gathering opportunities and practices as they provide information on project effects on plant species (Chapter 16, Assessment of Potential Terrestrial Ecology Effects, and Chapter 21, Assessment of Potential Health Effects). VCs considered in the terrestrial ecosystem effects assessment include a VC related to economically and culturally important plants.

25.5.3.2 Change in Access or Ability to Access or Use Gathering Areas

Skii km Lax Ha access to gathering areas in the Terrestrial Ecosystem LSA has been by foot as there has been no road access to the Project until construction of the exploration access road was completed in 2013. When Newhawk Gold Mines Ltd. operated the Sulphurets Advanced Exploration Project between 1986 and 1990, the Project was accessed by vehicles via a barge along Bowser Lake (Section 6.9.2.1, Past Projects). The public is not allowed to use the access road, nor did they have access to the barges on Bowser Lake.

Skii km Lax Ha's ability to access or use gathering areas in the Terrestrial Ecosystem LSA may be affected by the Project during the Construction, Operation, and Closure phases.

25.5.3.3 Change to the Abundance and Distribution of Plant Resources

According to the terrestrial ecosystem effects assessment (Chapter 16), activities during the Construction, Operation and Closure phases related to the Brucejack Access Road may result in changes to the abundance and distribution to plant resources:

- During Construction, there will be loss of ecosystem function and extent due to site preparation and clearing at the Brucejack Mine Site, Brucejack Transmission Line, and to a lesser extent at the Knipple Transfer Area and Tide Staging Area. Incremental losses are also expected during Closure due to slope stabilization, re-vegetation, and maintenance activities.
- During Operation of the Brucejack Access Road, alteration of ecosystem function and extent may occur as a result of dust deposition.
- During Construction of the transmission line and Operation of the access road, edge effects, windthrow, and fragmentation may occur.
- During Construction and Operation, approximately 74 ha (1.5%) of pine mushroom habitat and 84 ha (1.3%) of soapberry habitat in the LSA could be affected due to upgrading of the access road. Based on the current design of the transmission line, up to 137 ha (1.6%) of devil's club habitat in the Terrestrial Ecosystem LSA, which primarily includes moist to wet forested ecosystems, could be affected by construction activities. Pine mushroom, soapberry and devil's club habitat are considered to be generally representative of culturally important plant habitat, and the habitat of these plants can support a combination of or all three species (Chapter 16, Assessment of Potential Terrestrial Ecology Effects).

Effects on devil's club and pine mushroom habitat are predicted to result in residual effects due to surface clearing activities along the Brucejack Transmission Line. Surface clearing activities would likely result in the permanent removal of pine mushroom habitat, as pine mushrooms are connected to the living trees through a network of mycelium (i.e., fungus). Furthermore, the soil moisture, nutrient, and light regimes may be affected during clearing activities, which could result in alteration of a site's potential to provide habitat for devil's club.

The Application/EIS (Section 16.8.5) concludes that project activities will affect a small portion of culturally/economically important habitat and are thus considered of minor magnitude. Overall, the Project is not expected to pose a risk to the short-, medium-, or long-term viability of these resources. Therefore no effects on the abundance and distribution of plants harvested by Skii km Lax Ha are anticipated.

25.5.3.4 *Change to the Quality of Resources*

In other mine project EAs, Aboriginal groups have expressed concerns about contamination of country foods, including plants. Aboriginal groups may also reduce their reliance on country foods where mines are located as they perceive the quality of country foods has been compromised. This perception may limit hunting practices in areas they perceive to be less environmentally healthy, affecting plant consumption.

A quantitative Screening Level Risk Assessment (SLRA) for the LSA (Chapter 21, Section 21.6.4.2) predicted no potential effects of Project development on the quality (tissue metal concentrations) of berries during Operation and Closure. Based on the measured baseline conditions and the modelled Operation and Closure conditions, the quality of plant resources is not expected to change substantially as a result of the proposed Project development. This means that Skii km Lax Ha harvesters will be able to continue to consume berries at baseline rates and frequencies, and the potential for health effects due to consumption of foods from the LSA is considered negligible and equivalent to baseline risk (Chapter 21).

25.5.3.5 *Mitigation - Gathering Opportunities and Practices*

At the time of Application/EIS submission, Aboriginal groups had not identified mitigation measures related to gathering interests. The Proponent has developed mitigation measures through the terrestrial ecology effects assessment (Chapter 16). The Proponent will continue to consult Aboriginal groups involved in the review of the Project regarding proposed mitigation measures and will consider new mitigation measures.

Measures to mitigate potential effects on culturally important plants include minimizing site clearing, dust suppression and implementing the Ecosystem Management Plan.

To mitigate potential effects on Skii km Lax Ha access to gathering areas from the access road, the Proponent is willing to enter into an arrangement with Skii km Lax Ha to allow them to access these areas via the access road, subject to ensuring public safety.

25.5.4 **Key Effects on Habitations, Trails, Burial Sites, and Cultural Landscapes**

25.5.4.1 *Identifying Key Effects*

There is potential that the Construction and Operation phases of the Project may affect Skii km Lax Ha access and use of cabin sites. Skii km Lax Ha have identified three cabin sites in the LSA where there used to be cabins (Section 25.3.4.2). These sites are not currently used and include the following sites (Figure 25.3-5):

- Summit Lake along the Salmon River (adjacent to the Brucejack Transmission Line corridor);
- the confluence of Jeannette Creek (near Knipple Lake) and the upper Bowser River (140 m north of the Brucejack Access Road);
- the confluence of Todd Creek and the upper Bowser River (south side); and
- Todedada Lake.

Skii km La Ha identified three trails in the LSA. These trails follow the Salmon River valley (portions of which are now most likely covered by the Granduc Access Road), Wildfire Creek and Wildfire Ridge, and Scott Creek overland to Treaty Creek (Figure 25.3-5). The latter two trails are most likely either adjacent to or covered by the Brucejack Access Road. While these places have been mapped, none of them have been ground-truthed to confirm their location. No burial sites were identified by Skii km Lax Ha within the LSA.

Under the NFA, Treaty Rock is a designated heritage site (Borden number HdTj-1). Project components and activities are not predicted to impact this site.

25.5.4.2 *Change in Access or Ability to Access or Use Habitations, Trails, Burial Sites and Cultural Landscapes*

Skii km Lax Ha use of cabins and trails in the LSA has been by foot as there has been no road access to the Project area until construction of the exploration access road was completed in 2013. When Newhawk Gold Mines Ltd. operated the Sulphurets Advanced Exploration Project between 1986 and 1990, the Project was accessed by vehicles via a barge along Bowser Lake (Section 6.9.2.1, Past Projects). The public is not allowed to use the access road for safety reasons, nor did they have access to the barges on Bowser Lake. The Project is not predicted to impact water navigation in the LSA and RSA (Chapter 23, Assessment of Potential Navigation Effects).

Potential impacts on Skii km Lax Ha trails are not anticipated as parts of the trail in the Salmon River valley may already have been impacted by the construction of the Granduc Access Road. Portions of the Wildfire Creek and Wildfire Ridge, and Scott Creek (overland to Treaty Creek) trails may have been impacted by the construction of the Brucejack Access Road. There is some uncertainty relating to the location of these trails as none of them have been ground-truthed to confirm their location. It is assumed that Skii km Lax Ha could make an arrangement with Pretivm to allow them to use the Brucejack Access Road if they were interested in accessing the Wildfire Creek and Wildfire Ridge, and Scott Creek (overland to Treaty Creek) trails.

25.5.4.3 *Mitigation - Habitations, Trails, Burial Sites, and Cultural Landscapes*

At the time of Application/EIS submission, Aboriginal groups have not suggested any mitigation measures related to hunting interests. Pretivm will continue to consult Aboriginal groups involved in the review of the Project regarding proposed mitigation measures and will consider new mitigation measures proposed during the Application/EIS review stage.

To mitigate potential effects on Skii km Lax Ha access to trails and cabins from the access road, the Proponent is willing to enter into an arrangement with Skii km Lax Ha to allow them to access these areas via the access road, subject to ensuring public safety.

25.6 RESIDUAL EFFECTS ON CURRENT ABORIGINAL USE

After considering mitigation measures, no residual effects due to the Project are predicted on Skii km Lax Ha fishing opportunities and practices, Skii km Lax Ha gathering opportunities and practices, or Skii km Lax Ha habitations, trails, burial sites, and cultural landscapes. No effects are predicted on Treaty Rock, a provincially designated heritage site pursuant to the NFA.

25.6.1 Residual Effects on Hunting and Trapping Opportunities and Practices

After considering proposed mitigation, the Construction and Operation phases of the Project could have a residual effect on the abundance and distribution of some species harvested by Skii km Lax Ha as follows:

- Moose are expected to experience a residual effect from disruption of movement from the presence of infrastructure in the Bowser River valley and use of the Brucejack Access Road. Direct mortality as a result of vehicle-wildlife collisions is also expected to have a residual effect. Indirect mortality from increased hunting pressure is also expected despite mitigation.
- The presence of Project infrastructure, use of the Brucejack Access Road and other site roads is expected to have a residual effect on disruption of movement for grizzly bears. Residual effects to direct mortality are expected as a result of vehicle collisions. Increased harvesting pressure due to increased access is expected to result in a residual effect to grizzly bears from indirect mortality. Residual effects may also occur due to attractants (e.g., food waste) for grizzly bears.
- American marten are expected to experience a residual effect from attractants such as food waste. No effects are anticipated during the Closure and Post-closure phases.

Table 25.6-1 summarizes the timing, Project causes, cause-effect pathway, and mitigation for this residual effect.

Table 25.6-1. Summary of Residual Effects related to Hunting and Trapping Opportunities and Practices

Effect	Project Phase (Timing of Effect)	Project Component / Physical Activity	Description of Cause-Effect¹	Description of Mitigation Measure(s)	Description of Residual Effect
Change in the abundance and distribution of wildlife resources	Construction and Operation	Brucejack Access Road, transmission line, helicopter, fixed wing, vehicle traffic	Sensory disturbance, increased hunting pressure, wildlife-vehicle disruption of wildlife movement, direct and indirect mortality, attractants	Access restrictions, no hunting policy for employees and contractors, Wildlife Management and Monitoring Plan, helicopter flight paths, speed limits on access road (Chapter 18, Section 18.5)	Change in location and timing of wildlife, reduced availability of wildlife, displacement of hunting in the LSA and RSA.

¹ "Cause-effect" refers to the relationship between the Project component or activity that may causes the change or effect in the condition of the receptor VC, and the actual change or effect that results.

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

The following section characterizes the residual effects on Skii km Lax Ha hunting and trapping opportunities and practices as it relates to effects on the abundance and distribution of wildlife by using the following criteria: magnitude, geographic extent, duration, frequency, reversibility, and resiliency. Each of these terms is defined in Table 25.7-1.

25.7.1 Residual Effects Characterization for Hunting and Trapping Opportunities and Practices

Each identified residual effect (Section 25.6) is characterized and a significance conclusion of “not significant” or “significant” is assigned. The following definitions are applied:

- **Not significant:** Residual effects have no or low magnitude, local geographic extent, short- or medium-term duration, and occur sporadically if at all. There is a high level of confidence in the analyses. The effects on the receptor VC are indistinguishable from background conditions (i.e., occur within the range of natural variation).
- **Significant:** Residual effects have high magnitude; have regional or beyond regional geographic extent; are chronic (i.e., persist into the far future); and occur on a regular or continuous basis. Residual effects on the receptor VC are consequential (i.e., structural and functional changes in populations and communities). The probability of the effect occurring is medium or high. Confidence in the conclusions can be high, medium, or low.

The determination of significance takes into account the resilience of Skii km Lax Ha.

25.7.1.1 Likelihood for Residual Effects on Hunting and Trapping Opportunities and Practices

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 the risk of an effect occurring. Likelihood is considered in keeping with the most recent guidance issued in September 2013 by the BC EAO’s (2013) *Guideline for the Selection of Valued Components and Assessment of Potential Effects*.

The likelihood rating for the residual effect of a change in the abundance and distribution of wildlife resources on Skii km Lax Ha hunting and trapping opportunities and practices is considered to be **medium**. The probability of wildlife-vehicle interactions is likely, and unauthorized hunting, at least in the RSA, has already been observed by Skii km Lax Ha (D. Simpson, pers. comm., 2013).

25.7.1.2 Significance of Residual Effects on Hunting and Trapping Opportunities and Practices

Table 25.7-2 considers the significance ratings related to a change in the abundance and distribution of wildlife resources for Skii km Lax Ha hunting opportunities and practices, including a rationale for why a particular significance descriptor was selected.

25.7.1.3 Characterization of Confidence for Residual Effects on Hunting and Trapping Opportunities and Practices

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.

Table 25.7-1. Characterization of Residual Effects related to a Change in Distribution and Abundance of Wildlife

Magnitude	Duration	Frequency	Geographic Extent	Reversibility	Resiliency
Low: current use of land and resources for traditional purposes can be undertaken	Short term: limited to Construction phase	Once: occurs once	Project footprint: effects restricted to project components and activities	Reversible: an effect can be reversed	Low: significant disruption to current use of lands and resources
Moderate: current use of land and resources for traditional purposes may be affected	Medium term: Construction and Operation phase	Sporadic: occurs sporadically	Regional: effects extend into areas of Skii km Lax Ha traditional territory and Nass Wildlife Area	Not reversible: an effect cannot be reversed	Moderate: some disruption to current use of lands and resources
High: current use of land and resources for traditional purposes cannot be undertaken	Long term: beyond the Project life	Regular: occurs regularly			High: no disruption to current use of lands and resources
	Permanent: unlikely to recover to baseline conditions	Continuous: occurs continuously			

Table 25.7-2. Significance Rating for Effects of Change in the Abundance and Distribution of Resources on Skii km Lax Ha Hunting and Trapping Opportunities and Practices

Criteria	Rating	Comment
Magnitude	Low	Current use of lands and resources can be undertaken
Duration	Medium-term	Effects will occur during Construction and Operation phases.
Frequency	Sporadic	Helicopter, fixed wing and vehicle traffic noise will be sporadic. Wildlife vehicle collisions will be sporadic.
Geographic Extent	Regional	Effects may extend beyond project footprint
Reversibility	Reversible	Effects will begin to reverse during Closure phase.
Resiliency	Moderate	May be some disruption to hunting and trapping
Significance	Not significant	Due to the low magnitude rating, sporadic frequency, reversibility of the effect, and moderate resiliency, the residual effect is considered to be not significant.

Confidence ratings of low, moderate or high were defined as follows:

- 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/TU information provided.
- Moderate: 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/TU information provided.
- High: based on high quantity and quality of Project-specific and non-Project-specific information and/or strong overlap between VC and VC assessments. Detailed TK/TU information provided.

The confidence of the assessment of the residual effect for Skii km Lax Ha hunting and trapping opportunities and practices due to a change in the abundance and distribution of resources is **moderate**, based on the quantity and quality of Project-specific and non-Project-specific information, and the level of TK/TU information provided. Table 25.7-3 summarizes the characterization of significance of the residual effects to hunting and trapping opportunities and practices.

25.8 SUMMARY OF RESIDUAL EFFECTS AND SIGNIFICANCE FOR CURRENT ABORIGINAL USE

Table 25.8-1 summarizes the anticipated residual effects of the Project on Current Aboriginal Use. One residual effect is carried forward into the cumulative effects assessment (CEA).

25.9 CUMULATIVE EFFECTS ASSESSMENT FOR CURRENT ABORIGINAL USE

Cumulative effects are defined in this Application/EIS 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 the *Canadian Environmental Assessment Act, 2012* (2012) and is consistent with the IFC Good Practice Note on Cumulative Impact Assessment (ESSA Technologies Ltd. and IFC 2012), which refers to consideration of other existing, planned, and/or reasonably foreseeable future projects and developments. CEA is a requirement of the AIR and the EIS Guidelines and is necessary for the Proponent to comply with the *Canadian Environmental Assessment Act, 2012* (2012) and the *BC Environmental Assessment Act* (2002).

Table 25.7-3. Characterization of Residual Effects, Significance, Confidence and Likelihood on Hunting and Trapping Opportunities and Practices

Residual Effects	Significance of Adverse Residual Effects						Likelihood (low, medium, high)	Significance (not significant, significant)	Confidence (low, moderate, high)
	Magnitude (low, moderate, high)	Duration (short-term, medium-term, long-term, permanent)	Frequency (once, sporadic, regular, continuous)	Geographic Extent (Project footprint, regional)	Reversibility (reversible, not reversible)	Resiliency (low, moderate, high)			
Decrease in quantity and/or location of harvestable wildlife resources available to Skii km Lax Ha and displacement of hunting in LSA and RSA due to change in the abundance and distribution of resources	Low	Medium-term	Sporadic	Regional	Reversible	Moderate	Medium	Not significant	Moderate

Table 25.8-1. Summary of Residual Effects, Mitigation, and Significance on Current Aboriginal Use

Residual Effects	Project Phase(s)	Mitigation Measures	Significance
<i>Hunting/Trapping Opportunities and Practices</i> Decrease in the quantity and/or location of harvestable wildlife resources available to Skii km Lax Ha and displacement of hunting and trapping activities in LSA and RSA, due to change in the abundance and distribution of resources	Construction and Operation	Access restrictions, no hunting policy for employees, Wildlife Management and Monitoring Plan, helicopter flight paths, speed limits	Not significant

The CEA Agency issued an Operational Policy Statement in May 2013 entitled *Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012* (CEA Agency 2013b) which provides a method for undertaking CEA. Recently, the BC EAO also released the updated *Guideline for the Selection of Valued Components and the Assessment of Potential Effects* (BC EAO 2013), which includes advice for determining the need for a cumulative impact assessment. The CEA assessment methodology adopted 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 involves the following key steps, which are further discussed in the proceeding subsections:

- scoping;
- analysis;
- identification of mitigation measures;
- identification of residual cumulative effects; and
- determination of significance.

The approach to CEA is presented in Figure 25.9-1.

25.9.1 Establishing the Scope of the Cumulative Effects Assessment

The scoping process involves identification of the intermediate components and receptor VCs for which residual effects are predicted; definition of the spatio-temporal boundaries of the assessment; and an examination of the relationship between the residual effects of the Project and those of other projects and activities.

25.9.1.1 Identifying Intermediate Components and Receptor Valued Components for the Cumulative Effects Assessment

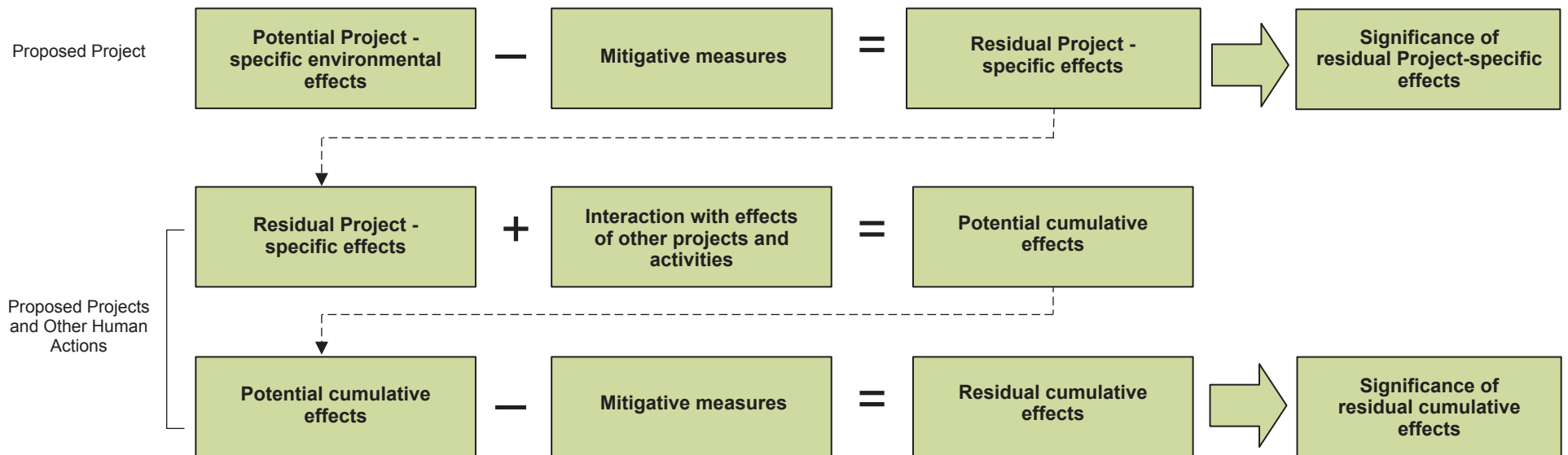
Receptor VCs included in the Current Aboriginal Use CEA were selected using four criteria following BC EAO (2013):

- there must be a residual environmental or social effect of the project being proposed;
- that environmental/social effect must be demonstrated to interact cumulatively with the environmental or social effects from other projects or activities;
- it must be known that the other projects or activities have been or will be carried out and are not hypothetical; and
- the cumulative environmental/social effect must be likely to occur.

The receptor VCs included in this Current Aboriginal Use CEA are:

- hunting and trapping opportunities and practices – one residual effect related to hunting and trapping opportunities and practices was identified in the EA (Section 25.6):
 - Change to the abundance and distribution of resources – causing a change in the location, timing, and quantity of wildlife resources harvested by Skii km Lax Ha in the LSA and RSA. This residual effect had a not significant rating, with a medium likelihood of the effect occurring. The confidence in the characterization of effects to Skii km Lax Ha was rated as moderate.

Figure 25.9-1
Steps to Cumulative
Effects Assessment



The intermediate components are processes or actions that may affect the receptor VC. In this case, the intermediate components are cumulative effects on wildlife abundance and resources. Changes in wildlife resources from the combination of the Brucejack Project and other past, present and future activities are discussed in the wildlife cumulative effects assessment (Section 18.9).

25.9.1.2 Potential Interaction of Projects and Activities with the Brucejack Gold Mine Project for Current Aboriginal Use

A review of the interaction between potential effects of the Brucejack Gold Mine Project and effects of other projects and activities on the hunting/trapping opportunities and practices was undertaken. The review assessed the projects and activities identified in Section 6.8.2 of the Assessment Methodology, including:

- o regional projects and activities that are likely to affect the receptor VC, even if they are located outside the direct zone of influence of the project;
- o effects of past and present projects and activities that are expected to continue into the future (i.e., beyond the effects reflected in the existing conditions of the receptor VC); and
- o activities not limited to other reviewable projects, if those activities are likely to affect the receptor VC cumulatively (e.g., forestry, mineral exploration, commercial recreational activities).

A matrix identifying the potential cumulative effect interactions related to hunting and trapping opportunities and practices is provided in Table 25.9-1. Interactions between the Project’s effects on hunting/trapping opportunities and practices, and other projects and activities, were assigned a colour code as follows:

- o not expected (white);
- o possible (grey); and
- o likely (black).

Table 25.9-1. Potential Cumulative Effect Interactions for Hunting and Trapping Opportunities and Practices

Projects and Activities	Hunting/Trapping Opportunities and Practices
Historical	
Eskay Creek Mine	
Goldwedge Mine	
Granduc Mine (Past Producer)	
Johnny Mountain Mine	
Kitsault Mine (Past Producer)	
Silbak Premier Mine	
Snip Mine	
Sulphurets Project	
Swamp Point Aggregate Mine	

(continued)

Table 25.9-1. Potential Cumulative Effect Interactions for Hunting and Trapping Opportunities and Practices (continued)

Projects and Activities	Hunting/Trapping Opportunities and Practices
Present	
Brucejack Exploration	
Forrest Kerr Hydroelectric Power	
Long Lake Hydroelectric	
McLymont Creek Hydroelectric Project	
Northwest Transmission Line	
Red Chris Mine	
Reasonably Foreseeable Future	
Arctos Anthracite Coal Mine	
Bear River Gravel	
Bronson Slope Mine	
Coastal GasLink Pipeline Project	
Galore Creek Mine	
Granduc Copper Mine	
KSM Project	
Kinskuch Hydroelectric Project	
Kitsault Mine	
Kutcho Mine	
LNG Canada Export Terminal Project	
Northern Gateway Pipeline Project	
Prince Rupert Gas Transmission Project	
Prince Rupert LNG Project	
Schaft Creek Mine	
Spectra Energy Transmission Line Project	
Storie Moly Mine	
Treaty Creek Hydroelectric Project	
Turnagain Mine	
Volcano Hydroelectric Project	
Land Use Activities – All Stages (past, present, future)	
Parks and Protected Areas	
Guide Outfitting	
Aboriginal Harvest (hunting/trapping, gathering)	N/A

(continued)

Table 25.9-1. Potential Cumulative Effect Interactions for Hunting and Trapping Opportunities and Practices (completed)

Projects and Activities	Hunting/Trapping Opportunities and Practices
Land Use Activities – All Stages (past, present, future) (cont'd)	
Hunting	
Trapping	N/A
Commercial Recreation	
Forestry	
Transportation	

Black = likely interaction between Brucejack Gold Mine Project and other project or activity.

Grey = possible interaction between Brucejack Gold Mine Project and other project or activity.

White = unlikely interaction between Brucejack Gold Mine Project and other project or activity.

N/A= Not Applicable.

Interactions coded as not expected (white) are considered to have no cumulative interaction with the Brucejack Gold Mine Project’s effects on hunting and trapping opportunities and practices, and are not considered further.

The land use activities of “Aboriginal harvest (hunting/trapping/gathering)” and “trapping” cannot interact with the Project since these activities are the VC being assessed in the chapter. Project effects to the VC cannot interact with the VC itself.

25.9.1.3 Spatio-temporal Boundaries of the Cumulative Effects Assessment

The CEA boundaries define the maximum geographic extent within which the cumulative effects assessment is conducted. They encompass the areas within, and times during which, the Project is expected to interact with the receptor VCs and with other projects and activities, as well as the constraints that may be placed on the assessment of those interactions due to political, social, and economic realities (administrative boundaries), and limitations in predicting or measuring changes (technical boundaries). The definition of these assessment boundaries is an integral part of the Current Aboriginal Use CEA, and encompasses possible direct, indirect, and induced effects of the Project on this topic.

Spatial Boundaries

The CEA spatial boundary is the outer extent of Skii km Lax Ha traditional territory (Figure 25.9-2). The total area of the CEA spatial boundary is 19,800 km².

Temporal Boundaries

The temporal boundary of the CEA used to frame cumulative effects includes the temporal boundary used for the assessment of potential effects on Current Aboriginal Use by the Brucejack Gold Mine Project:

- **Construction:** 24 months;
- **Operation:** 22-year run-of-mine life;
- **Closure:** 2 years (includes Project decommissioning, abandonment, and reclamation activities); and
- **Post-closure:** minimum of 3 years (includes ongoing reclamation activities and post-closure monitoring).

In addition, the boundary also includes the following temporal phases:

- **Historical:** The year 1918 is the historic temporal boundary, representing a time when organized mining activity first started to occur in the regional area. Any activity prior to 1918 is not considered further in the CEA;
- **Current:** Includes existing projects and activities which are operating, undergoing construction, or those that will be operating concurrently with the Project; and
- **Foreseeable Future:** Includes projects that have entered or completed the BC EA process.

25.9.1.4 *Potential for Cumulative Effects*

As stated in Section 6.9.1, cumulative effects to Current Aboriginal Use can manifest through a number of cause-effect pathways, including:

- **Nibbling loss.** The gradual disturbance and loss of land and habitat (e.g., clearing of land for new roads into a forested area).
- **Spatial or temporal crowding.** Cumulative effects can occur when there are too many projects or activities within an area in too brief a period of time. A threshold may be exceeded and the environment may not be able to recover to pre-disturbance conditions. This can occur quickly or gradually over a long period of time before the effects become apparent. Spatial crowding results in an overlap of effects among actions (e.g., noise from a highway near multiple mines). Temporal crowding may occur if effects from different actions overlap or occur before a VC has had time to recover.
- **Growth-inducing potential.** Each new action can stimulate further actions to occur. The effects of these “spin-off” actions (e.g., increased vehicle access into a previously remote area lacking roads) may add to the cumulative effects already occurring in the vicinity of the proposed action, creating a “feedback” effect. Such actions may be considered “reasonably-foreseeable actions.”

Interacting projects and activities may combine to create additive, synergistic, or induced effects. An additive effect increases the effect in a linear way (e.g., two projects both remove foraging habitat for the same wildlife species). A synergistic effect may result in an effect greater than the sum of the two actions (e.g., two projects remove escape habitat for mountain goat, shifting their foraging activities to an area where they are susceptible to increased predation). An induced effect may result when an effect stimulates another effect (e.g., construction of road access can stimulate “tie-in” roads for forestry or other projects, which may result in additional environmental effects).

Table 25.9.2 identifies the effects of the Brucejack Gold Mine Project that have the potential to act cumulatively with other projects and activities on Current Aboriginal Use.

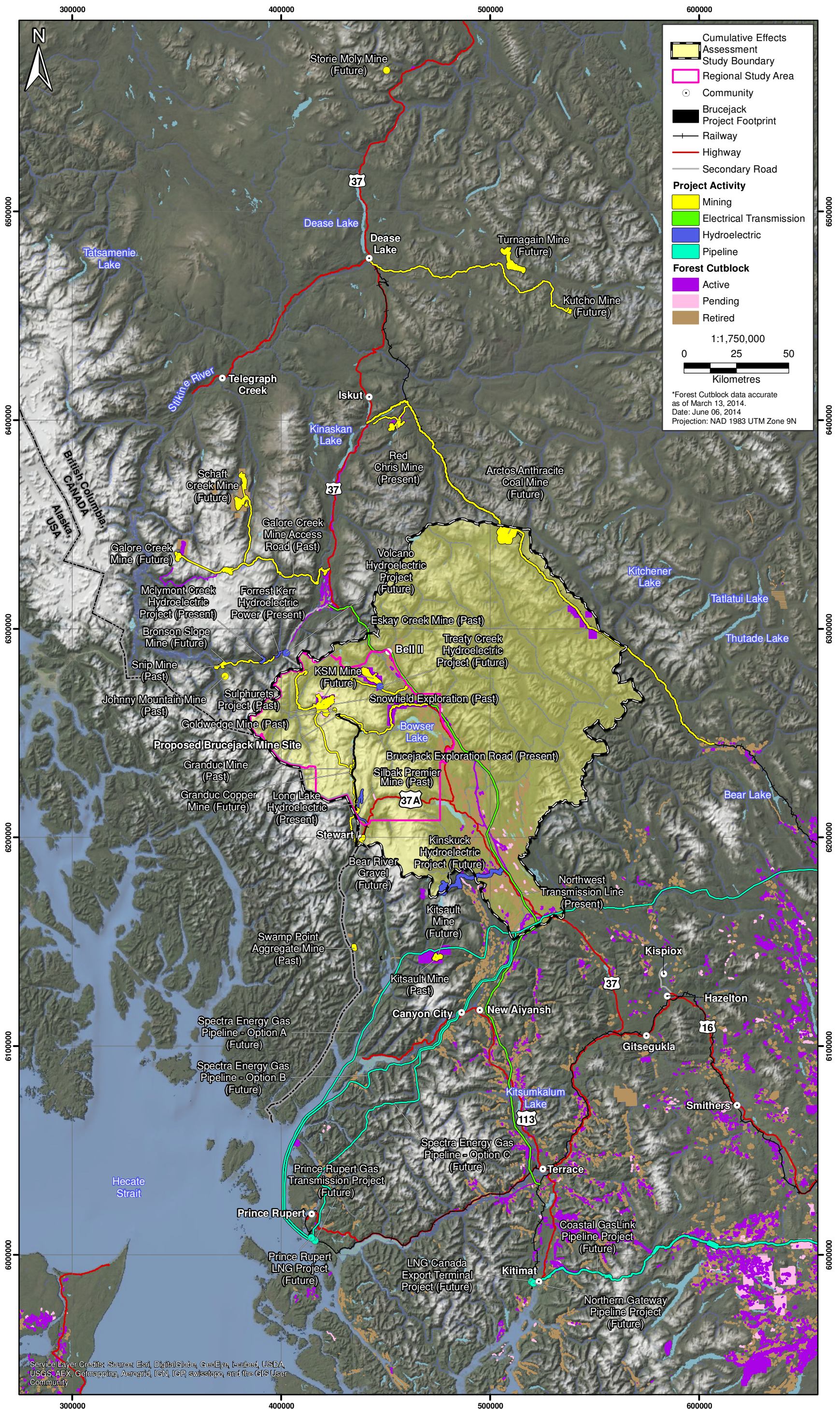
25.9.2 **Analysis of Cumulative Effects**

The CEA will discuss the cumulative effect of past, present and anticipated future projects in the CEA spatial boundary and how the projects, as a whole, will interact with residual effects to hunting and trapping opportunities and practices. The assessment will be informed by the assessment of cumulative effects on moose. This approach is being taken as details around the reasonably foreseeable future projects are not known. As the supporting evidence is not available, a detailed discussion will not be possible. In other words, the analysis will be a qualitative discussion based on a conservative approach.

As stated in Section 25.9.1.3, however, the CEA can only assess the cumulative effects of the projects that may interact with the Brucejack Gold Mine Project.

Figure 25.9-2

Current Aboriginal Use:
Cumulative Effects Assessment Spatial Boundary



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Table 25.9-2. Potential Cumulative Effects between the Brucejack Gold Mine Project and Other Projects and Activities on Hunting and Trapping Opportunities and Practices

	Brucejack Gold Mine Project	Past Project or Activity	Existing Project or Activity	Reasonably Foreseeable Future Project or Activity	Type of Potential Cumulative Effect
<i>Hunting and Trapping Opportunities and Practices</i>					
Change in the abundance and distribution of wildlife resources	X	Eskay Creek, Granduc, Sulphurets	Brucejack Exploration, NTL, Forrest Kerr, McLymont, Long Lake, Red Chris, parks and protected areas, guide outfitting, hunting, commercial recreation, forestry, transportation	Arctos, Bear River, Bronson Slope, Galore, Granduc Copper, KSM, Kitsault, Schaft, Treaty Creek, Volcano	Nibbling loss, growth-inducing, additive

Change in the Abundance and Distribution of Wildlife Resources

The wildlife effects assessment (Section 18) evaluated the potential effects of the Brucejack Project on 10 wildlife VCs. These included six mammal species or groups - moose, mountain goat, grizzly bear, American marten, hoary marmots and bats, three groups of birds - raptors, waterbirds and forest and migratory landbirds, and one amphibian - western toad.

The assessment evaluated the potential effects of:

1. Direct habitat loss and alteration - the area of high quality habitat lost in the project footprint and altered in a buffer surrounding the footprint was measured.
2. Sensory disturbance - the area where wildlife would be excluded or have their behaviour altered due to project-related noise from aircraft, vehicles, generators and surface blasting was evaluated.
3. Disruption of movement - the potential for construction of project facilities, such as roads, to slow or deter wildlife from moving through the RSA was evaluated.
4. Direct mortality - the potential for mortality from vehicle-wildlife collisions was evaluated for the project roads.
5. Indirect mortality - the potential for new roads to open up new areas to hunters was evaluated.
6. Attractants - the potential for camps and other facilities to attract predators such as bears and American marten was evaluated.
7. Chemical hazards - the potential for wildlife to consume or accumulate metals or other chemical from water in Brucejack Lake was evaluated.

Mitigation to reduce potential effects on wildlife is discussed in Section 18, including several key mitigation actions (Table 25.9-3):

Table 25.9-3. Key Design and Mitigation Actions to Reduce Potential Effects on Wildlife VCs

Potential Effect	Key Design and Mitigation Actions to Reduce Potential Effects on Wildlife
Habitat loss and alteration	Minimizing the footprint to the smallest operable size.
Noise disturbance	Operating an underground mine, with limited aboveground blasting during construction. Enacting a helicopter management plan to avoid wildlife, particularly mountain goats. Maintaining noise control on project facilities, such as generators.
Disruption of Movement	Low traffic on access road will limit hesitation at crossing the road. Setting and monitoring speed limits will reduce mortality and risk to animals crossing the road.
Direct Mortality	Setting and monitoring speed limits of 40 km/hr on the access roads. Employee education. Pre-clearing surveys during construction.
Indirect mortality (hunting)	Gating and staffing the access road during construction and operations to prevent hunters from entering the area. Deactivating the access road at closure to prevent hunters from entering the area. A no hunting policy for employees on the project site.

(continued)

Table 25.9-3. Key Design and Mitigation Actions to Reduce Potential Effects on Wildlife VCs (completed)

Potential Effect	Key Design and Mitigation Actions to Reduce Potential Effects on Wildlife
Attractants	Creating a “camp hardening” and waste management guidelines for all camps and facilities.
Chemical hazards	Controlling water quality in Brucejack Lake to limit exposure of wildlife to chemicals of potential concern. Proper storage and management of chemicals and substances such that wildlife do not have access.

With mitigation in place, certain potential effects were evaluated as having residual effects and were evaluated for significance (Table 25.9-4).

The cumulative effects assessment for wildlife included five wildlife VCs (moose, mountain goats, grizzly bears, American marten and western toad). Five potential effects were evaluated for these VCs (noise disturbance, disruption of movement, direct mortality, indirect mortality, and attractants) (Table 25.9-4).

The overall effect of change in the abundance and distribution of wildlife resources was rated as a residual effect for the potential to alter Aboriginal use of these resources and evaluated in Section 25.9.4. The justification for a residual effect is detailed in the following sections for each wildlife VC evaluated in the wildlife cumulative effects assessment.

Table 25.9-4. Potential Effects Evaluated for Wildlife VCs and Residual Effects

Potential Effect	Wildlife VCs									
	Moose	Goats	Bear	Marten	Marmot	Bats	Raptor	Water Birds	Land Birds	W. Toads
Habitat Loss										
Noise Disturbance		X								
Disruption of Movement	X		X							
Direct Mortality	X		X							X
Indirect Mortality	X	X	X							
Attractants			X	X						
Chemical Hazards										

Grey = Potential effect was evaluated for a particular VC.

X = Predicted residual effect.

Moose

The cumulative effects assessment for moose evaluated three potential effects: disruption of movement, direct mortality and indirect mortality (hunting on new access roads) (Section 18.9.2.1). The cumulative effects of increased traffic from multiple projects on Highway 37 were evaluated for its effects on disruption of movement and direct mortality from vehicle-moose collisions. Disruption of movement across Highway 37 was given low magnitude rating because the current and expected traffic levels are below thresholds where large mammals are reported to avoid crossing roads.

Direct mortality due expected increases in traffic from multiple projects and resulting increase in moose-vehicle collisions was given a medium magnitude rating in the wildlife cumulative effects assessment. This was because the Nass moose population is known to be reduced in size and vehicle-moose collisions are known to cause mortality for moose on this highway. Indirect mortality,

increased access and hunting in formerly inaccessible areas due to the construction of industrial roads, was given a low magnitude because it is becoming standard practice for industrial projects on the Highway 37 corridor to have access control on their access roads.

The wildlife cumulative effects assessment rated each of these three potential cumulative effects on moose as not-significant (Table 18.9-17 in Section 18.9.5.1).

The magnitude of the potential effect determines, to a large degree, the significance rating. A useful way of defining the magnitude of effects to wildlife VCs is to consider that a low magnitude effect is one that is theoretically predicted but is unlikely to be sufficiently large to be readily measurable. A medium magnitude effect is one that may be measurable, such as measuring the number of moose that are killed in vehicle-moose collisions on the highway. A high magnitude effect is one where the effect is readily measurable and results in observable population-level consequences.

Moose are currently hunted in the Skii km Lax Ha territory along Highway 37 and around Bowser lake, where forestry roads and boats give access into the high quality moose range in the Bell-Irving River and Bowser River valleys. One important mitigating factor is the gating of the Brucejack project access road. The road was formerly open to moose hunters, but is now closed, thereby likely decreasing the hunting access and rate in the Skii km Lax Ha area on the west of Highway 37.

Given the conclusions of the wildlife cumulative effects chapter, and the mitigation planned by the Project, the potential cumulative effects on moose in the Skii km Lax Ha territory, and therefore on the Skii km Lax Ha use of moose as a resource is predicted to be residual, but small effect.

Mountain Goat

The wildlife cumulative effects assessment evaluated the potential for sensory disturbance and indirect mortality (hunting) to adversely affect the goat population in the RSA. Cumulative effects of sensory disturbance on goats may occur on the massif that hosts the Knipple Glacier, where both the Brucejack and KSM projects have their mine sites. The cumulative magnitude of the effect of multiple projects on goats was rated to have a low magnitude in the wildlife CEA area.

Potential effects of indirect mortality (increased hunting) are expected to have a low magnitude on goats, because mining projects which are building new access roads on the Highway 37 corridor are typically gating and controlling access to their projects, which limits the ability of hunters to access new areas.

The potential effects on landuse in the CEA area of these projects is rated as a residual effect, but the magnitude of this effect is likely to be small. The effects of the combination of Brucejack and KSM mines will largely be felt on the western side of the RSA, along the Unuk River. This area is currently inaccessible from Highway 37. At the present time, the only way to hunt this area would be via boat from Alaska.

Grizzly Bear

Four potential effects on grizzly bear were evaluated in the wildlife cumulative effects assessment, including: disruption of movement, direct mortality, indirect mortality and attractants. Disruption of movement and direct mortality were evaluated for increased traffic from multiple projects on Highway 37. Some parts of the highway, particularly in the south, are above published thresholds of traffic rate where grizzly bears avoid crossing the road. Direct mortality of grizzly bears is not as frequent as moose on Highway 37, but has the potential to increase as the number of projects in the Highway 37 corridor increases.

Indirect mortality due to new roads and hunting was evaluated with the assumption that the trend in controlling access to new project roads would continue in the Highway 37 corridor. Camps and facilities acting as attractants to grizzly bears was also evaluated with the assumption that all projects are implementing similar, industry standard, camp and waste management plans to limit the attractiveness of projects to bears.

The wildlife cumulative effects assessment evaluated these four effects as residual cumulative effects and provided magnitude ratings for disruption of movement (medium), direct mortality (low), indirect mortality (low) and attractants (low). All of these potential cumulative effects were rated as not-significant in the wildlife cumulative effects assessment.

The effects on current Aboriginal land use are unlikely to be affected in the cumulative effects area because the grizzly bear population is considered large and robust in this area, potential effects of cumulative development were evaluated as non-significant, and First Nations harvest of grizzly bears is low or non-existent in the area.

American Marten

The cumulative effect of attractants from camps and facilities was evaluated for American marten in the wildlife cumulative effects assessment. Following mitigation, the magnitude of this potential effect was rated as low and the effect was rated as not-significant for this wildlife VC. Mitigation in camps is well understood and largely effective. The range of American marten is relatively small, compared to the distribution of projects on the landscape, so it is unlikely that an individual marten or sub-population would interact with multiple projects and incur cumulative effects.

American marten are actively harvested by members of the Skii km Lax Ha in the cumulative effects study area. With a conclusion that cumulative effects from multiple projects would have a not-significant effect on the population of American marten in the cumulative effects assessment area, no residual effect was predicted for the harvest of marten by Aboriginal peoples.

Western Toad

Western toads were evaluated in the wildlife cumulative effects assessment because a residual effect of direct mortality was predicted in the effects assessment. Aboriginal groups do not actively use western toad as part of land use, and no residual effect was predicted for this wildlife VC.

25.9.3 Mitigation Measures to Address Cumulative Effects

25.9.3.1 Mitigation Measures to Address Cumulative Effects on Hunting and Trapping Opportunities and Practices

Management plans, monitoring, and adaptive management will be implemented to mitigate impacts of the Project on hunting and trapping opportunities and practices as outlined in Section 25.5.2.5 including:

- Section 29.11, Noise Management Plan;
- Section 29.16, Transportation and Access Management Plan; and
- Section 29.21, Wildlife Management and Monitoring Plan.

No additional Project mitigation has been identified other than measures discussed in Section 25.5.2.5, to address cumulative effects to hunting and trapping opportunities and practices due to change in the

abundance and distribution of resources. It is expected that other large resource development projects would adopt mitigation and management measures similar to those of the Brucejack Gold Mine Project.

25.9.4 Cumulative Residual Effects for Current Aboriginal Use

Cumulative residual effects are those effects remaining after the implementation of all mitigation measures and are summarized in Table 25.9-5.

Table 25.9-5. Summary of Cumulative Residual Effects on Current Aboriginal Use

Valued Component	Timing of Cumulative Residual Effect ⁴	Description of Cause-Effect ⁵	Description of Additional Mitigation (if any)	Description of Cumulative Residual Effect
Hunting and trapping opportunities and practices	Construction and Operation	Cumulative sensory disturbances to wildlife, unauthorized or illegal harvesting, attractants, disruption of movement, and wildlife-vehicle interactions in the CEA spatial boundary	N/A	Changes to the location, timing and abundance of wildlife harvests by Skii km Lax Ha across the CEA spatial boundary

25.9.5 Characterizing Cumulative Residual Effects, Likelihood, Significance, and Confidence for Current Aboriginal Use

The cumulative residual effects for each receptor VC were characterized by considering the Project’s incremental contribution to the cumulative residual effect under two scenarios:

1. Future case without the Project: a consideration of residual effects from all other past, existing, and future projects and activities on a sub-component without the Brucejack Gold Mine Project.
2. Future case with the Project: a consideration of all residual effects from past, existing, and future projects and activities on a sub-component with the Brucejack Gold Mine Project.

This approach helps predict the relative influence of the Brucejack Gold Mine Project on the residual cumulative effect for each VC, while also considering the role of other projects and activities in causing that effect.

The consideration of both scenarios led to the conclusion that the cumulative residual effects will be the same both with and without the Project. The Project is not considered to be a significant contributor with respect to the cumulative residual environmental effects. On the contrary, the number of projects expected to act cumulatively with the Brucejack Gold Mine Project, and the scale and magnitude of effects expected from some of these projects, crowd out the effects of the Brucejack Gold Mine Project to the point where they are immaterial. For that reason, this CEA will only look at the modelling for the cumulative residual effects with the Project, as the same results and conclusions will be reached without the Project.

⁴ Refers to the Project phase or other timeframe during which the effect will be experienced by the intermediate receptor or VC.
⁵ “Cause-effect” refers to the relationship between the Project component/physical activity that is causing the change or effect in the condition of the receptor VC.

25.9.5.1 *Cumulative Residual Effects Characterization for Current Aboriginal Use: Hunting and Trapping Opportunities and Practices*

In keeping with BC EAO (2013), likelihood of cumulative effects was considered prior to significance for effects on Current Aboriginal Use. Once a significance determination is made, the confidence in the significance prediction is evaluated to assess scientific certainty in the result. Each of these as they relate to the effects on hunting/trapping opportunities and practices are discussed below.

Table 25.9-6 summarizes the assessment of cumulative residual effects for hunting/trapping opportunities and practices. The lack of data on the timing and design of reasonably foreseeable future projects has required a conservative approach to assessing significance to cumulative residual effects. In other words, the assessment is based on a scenario of high development versus low development.

Change in the Abundance and Distribution of Resources on Hunting and Trapping Opportunities and Practices

The wildlife CEA concluded that low level changes in the population of furbearers, bears, moose and other wildlife hunted by Aboriginal groups. These changes may or may not be detectable through wildlife monitoring, since wildlife monitoring activities often have large uncertainties. In the event that all reasonably foreseeable future projects commence on time and as designed, the cumulative change in the abundance and distribution of resources as a result of the activities of these projects will increase the magnitude and duration of the effect on hunting and trapping opportunities and practices. Much of the change in magnitude is based on increased sensory disturbances, as well as the vehicle-wildlife interactions such as moose with Project traffic on access roads and highways. The amount of Project traffic anticipated, or the amount of wilderness opened up by the Project is small compared to the total amounts of each anticipated by the high development scenario predicted in this assessment.

Likelihood

The likelihood of cumulative effects to hunting and trapping opportunities and practices from changes in the abundance and distribution of resources is **high** because of the fact that industrial developments all inevitably produce noise, light, and other disturbances in order to operate; and because of the predictable responses of certain wildlife harvested by Aboriginal groups to sensory disturbances. Wildlife habitat will be destroyed or altered as a result of site clearing and infrastructure development for all of the projects. The probability of wildlife-vehicle interactions at some point in the life of these projects is also high.

Significance

In the event that all reasonably foreseeable future projects commence on time and as designed, the cumulative residual effect of change in the abundance and distribution of resources on hunting and trapping opportunities and practices, even with the Brucejack Gold Mine Project, will be **not significant**. The CEA for wildlife (Section 18.9) determined that no significant adverse cumulative residual effects to moose, mountain goat, grizzly bear, marten, or migratory birds were anticipated. Therefore, the cumulative adverse residual effects to the abundance and distribution of wildlife resources were also characterized as not significant.

Confidence

The confidence in the assessment of cumulative residual effects is **moderate** for Skii km Lax Ha, due to the quantity and quality of site-specific information and TK/TU information provided by each group, as discussed in Section 25.7.1.3.

Table 25.9-6. Significance Determination of Cumulative Residual Effects for Hunting and Trapping Opportunities and Practices – Future Case with the Project

Cumulative Residual Effects	Cumulative Residual Effects Characterization Criteria						Likelihood (low, medium, high)	Significance of Adverse Cumulative Residual Effects (not significant, significant)	Confidence (low, moderate, high)
	Magnitude (low, moderate, high)	Duration (short-term, medium-term, long-term, permanent)	Frequency (once, sporadic, regular, continuous)	Geographic Extent (Current Aboriginal Use LSA, Current Aboriginal Use RSA)	Reversibility (reversible, not reversible)	Resiliency (not resilient, resilient)			
Changes to the location, timing and abundance of harvests by Skii km Lax Ha due to change in the abundance and distribution of resources	Moderate	Long term	Not significant	Current Aboriginal Use RSA	Reversible	Resilient	Not significant	High	Moderate

25.10 EFFECTS ASSESSMENT CONCLUSIONS FOR CURRENT ABORIGINAL USE

The results of the Project effects assessment and CEA for Current Aboriginal Use are summarized in Table 25.10-1 below.

Table 25.10-1. 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
<i>Hunting and Trapping Opportunities and Practices</i>				
Change in location, timing, and amount of wildlife harvested by Skii km Lax Ha, and displacement of hunting and trapping activities due to change in the abundance and distribution of resources.	Construction and Operation	Access restrictions, no hunting policy for employees, Wildlife Management and Monitoring Plan, helicopter flight paths, access road speed limits (Chapter 18, Section 18.5)	Not significant	Not significant

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