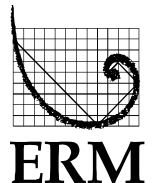


**BRUCEJACK GOLD MINE PROJECT**  
Application for an Environmental Assessment Certificate /  
Environmental Impact Statement

---

## **Appendix 24-A**

### **Brucejack Gold Mine Project: Non-traditional Land Use Baseline**



Pretium Resources Inc.

# BRUCEJACK GOLD MINE PROJECT Non-traditional Land Use Baseline



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December 2013

# BRUCEJACK GOLD MINE PROJECT NON-TRADITIONAL LAND USE BASELINE

December 2013  
Project #0194150-0019-0090

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Prepared for:



Pretium Resources Inc.

Prepared by:



Engineers and Scientists

Rescan™ Environmental Services Ltd.  
Vancouver, British Columbia

# Executive Summary

# Executive Summary

The Brucejack Property is situated within the Sulphurets District in the Iskut River region, approximately 20 kilometres northwest of Bowser Lake or 65 kilometres north of the town of Stewart, British Columbia. This land and resource use baseline study describes the non-traditional land uses near the proposed Brucejack Gold Mine Project (the Project). The information contained herein is intended to inform the provincial and federal Environmental Assessment (EA) processes for the Project.

Commercial interests (Crown-granted or third-party tenures and licences), non-commercial interests (public recreation), parks, ecological reserves, Protected Areas, and provincial land and resource management plans are considered within a local study area (LSA), covering approximately 31,847 hectares (ha), and a regional study area (RSA), encompassing approximately 374,400 ha. The boundaries of the LSA and RSA were informed by the baseline studies of biophysical disciplines, such as wildlife and terrestrial ecology, which considered local watershed boundaries, key wildlife habitat and ecosystem components selected for monitoring.

The Project is located on provincial Crown land and falls within the Cassiar Iskut-Stikine Land and Resource Management Plan (CIS LRMP) and the Nass South Sustainable Resource Management Plan (Nass South SRMP). Table 1 summarizes the types of land uses within the LSA and RSA. Information related to First Nations' land uses within the LSA and RSA is provided in the Traditional Knowledge/Traditional Use reports prepared for each First Nation. Information related to Nisga'a land use interests will be described in the Nisga'a Interests chapter of the EA Application/Environmental Impact Statement.

**Table 1. Land Uses within the Local and Regional Study Areas**

Types of Land Use	Description
Provincial Parks, Ecological Reserves and Protected Areas	Border Lake Provincial Park is located near the western edge of the RSA. There are no ecological reserves or Protected Areas within the RSA or LSA.
Guide Outfitting	Three registered guide outfitting licences partially overlap the RSA, two of which also overlap portions of the LSA.
Hunting	The RSA partially overlaps four Wildlife Management units (WMU) where various species are hunted. Two WMUs also overlap portions of the LSA. Moose is the most hunted species among resident hunters.
Trapping	Six trapping licences overlap the RSA and three trapping licences overlap the LSA.
Commercial Recreation	Seven commercial recreation licences intersect or lie within the RSA (heli-skiing, fishing, lodging, guided mountaineering, guided freshwater recreation, and multiple use). Two of these commercial recreation licences overlap the LSA (guided mountaineering and heli-skiing).
Forestry	The RSA falls within the Cassiar Timber Supply Area (TSA) and Nass TSA. Seven forest licences are located within the RSA, three of which also fall within the LSA.
Mining and Mineral Exploration	There are 297 mineral claims held by six entities within the LSA, and 1,206 mineral claims held by 64 entities within the RSA. There are 71 placer claims held by five entities within the RSA.
Water	There are two water licences located within the LSA and an additional three water licences located within the RSA.
Public Recreation	Potential recreational activities in the LSA and RSA include hiking, camping, snowmobiling, and riding ATVs.

(continued)

**Table 1. Land Uses within the Local and Regional Study Areas (completed)**

Types of Land Use	Description
Agriculture	None.
Oil and Gas	None.
Transportation and Utilities	<p>Highways and Roads: Highways 37 and 37A are paved and located on the eastern and southern edge of the RSA, respectively. A small number of forest service roads are located within the RSA near Highway 37. The Granduc Mine road is found in the southern tip of the LSA.</p> <p>Airports/airstrips: There are two airstrips in the LSA.</p> <p>Electrical Transmission Lines: Once built, the Northwest Transmission Line will extend along the eastern border of the RSA. Construction of the Long Lake Hydro transmission line in the LSA began in 2011 and the line was operational by December 2013. The Aiyansh-Stewart Transmission Line runs along the southern tip of the RSA.</p> <p>Telecommunications Sites: None.</p>

# Acknowledgements

## Acknowledgements

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This report was produced for Pretium Resources Inc. by Rescan Environmental Services Ltd. It was written by Heather Henley (MNRM) and edited by Maurice DePaoli (B.A.). Andrew Robinson (M.Sc.) provided senior technical review. Greg Norton (M.Sc.) was the project manager and Nicole Bishop (B.Sc.) the project coordinator. Graphics production was coordinated by Francine Alford (B.F.A.), GIS production was coordinated by Pieter van Leuzen (M.Sc.) and report production was coordinated by Robert Tarbuck (BTECH).



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# BRUCEJACK GOLD MINE PROJECT NON-TRADITIONAL LAND USE BASELINE

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Appendix 1. Mineral Tenures in the Land Use Local Study Area

# Acronyms and Abbreviations

## Acronyms and Abbreviations

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

<b>AAC</b>	Annual Allowable Cut
<b>ATV</b>	All-Terrain Vehicle
<b>BC</b>	British Columbia
<b>BC EAO</b>	British Columbia Environmental Assessment Office
<b>BC MFLNRO</b>	British Columbia Ministry of Forestry, Lands, and Natural Resource Operations
<b>BC MOE</b>	British Columbia Ministry of Environment
<b>BC MOTI</b>	British Columbia Ministry of Transportation and Infrastructure
<b>BC MWLAP</b>	British Columbia Ministry of Water, Land, and Air Protection
<b>DFO</b>	Department of Fisheries and Oceans
<b>GMD</b>	General Management Directions
<b>GOABC</b>	Guide Outfitters Association of British Columbia
<b>ha</b>	Hectare
<b>ILMB</b>	Integrated Land Management Bureau
<b>ILRR</b>	Integrated Land and Resource Registry
<b>km</b>	Kilometre
<b>km<sup>2</sup></b>	Square kilometre
<b>kV</b>	Kilovolt
<b>LFH</b>	Last Frontier Heliskiing
<b>LRMP</b>	Land and Resource Management Plan
<b>LSA</b>	Local Study Area
<b>m<sup>3</sup></b>	Cubic metre
<b>MW</b>	Megawatt
<b>NAFA</b>	North American Fur Auctions
<b>NLG</b>	Nisga'a Lisims Government
<b>NTL</b>	Northwest Transmission Line
<b>NWA</b>	Nass Wildlife Area
<b>OGMA</b>	Old Growth Management Area
<b>Pretivm</b>	Pretium Resources Incorporated
<b>the Project</b>	The Brucejack Gold Mine Project

## NON-TRADITIONAL LAND USE BASELINE

<b>Rescan</b>	Rescan Environmental Services Limited
<b>RMZ</b>	Resource Management Zones
<b>RSA</b>	Regional Study Area
<b>SRMP</b>	Sustainable Resource Management Plan
<b>tpd</b>	Tonnes per day
<b>TSA</b>	Timber Supply Area
<b>US</b>	United States
<b>VOK</b>	Valley of Kings
<b>WMU</b>	Wildlife Management Unit



# 1. Introduction

# 1. Introduction

---

This report identifies commercial interests (Crown-granted or third-party tenures and licences), non-commercial interests (public recreation), parks, ecological reserves and protected areas, and provincial land and resource management plans in the vicinity of the Brucejack Gold Mine Project (the Project). Commercial interests refer to tenures and licences granted by the Crown and enable the holder to undertake an activity on provincial Crown land. These interests include trapping, guide outfitting, hunting, fishing, mineral exploration, mining and forestry.

The Project is subject to the British Columbia's *Environmental Assessment Act*, 2002 (BCEAA) and the federal *Canadian Environmental Assessment Act 2012* (CEAA). This report has been prepared to support Pretium Resources Inc. (Pretium)'s application for an Environmental Assessment (EA) Certificate (Application) under the provincial EA process and an Environmental Impact Statement (EIS) under the federal EA process. Information from this report will be incorporated into the relevant chapters (i.e., health, socio-economics, land use etc.) of the Application/EIS.

## 1.1 PROJECT DESCRIPTION

Pretium is proposing to develop a 2,700 tonne per day (tpd) underground gold and silver mine. The Brucejack property is located at 56°28'20" N latitude by 130°11'31" W longitude, approximately 950 km northwest of Vancouver, 65 km north-northwest of Stewart, and 21 km south-southeast of the closed Eskay Creek Mine (Figure 1.1-1). The proposed Mine Site will be located near Brucejack Lake with vehicle access provided by an existing exploration access road from Highway 37. A transmission line will connect the Mine Site to the provincial power grid near Stewart or along Highway 37; and two routing options are under consideration.

The Project is located within the Kitimat-Stikine Regional District. The traditional territories claimed by the Skii km Lax Ha overlap all Project components. The traditional territories of the Gitksan Nation and Gitanyow First Nation lie downstream of the Project. The Tahltan Nation traditional territory lies mainly to the north of the Project, although the southern tip of its territory overlaps the eastern extent of the Exploration Road. Components of the Project are also located in the Nass Area as defined in the Nisga'a Final Agreement.

The Project is located within the boundary range of the Coast Mountain Physiographic Belt, along the western margin of the Intermontane Tectonic Belt. The local terrain ranges from generally steep in the western portion of the Project area in the high alpine with substantial glacier cover to relatively subdued topography in the eastern portion of the Project area towards the Bell-Irving River. The Brucejack mine site will be located above the tree line in a mountainous area at an elevation of approximately 1,400 metres above sea level (masl); surrounding peaks measure 2,200 m in elevation. The access and transmission corridors will span a range of elevations and ecosystems reaching a minimum elevation near the Bell-Irving River of 500 masl. Sparse fir, spruce, and alder grow along the valley bottoms, with only scrub alpine spruce, juniper, alpine grass, moss, and heather covering the steep valley walls.

The general area of the Brucejack Property has been the target of mineral exploration since the 1960s. In the 1980s Newhawk Gold Mines Ltd. conducted advanced exploration activities at the current site of the proposed Brucejack mine site that included 5 km of underground development, construction of an access road along the Bowser River and Knipple Glacier, and resulted in the deposition of 60,000 m<sup>3</sup> of waste rock within Brucejack Lake.

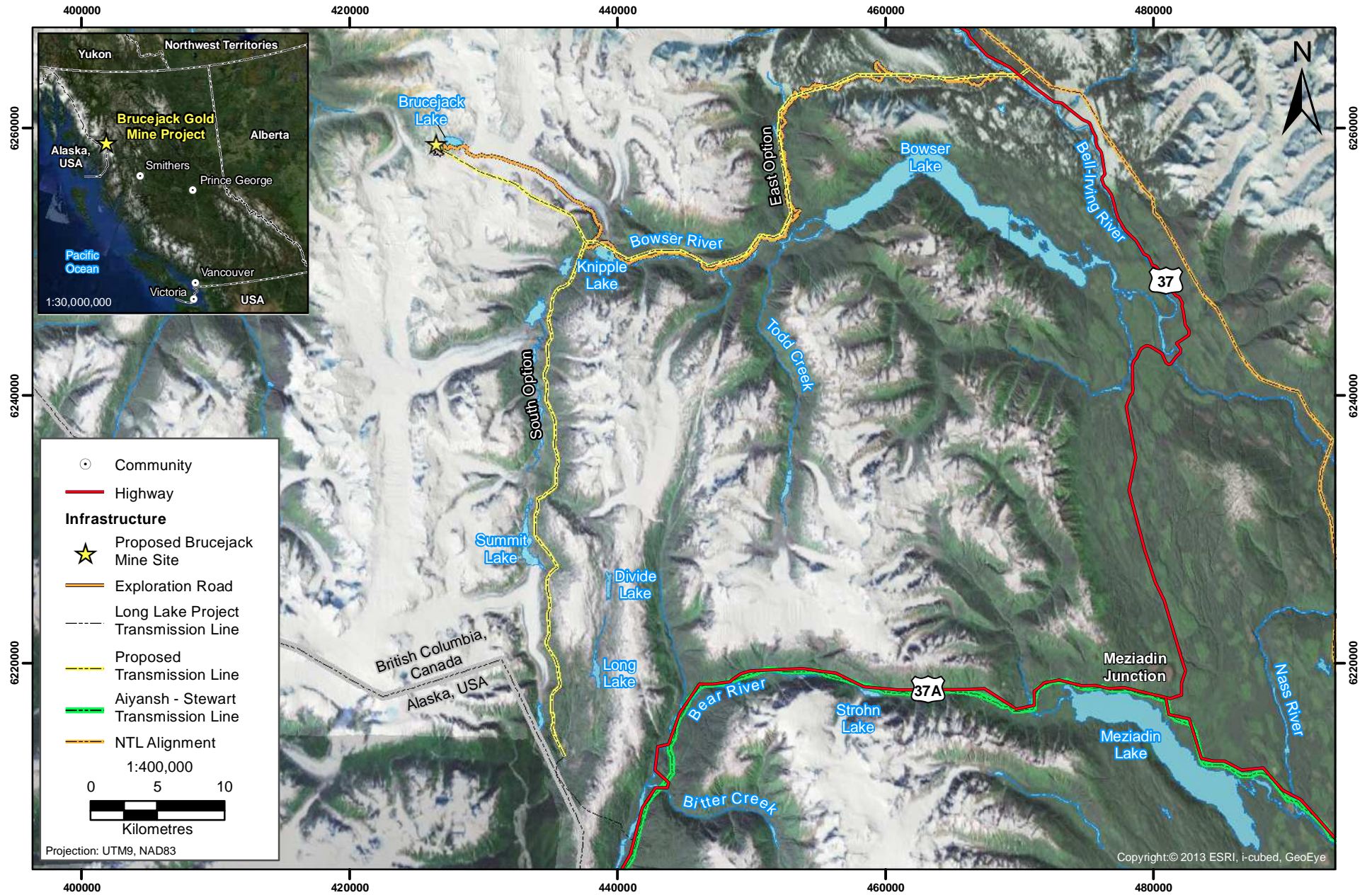


Figure 1.1-1

Figure 1.1-1

Environmental baseline data was collected from Brucejack Lake and the surround vicinity in the 1980s to support a Stage I Impact Assessment for the Sulphurets Project proposed by Newhawk Gold Mines Ltd. Silver Standard Resources Inc. commenced recent environmental baseline studies specific to the currently proposed Project in 2009 which have been continued by Pretium, following its acquisition of the Project in 2010. The scope and scale of the recent environmental baseline programs have varied over the period from 2009 to the present as the development plan for the Project has evolved.

## 2. Regulatory Framework

## 2. Regulatory Framework

Land uses in the Project’s study areas are informed by the Cassiar Iskut-Stikine Land and Resource Management Plan (or CIS LRMP; BC ILMB 2000), and the Nass South Sustainable Resource Management Plan (or Nass South SRMP; BC MFLNRO 2012a).

The CIS LRMP (October 2000) represents the consensus reached as a result of a three-year interest-based negotiation process that involved approximately 25 public, First Nations, provincial government, and stakeholder representatives. It encompasses 5.2 million hectares in northwest British Columbia. The Nass South SRMP was completed in June 2012 with the involvement of the Gitanyow First Nation, Nisga’a Nation as represented by the Nisga’a Lisims Government (NLG), provincial government agencies, stakeholders, and the public. It encompasses about 662,500 ha and provides landscape-level direction for resource management within the plan area. Section 4.1 provides further information on each plan.

Table 2-1 provides an overview of the legislation and key guidelines governing land use in the province based on the Crown-granted tenures and licences, and parks that have been identified in the LSA and RSA. There are no agricultural land reserves, oil and gas tenures and licences or national parks in the RSA or LSA (see Section 4) so the legislation applying to these interests is not mentioned. Indian reserves and private land is considered in the socio-economics baseline report.

**Table 2-1. Land and Resource Use Regulatory Framework**

Legislation/Guidelines	Description
(BC) <i>Mines Act</i> (1996c)	Applies to all mines during exploration, development, construction, production, closure, reclamation and abandonment activities. Before starting any work in or about a mine, the owner, agent, manager or any other person must hold a permit, and must have filed a plan outlining the details of the proposed work, and a program for the conservation of cultural heritage resources, and for the protection and reclamation of land, watercourses and cultural heritage resources affected by the mine.
(BC) <i>Forest and Range Practices Act</i> (2002a)	Sets the framework for achieving “results-based” forestry on public land. Framework requires forest operators to set specific targets or strategies for environmental objectives established by government for soils, timber, fish, biodiversity, cultural heritage, forage and associated plant communities, visual quality, water, wildlife and resource and recreation features. Operators must prepare five-year Forest Stewardship Plans designed to achieve the targets or strategies, and must operate on the land base in accordance with targets or strategies and their plans.
(Canada) <i>Species at Risk Act</i> (SARA; 2002b)	Identifies wildlife species considered at risk, categorizing them as threatened, endangered, extirpated or of special concern, and prohibits a number of specific activities related to listed species, including killing or harming the species, as well as the destruction of critical habitat which has been identified in any of the plans required under the Act. Bill C-38 proposes amendments to the Act.
(BC) <i>Wildlife Act</i> (1996a)	Regulates the management of wildlife in BC, other than on federal lands. It provides the framework for regulating hunting, angling and for the protection and management of the Province’s fish and wildlife resources. The Act establishes wildlife management and critical wildlife area; declares and protects endangered species; regulates the import and export of wildlife; includes provisions for granting, suspending and cancelling licenses; and establishes and enforces quotas.

(continued)

Table 2-1. Land and Resource Use Regulatory Framework (completed)

Legislation/Guidelines	Description
(Canada) <i>Fisheries Act</i> (1985)	Protects Canada's fisheries as a natural resource by safeguarding both fish and fish habitat. Provides protection for waters frequented by fish or areas constituting fish habitat. Applies to both coastal and inland waters, and is generally administered by Fisheries and Oceans Canada (DFO), although the environmental protection parts of the Act are administered by Environment Canada. Bill C-39 has proposed amendments to the Act.
(BC) <i>Fish Protection Act</i> (1997)	Protects and restores fish habitat in waters under provincial jurisdiction. Prohibits construction of dams on significant rivers. Allows for designation of sensitive streams and imposes restrictions on granted of <i>Water Act</i> licences that will impact those streams. Provides for the protection and recovery of fish in sensitive streams. Provides for the granting of stream flow protection licences possessing a community-based interest in the stream.
(BC) <i>Park Act</i> (1996d)	Establishes parks, conservancies and recreation areas on Crown land in BC, and sets out mechanisms for their administration. While the Act emphasizes conservation, it allows for use or exploitation of parks under prescribed circumstances.
(Canada) <i>Migratory Birds Convention Act</i> (1994)	Enacts an international agreement between Canada and the U.S. for the protection of migratory birds. Prohibits the deposit of oil, oil waste or other substances harmful to migratory birds in any waters or areas frequented by migratory birds, except as authorized by regulation. Prohibits the disturbance of the nests of migratory birds.
(BC) <i>Water Act</i> (1996a)	Vests property and the right to the use and flow of all the water in any stream in BC in the provincial Crown, except to the extent that private rights have been established under licences or approvals given under the Act. Establishes a licencing regime for surface water. The BC government is in the process of modernizing the Act.
(BC) <i>Mineral Tenure Act</i> (1996a)	Authorizes the registration of mineral and placer tenures. Provides framework for tenure administration.
(BC) <i>Land Act</i> (1996b)	Governs the disposition, management and administration of Crown land in the province, as well as the surveying of Crown land. Disposition of Crown land may be made by temporary permit, licence of occupation, lease, right-of-way or easement or by Crown grant in fee simple. Specific regulations cover fees, the creation of land reserves, and the prohibition of certain recreational vehicles in certain areas.
<i>Protected Areas of British Columbia Act</i> (2000)	Establishes parks, ecological reserves and places that are listed in schedules to the Act. Transfers existing Class "A" parks and ecological reserves previously established by orders-in-council to schedules to the Act.
(BC) <i>Transportation Act</i> (2004)	Deals with public works related to transportation, as well as the planning, design, holding, construction, use, operation, alteration, maintenance, repair, rehabilitation and closing of provincial highways.
<i>Wildlife Guidelines for Backcountry Tourism/Commercial Recreation</i> (BC MOE 2006)	These guidelines were developed to ensure that backcountry recreation activities are conducted in a manner that does not compromise the current distribution of wildlife, the sustainability of their populations, or the integrity of their habitats. These guidelines are intended for use by commercial tourism operators tenured under the <i>Land Act</i> when conducting activities on Crown land, including water-based activities.
<i>Navigable Waters Protection Act</i> (NWPA; 1985)	The Section 5 of the Act requires that "no work shall be built or placed in, on, over, under, through or across any navigable water without the Minister's prior approval of the work, its site and the plans for it."

## 3. Methods



## 3. Methods

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### 3.1 STUDY AREAS

Land uses are characterized in two study areas: a LSA and an RSA (Figure 3.1-1). The LSA covers about 31,847 ha, including the Project footprint. The LSA includes the area that will be directly disturbed by activities associated with the Project and includes a buffer around the areas of direct disturbance. The LSA is defined by a buffer extending at least to the height of land or 1.5 km around the outer limits of the proposed Project infrastructure and linear developments, whichever comes first.

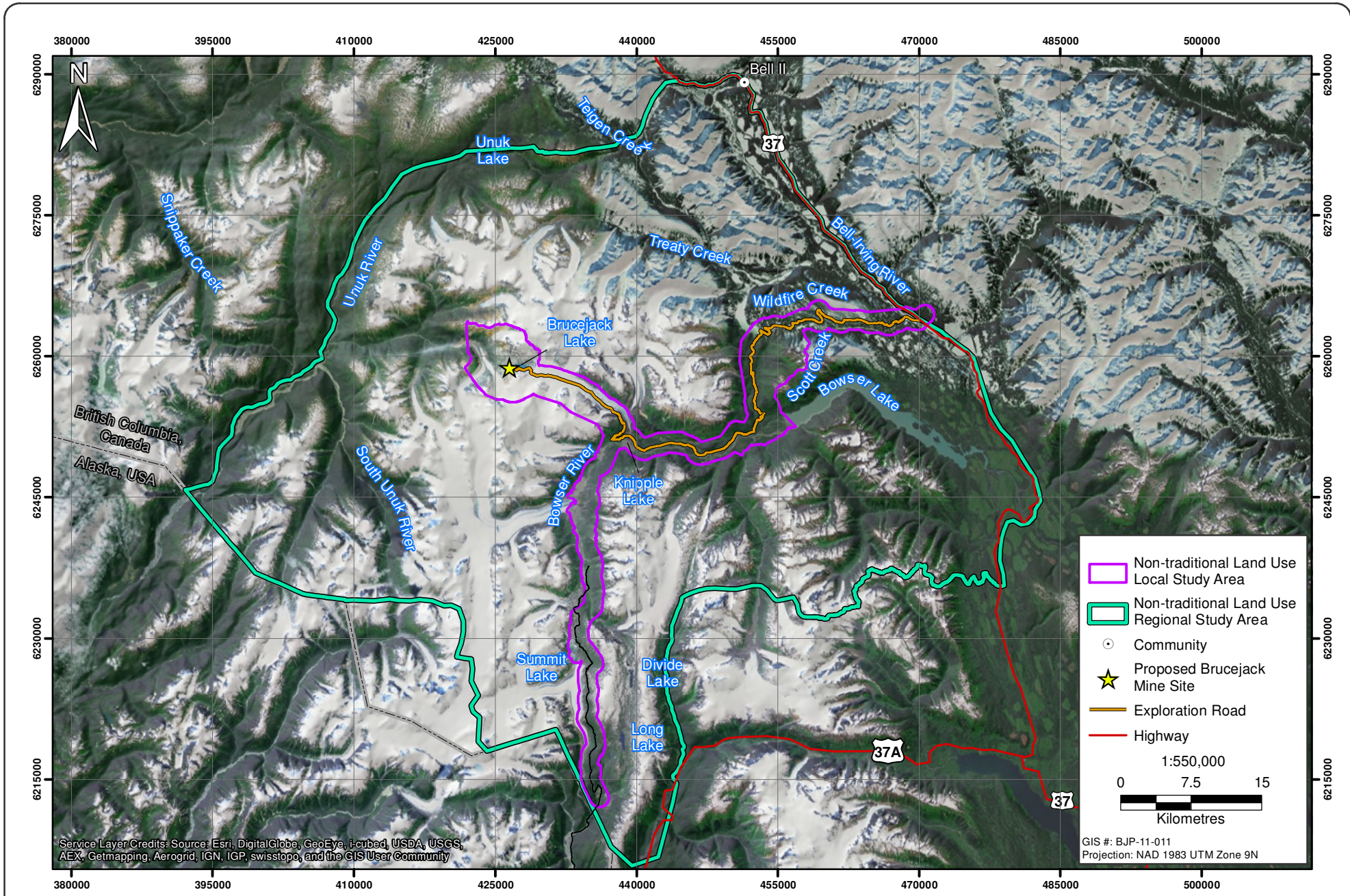
The RSA is approximately 374,400 ha in size and follows the same boundary of the RSA used in the Wildlife and Terrestrial Ecosystem baseline reports (Rescan 2013a and 2013b). Human land uses and wildlife activities are influenced by terrain. Consequently, naturally occurring barriers (e.g., major mountain ranges and watersheds) define the subsets of the different types of human land use and movement (e.g., hunting, trapping, guide outfitting, etc.). The RSA considers the area that provides habitat for wildlife species that may come into contact with proposed Project infrastructure during the course of a season or life of the Project. The RSA boundary considers other ecological factors, including distinctive ecosystems, the species with the largest habitat range, and natural landform barriers (such as mountain ranges) beyond which effects diminish considerably.

### 3.2 INFORMATION SOURCES

Information for the study was gathered using desk-based and field research between May 2012 and May 2013. Although the collection of baseline data, including the identification of relevant tenured and non-tenured land and resource interests, is unique to the Project, baseline studies were also informed by the data and interviews collected in support of the application for an Environmental Assessment Certificate submitted by Seabridge Gold for the KSM Project (Rescan Environmental Services Ltd. 2013) due to its adjacent location to the Brucejack Project and as part of a data sharing agreement between Seabridge Gold and Pretium. Information on Crown tenures and Crown-designated lands (parks and protected areas) were obtained from the provincial Integrated Land and Resource Registry or Data BC (BC ILRR). The CIS LRMP and Nass South SRMP were reviewed to identify management direction pertinent to the LSA and RSA.

Harvest data for resident and non-resident hunting and trapping licences was obtained from the Fish and Wildlife Branch, BC Ministry of Environment (BC MOE). Statistics regarding angling use of the Bell-Irving River within the RSA was obtained from the BC MOE, and Fisheries and Oceans Canada (DFO). Table 3.2-1 summarizes the databases and information sources reviewed to obtain information for this report. References and personal communications are provided at the end of this report.

Provincial and local government representatives were engaged to ground-truth data and to gain further context about land uses in the study areas. Guide outfitting, trapping, forestry, and commercial recreation tenure holders were contacted by letter in July of 2012, inviting them to participate in an interview (Table 3.2-2). Eight face-to-face or telephone interviews were conducted with tenure and licence holders within the RSA between July 2012 and January 2013. Semi-structured interview schedules were developed for each land use type. Interview questions were generally open-ended and focused on determining the type of land use, harvest levels or intensity of use (quantified where possible), means of access to tenure or licence, seasonal variations in use, and tenure related income.



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GIS #: BJP-11-011  
Projection: NAD 1983 UTM Zone 9N

Figure 3.1-1

Figure 3.1-1



### Brucejack Project Non-traditional Land Use Study Area



Table 3.2-1. Information Sources Reviewed

Source	Database or Reference
Province of BC	Data Distribution Service <a href="https://apps.gov.bc.ca/pub/dwds/home.so">https://apps.gov.bc.ca/pub/dwds/home.so</a> (accessed August 2012) Mineral Tenures Online BC <a href="https://www.mtonline.gov.bc.ca/mtov/home.do">https://www.mtonline.gov.bc.ca/mtov/home.do</a> (accessed August 2012)
BC Integrated Land Management Bureau (ILMB - now BC MFLNRO)	Nass South Sustainable Resource Management Plan <a href="http://ilmbwww.gov.bc.ca/slrp/srmp/south/nass/index.html">http://ilmbwww.gov.bc.ca/slrp/srmp/south/nass/index.html</a> (accessed August 2012) Cassiar Iskut - Stikine Land and Resource Management Plan <a href="http://ilmbwww.gov.bc.ca/slrp/lrmp/smithers/cassiar/index.html">http://ilmbwww.gov.bc.ca/slrp/lrmp/smithers/cassiar/index.html</a> (accessed August 2012) Integrated Land and Resource Registry <a href="https://webmaps.gov.bc.ca/imfs/imf.jsp?site=libc_ilrr">https://webmaps.gov.bc.ca/imfs/imf.jsp?site=libc_ilrr</a> (accessed August 2012)
BC Ministry of Environment (BC MOE)	Big game harvest statistics for resident & non-resident hunters from hunter sample and guide declarations 1976-2008 British Columbia Freshwater Angling Guides 2012/2013 <a href="http://www.env.gov.bc.ca/fw/fish/guide/docs/angling_guides_list.pdf">http://www.env.gov.bc.ca/fw/fish/guide/docs/angling_guides_list.pdf</a> (accessed December 2012) Guide Outfitters in British Columbia 2010-2011 <a href="http://www.env.gov.bc.ca/fw/wildlife/hunting/non_resident/docs/guide_outfitters.pdf">http://www.env.gov.bc.ca/fw/wildlife/hunting/non_resident/docs/guide_outfitters.pdf</a> (accessed December 2012) Water licences query <a href="http://a100.gov.bc.ca/pub/wtrwse/water_licences.input">http://a100.gov.bc.ca/pub/wtrwse/water_licences.input</a> (accessed February 2013)
BC Ministry of Forests, Lands, and Natural Resource Operations (BC MFLNRO)	Nass Timber Supply Area (TSA) <a href="http://www.for.gov.bc.ca/hts/tsa/tsa43/index.htm">http://www.for.gov.bc.ca/hts/tsa/tsa43/index.htm</a> (accessed October 2012) Cassiar Timber Supply Area (TSA) <a href="http://www.for.gov.bc.ca/hts/tsa/tsa04/#documents">http://www.for.gov.bc.ca/hts/tsa/tsa04/#documents</a> (accessed October 2012)
Department of Fisheries and Oceans Canada (DFO)	Region 6 - Skeena <a href="http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/fresh-douce/region6-eng.htm">http://www.pac.dfo-mpo.gc.ca/fm-gp/rec/fresh-douce/region6-eng.htm</a> (accessed April 2013)
BC Parks (also part of BC MOE)	Recreation - Park Finder <a href="http://www.env.gov.bc.ca/bcparks/explore/explore.html">http://www.env.gov.bc.ca/bcparks/explore/explore.html</a> (accessed June 2012)
BC Ministry of Transportation and Infrastructure (BC MOTI)	Highway 37 North: Route information <a href="http://www.th.gov.bc.ca/popular-topics/driver_info/route-info/hwy37/hwy37.htm">http://www.th.gov.bc.ca/popular-topics/driver_info/route-info/hwy37/hwy37.htm</a> (accessed December 2012)
BC Environmental Assessment Office (BC EAO)	Project Information Center (e-PIC) <a href="http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_home.html">http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_home.html</a> (accessed December 2012)
Guide Outfitters Association of BC Member List	Guide Outfitters Association of BC - Outfitter Directory <a href="http://www.goabc.org">http://www.goabc.org</a> (accessed June 2012)
Airports	Air Broker Center - List of Airports in British Columbia <a href="http://www.aircraft-charter-world.com/airports/northamerica/britishcolumbia.htm">http://www.aircraft-charter-world.com/airports/northamerica/britishcolumbia.htm</a> (accessed January 2013)

### 3.3 DATA LIMITATIONS

The quality and extent of available secondary data varies by source. Data limitations are described below.

Table 3.2-2. Interviews Requested and Held with Tenure Holders

Land Use	Tenure Holder	Certificate Number	Interview requested (y/n)	Interview completed (y/n)
Guide Outfitting	G. Brown (Operated by H. McCowan)	601066*	Y	Y
	Milligan Outfitting	601036	Y	Y
	Northwest Ranching and Outfitting	600502	Y	N**
	J. Major	601074	Y	Y
Trapping	D. Green	TR621T001	Y	Y
	D. Simpson	TR616T011	Y	Y
	F. Banerd	TR614T101	Y	N
	D. Drinnan	TR621T003	Y	Y
	S. Johnson	TR617T015	N	N
Commercial Recreation	Ministry of Environment	6403593	N	N
	Spey Lodge	6407503	Y	Y
	Last Frontier Heliskiing/ Rivers West Enterprises	6406136/6407499	Y	Y
	Bear Enterprises	6406985	Y	Y
	Explorer's League: World and Wilderness Rafting	6406943	Y	N**
	G. Brown	6403546	Y	Y
Forestry	A. Callbreath	A16884	Y	N

Note:

\*601066 was the guide outfitting license that represented the combined 601074 and 601073 guide outfitting licence areas prior to summer 2013.

\*\*Information relevant to these tenures was derived from research completed as part of the KSM application.

### 3.3.1 BC Parks Visits

Data relating to the number of visits and visitor trends in certain northwest BC Parks is limited as BC Parks does not collect information on the number of visitors for all provincial parks, especially parks that are inaccessible, and do not have large number of visitors

### 3.3.2 Resident and Non-resident Hunter Harvest Data (1976 to 2008)

Registering kills is a mandatory practice for both resident and non-resident hunters in the province. Kills are registered within each Wildlife Management Unit (WMU) with the Fish and Wildlife Branch of BC MOE and are tallied through the Hunter Sample and the Guide Declaration. However, in some cases kill data are incomplete or cannot be assigned to a specific WMU. In these instances, data may be assigned to either a region or the province as a whole. Furthermore, specific data on Aboriginal hunting activities and species harvested were not available as Aboriginal hunters are not required to apply for wildlife tags or to record their harvests with the Fish and Wildlife Branch. As such, available data on resident hunters provide partial information for assessing the overall level of hunting in the RSA. As a result, data from WMUs that overlap the RSA may under-represent the actual wildlife harvest.

### 3.3.3 Trapline Harvest Data (1985 to 2009)

Trapline harvest data depend on the willingness of individual licence holders to provide the data. Harvest numbers may be under reported as these figures are not independently verified. Additionally, enforcement of registering harvest data has decreased since the 1980s due to the decline in the trapping industry.

## 4. Results and Findings

## 4. Results and Findings

### 4.1 REGIONAL AND LANDSCAPE LEVEL PLANS

Two provincial land and resource management plans partially overlap the Project's RSA - the CIS LRMP and the Nass South SRMP (MFLNRO 2000; BC MFLNRO 2012a). Figure 4.1-1 illustrates the location of the Project in relation to the areas managed by each plan.

#### 4.1.1 Cassiar-Iskut Stikine Land and Resource Management Plan

The CIS LRMP area encompasses 5.2 million hectares in northwestern BC (MFLNRO 2000). The plan was completed in October 2000 and defines specific land and resource management objectives for the plan area. The plan includes four sections: Management Direction, Research and Inventory Priorities, Economic Strategy Priorities, and Implementation and Monitoring.

The CIS LRMP creates three categories of management direction for the plan area: general management direction (GMD), area-specific management, and protected area management. The GMD represents a baseline for resource activities on all Crown land outside of Protected Areas. Area-Specific Management refers to geographic resource management zones with distinct biophysical characteristics and resource issues. The GMD applies in these geographic zones, except where different objectives and strategies were developed for certain resource values or activities. The goals and objectives of the plan are highlighted in Table 4.1-1.

A monitoring report to assess whether the CIS LRMP is meeting its objectives is to be produced biannually by a Plan Implementation and Monitoring Officer in conjunction with the CIS LRMP Monitoring Committee. The first report was developed by the Ministry of Sustainable Resource Management in April 2003 (MFLNRO 2003). No additional report has been published since this date.

**Table 4.1-1. Cassiar Iskut-Stikine Land and Resource Management Plan Goals and Objectives**

Goals	Objectives
Healthy Environment	Sustainable ecosystems Abundant fish and wildlife populations Wild places that are values for themselves
Healthy and Sustainable Communities	Opportunities for skill development and job training Jobs for local people Entrepreneurial capacity Adequate healthcare A safe and secure environment A wide range of recreation activities Local benefits from resource development and extraction Communication and cooperation between native and non-native communities
Sustainable Development	A diversified economic base Job opportunities for local people Healthy, sustainable, well-balanced use of resources Development that respects local cultures and lifestyles Development that provides optimal returns to local communities and the province

(continued)

**Table 4.1-1. Cassiar Iskut-Stikine Land and Resource Management Plan Goals and Objectives (completed)**

Goals	Objectives
Sustainable Development <i>(cont'd)</i>	Access to technology and capital Infrastructure to support local economic potential Minimum environmental footprints from all sectors Generate local financial capacity to support ongoing development
Effective Planning and Management of Natural Resources	Meaningful public participation mechanisms for conflict resolution Good communications between all stakeholders Integration and balance among competing interests Clearly developed procedures for implementation and monitoring Adaptive management techniques Efficient and timely referral and assessment procedures for resource development proposals

Source: MFLNRO (2000)

4.1.1.1 General Management Direction

The CIS LRMP (2000) highlights ten resource values as follows:

1. **Access Management:** enable a full range of use needs while respecting areas of ecological and cultural heritage values.
2. **Biodiversity/Ecosystem Health:** achieve an indigenous diversity of plants, animals, and other living organisms throughout the Cassiar Iskut-Stikine areas; specifically, a diversity of genes, species, and ecosystems, as well as the evolutionary and functional processes that link them.
3. **Botanical Forest Products and Medicinal Plants:** ensure a sustainable supply of botanical forest products (mushroom, berries, and medicinal plants).
4. **Cultural Heritage Resources:** recognize the values of archaeological sites, First Nations traditional use sites, and pioneer heritage sites in planning and management.
5. **Hunting, Trapping, Guide Outfitting, and Fishing:** maintain viable populations that support the sustenance, cultural, economic, and recreational needs of First Nations and local people.
6. **Mineral and Energy Resources:** develop an economically and environmentally sound mining and energy industry based on the area’s globally significant mineral and energy resources and certainty of access. Well-designed infrastructure will support responsible mineral and energy projects that provide long-term benefits to the local community.
7. **Recreation and Tourism:** develop a viable tourism industry based on the area’s natural features and sustainable activities supported by well-designed tourism/recreation infrastructure. Provide certainty of landbase for recreation and tourism activities sensitive to environmental and cultural values.
8. **Settlement/Agriculture/Range:** maintain a diverse quality of life in communities including traditional pursuits, diverse employment, agriculture (viable food production), and range (livestock grazing) opportunities integrated with management for other resource values.
9. **Timber:** ensure a locally viable, small scale sustainable timber industry that provides local jobs and benefits and that is based on ecologically sound and sustainable harvesting practices.
10. **Visual Quality:** maintain a scenic landscape that supports world class tourism and recreation and natural viewscapes from communities.

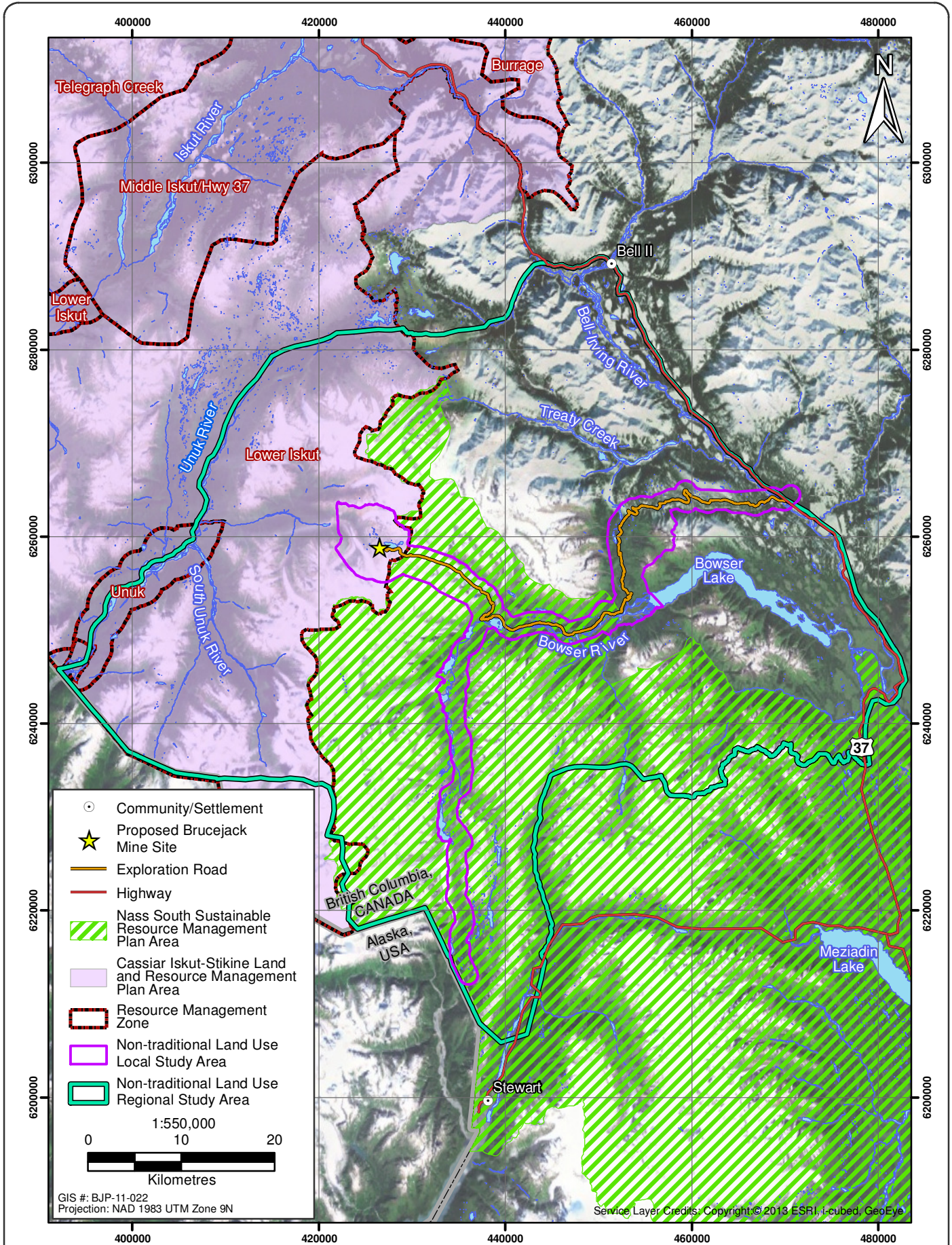


Figure 4.1-1



4.1.1.2 Area-specific Management: Resource Management Zones

The plan identifies 15 Resource Management Zones (RMZs) for area-specific management. Each RMZ has specific objectives and strategies incremental to the GMD that have been developed to address the distinct values for the zone. RMZs represent 31% of the plan area (MFLNRO 2000).

The LSA does not overlap with any of the RMZs, however the RSA overlaps with the Unuk River RMZ, which is comprised of the portion of the Unuk River watershed south of Sulphurets Creek and upstream of the international boundary (Figure 4.1-1). This zone was created to integrate the management for salmon and grizzly bears, recreation, mineral exploration and development, and timber harvesting (Table 4.1-2). The Unuk River RMZ is recognized provincially as a significant habitat for coastal grizzly bears (Province of British Columbia 2000).

**Table 4.1-2. Management Objectives for the Unuk River Resource Management Zone**

Resource	Management Objective
Biodiversity	Maintain linkages of continuous mature old forest cover with Misty Fjords National Monument.
Wildlife	Identify and maintain contiguous high quality and quantity of grizzly bear habitat.
Aquatic Ecosystems and Riparian Habitat	Manage all activities along the Unuk River and its tributaries to achieve no net loss of fish habitat. Apply best management practices to wetlands, floodplains, and riparian habitat.
Visual Quality	Designate views from the Unuk River as a known scenic area. Design logging and road building to minimize natural landscape line, form, colour, and texture.
Access Management	Strongly encourage air or water access for mineral exploration, and reclaim exploration trails in a timely manner. Apply timely hunting and/or access restrictions when there is substantiated evidence that grizzly or other wildlife populations are at risk or declining. Develop access management plans for any new two- and four-wheel drive accessible roads, including plans for road use and deactivation, and need for access controls (e.g., gates, removal of temporary bridges). Limit main stem road development so that the road is on one side of a valley at any one location. Combine development of infrastructure with existing or planned roads.
Recreation and Tourism	Locate and design commercial facilities to minimize environmental impacts and to reflect the natural setting of the area particularly for recreational use along the river. Encourage low-impact recreation/tourism activities and maintain opportunities for public camping at the confluence of the South Unuk and Unuk Rivers
Timber	Prohibit commercial timber harvesting on the active floodplain of the Unuk River. Monitor alteration to habitat suitability and effects and develop preventive, mitigative or restorative management practices to maintain the quality of grizzly habitat. Consider closing access to forestry operations for extended time periods following first pass harvesting and once silviculture obligations are complete to minimize impacts to grizzly populations.
Research and Inventory Priority	Undertake baseline studies of grizzly bear populations and habitat.

Source: MFLNRO (2000)

#### 4.1.1.3 Protected Area Management

The CIS LRMP established 14 new Protected Areas, comprising 26% of the plan area. None of these Protected Areas are located within the RSA.

#### 4.1.1.4 Mineral Exploration and Development within the LRMP Area

The CIS LRMP acknowledges the existence of significant mineral and energy resources with high economic potential. The plan area includes several past producing mines such as the Eskay Creek Mine, and over 30 developed prospects with proven geological reserves, as well as other prospective geological units (MFLNRO 2000; see Section 4.7)).

The CIS LRMP aims to provide certainty for the mining industry and promote investment to create local employment and business opportunities. Exploration and development of mineral deposits, as well as construction of access roads, are permitted activities throughout the majority of the plan area, providing they occur in concordance with all relevant legislation. The notable exception to this provision applies to any prospective activity on land designated as a Protected Area (Section 4.1.2.3).

### 4.1.2 Nass South Sustainable Resource Management Plan

The Nass South SRMP was completed in June 2012 and developed by the Ministry of Forests, Lands, and Natural Resource Operations (MFLNRO) in partnership with the Nisga'a Lisims Government (NLG) and the Gitanyow First 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 2012a). The Project RSA overlaps 39.7% of the approximately 663,000 ha encompassed in the Nass South SRMP.

The Nass South SRMP provides guidance on permitted land and resource use in the plan area and provides guidelines for timber operations, which include consideration for cultural, environmental, and economic values. It is intended to provide greater certainty of development potential of the land base by proactively reducing/preventing conflict on the ground, and to provide opportunities for sustainable economic development (BC MFLNRO 2012b).

The plan has five primary objectives:

1. Assist in reaching a broad-based forestry accommodation agreement involving the Province of BC, the NLG, and the Gitanyow.
2. Fulfill legal obligations of the Crown related to the transfer of Skeena Cellulose.
3. Promote sustainable forest management through a collaborative planning process with the Gitanyow and NLG.
4. Assist in streamlining the subsequent consultation processes via by collaborating with Gitanyow and NLG on strategic land use planning.

Increase certainty for long-term access and sustainable development for Gitanyow, NLG, and all resource sectors (e.g., forestry, fisheries, tourism, and mining).

The Nass South SRMP upholds existing mineral tenures, and new mineral tenures may be staked as permitted by the *Mineral Tenure Act* (1996b). Road development is permitted in all zones subject to regulatory requirements.

#### 4.1.2.1 Management Direction

The Nass South SRMP provides management direction in seven areas: water, biodiversity, botanical forest products, wildlife, fisheries, cultural heritage resources, and timber. Table 4.1-3 summarizes the management objectives for each of these seven areas. The plan does not prescribe how these objectives are to be achieved.

**Table 4.1-3. Nass South Sustainable Resource Management Plan Management Direction**

Resource	Management Objective
Water	<p>Limit potential for surface soil erosion and maintain functional integrity of floodplains/alluvial fans.</p> <p>Manage human activities to maintain the hydrologic stability of watersheds.</p> <p>Maintain the ecological functioning of streams, rivers, wetland complexes, and lakes, including those that do not have fish populations.</p> <p>Restore the water quality and hydrologic integrity of damaged watersheds.</p>
Biodiversity	<p>Maintain a landscape pattern of patchiness that, over the long term, reflects the natural disturbance pattern and maintain or recruit structural attributes of old forests to support stand-level biodiversity.</p> <p>Preserve red-listed plant communities and conserve blue-listed plant communities.</p> <p>Maintain a diversity of coniferous and deciduous species that represent the natural species composition at the landscape and stand level.</p> <p>Maintain a diversity of coniferous and deciduous species that represent the natural species composition at the landscape and stand level. Maintain structural connectivity in the ecosystem.</p> <p>Maintain a range of forest seral stages by Biogeoclimatic Ecosystem Classification (BEC) variant within each landscape unit that reflects the natural disturbance regime.</p>
Timber	<p>Dedicate and maintain a productive timber-harvesting land base that promotes an economically sustainable forest industry and avoid timber harvesting within proposed treaty settlement lands.</p> <p>Manage the forest harvest to represent the timber quality and terrain profile.</p> <p>Maintain the long-term health and site productivity of the timber harvesting land base.</p> <p>Limit conversion of the available productive forest land base for non-timber purposes.</p> <p>Develop long-term plans that respect Gitanyow and Nisga'a interests in the forest resource.</p>
Botanical Forest Products	Maintain productive pine mushroom sites.
Fisheries	Maintain and restore habitat for indigenous fish populations.
Cultural Heritage Resources	<p>Preserve cultural sites and cultural heritage resources.</p> <p>Address Gitanyow and Nisga'a interests in access to cultural sites and maintain a sustainable source of cedar for Gitanyow traditional, cultural, and subsistence use.</p> <p>Identify and record locations of culturally modified trees; minimize impacts where appropriate.</p>
Wildlife	<p><i>Moose</i>: Maintain, enhance, or restore the moose winter range habitats. Minimize mortality and disturbance to moose through access management within and adjacent to moose winter ranges.</p> <p><i>Mountain Goat</i> -Minimize adverse disturbance to goats within mountain goat winter range and the number of roads within 500 m of mountain goat winter range and 1,000 m of canyon-dwelling mountain goat winter range. Also minimize adverse disturbance to mountain goat winter range from helicopter logging activities.</p> <p><i>Grizzly Bear</i> -Preserve the highest value grizzly bear habitat and maintain the quality and effectiveness of grizzly bear foraging habitat, while minimizing human-bear conflicts and long-term displacement of grizzly bear from industrial access development.</p> <p><i>Furbearers</i> - Minimize impact to known high value fisher and wolverine habitat.</p> <p><i>Goshawk</i> - Maintain nesting and post-fledgling habitat at known goshawk nest areas to support continued use and reproduction in those areas. Maintain foraging habitat around known goshawk nest and post-fledgling areas.</p> <p><i>General Wildlife</i> -Maintain effectiveness of riparian habitats adjacent to wetlands.</p>

Source: BC MFLNRO (2012b)

#### 4.1.2.2 Special Resource Management Zones

The plan identifies two zones for area specific management – the Hanna-Tintina Area, and Water Management Units, including the Bell-Irving Water Management Unit, the Madely/Kwinageese Water Management Unit, the Scrub Lake Water Management Unit, and the Kinskuch Water Management Unit. The Hanna-Tintina Area and each of the water management units are identified in the Nass South SRMP as special RMZs. Neither is located within the Project LSA or RSA. The Hanna-Tintina Area is located approximately 50 km downstream from the RSA and it has been identified as a new conservancy to “protect key resource values such as fisheries, wildlife, recreation and cultural heritage resources while allowing for continued traditional use activity and identified economic opportunities to prevail” (BC MFLNRO 2012a). The goal for the specified water management units named above is to “manage surface water and groundwater to maintain water quality and peak and low flows within the range of natural variability, and protect the hydrologic integrity of watersheds.”

## 4.2 PARKS AND PROTECTED AREAS

### 4.2.1 Overview

No provincial parks or protected areas are located within the LSA or near proposed Project infrastructure. One provincial park (Border Lake Provincial Park) is located on the western edge of the RSA. Other provincial parks located proximally but outside the RSA include Ningunsaw Park (located 7.67 km from the RSA) and Ningunsaw Ecological Reserve (located 17.9 km north of the RSA), Lava Forks Park (located 7.9 km west of the RSA on the Alaskan border), Bear Glacier Lake Park (located 12.2 km south of the RSA on Hwy 37A), and Meziadin Lake Park (located 19.5 km from the Project site on the western shore of Meziadin Lake, south of the RSA; see Figure 4.2-1).

### 4.2.2 Border Lake Provincial Park

Border Lake Provincial Park is approximately 180 km south of Telegraph Creek in the Unuk River Valley, along the Alaskan border, and approximately 70 km southwest of Bell II. The park was established as a Class A Provincial Park in 2001 based on the CIS LRMP.

The park covers an area of just over 800 ha and protects wetland environment surrounded by three small lakes in the Unuk River Valley. The Unuk River flows through the park. Table 4.2-1 provides an overview of the size, primary attractions, and location of Border Lake Provincial Park. Although, no information on visitation rates is currently available due to the remote location of the park (J. Kittmer, pers. comm.; (Rescan 2013d), it is reasonable to assume that visitation rates are relatively low due to the park’s isolated location.

**Table 4.2-1. Provincial Parks in the Regional Study Area**

Name	Area (ha)	% Located within the RSA	Primary Attraction(s)	Location in Relation to the Project
Border Lake Provincial Park	800	43.8%	Highly productive wetlands complex Rare plant species Important salmon spawning area	30 km west of the ore deposits

Source: BCParks (2013)

The *Management Direction Statement* for Border Lake Provincial Park (BC MWLAP 2003) indicates the park plays a conservation role, protecting the habitat of fish and grizzly bear and wetland plant communities. It also offers remote and scenic river recreation opportunities. Table 4.2-2 details permitted and restricted land uses within the park.

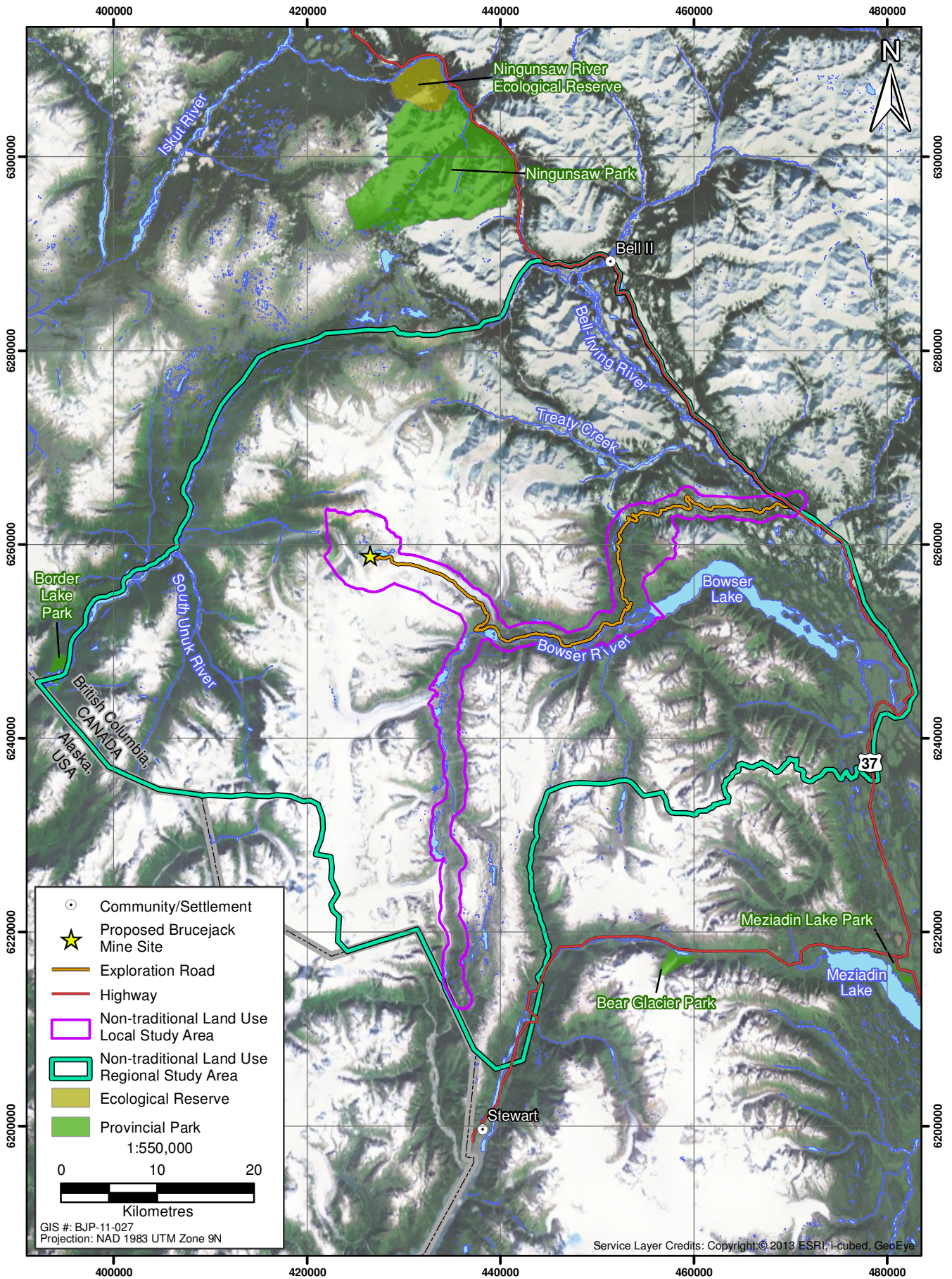


Figure 4.2-1

**Table 4.2-2. Border Lake Provincial Park Land Use Summary**

Activities	Description
Land Access	No vehicle access.
Air Access	Border Lake is too small to land float planes, but air transport can be taken to the upper reaches of the Unuk River, from which point the park can be accessed by raft.
Watercraft	Opportunities do not exist.
Horseback	Horseback riding is not allowed
Camping	Backcountry camping is allowed, but no facilities are provided.
Fishing	Fishing opportunities exist.
Hunting	Hunting, guide outfitting, and trapping are all allowed.

Source: BC Parks (2013)

## 4.3 HUNTING

### 4.3.1 Overview

There are two defined hunter categories in BC: resident and non-resident. Resident hunters are either citizens or permanent residents of Canada who meet the requirements to be considered a resident of BC (BC MFLNRO 2011b). Resident hunters must obtain a Hunter Number Card before acquiring a hunting and species licence, the cost of which may range from \$8 to \$80 depending on standards set by the BC MOE (BC MOE 2012a).

Provincial laws require non-resident hunters who wish to pursue big-game<sup>1</sup> hunting activities to be accompanied by a licensed guide outfitter. Guide outfitters are registered within a specified tenure area (Ellis 2009). Guide outfitting licences are based on the provincial system of Wildlife Management Units (WMUs).

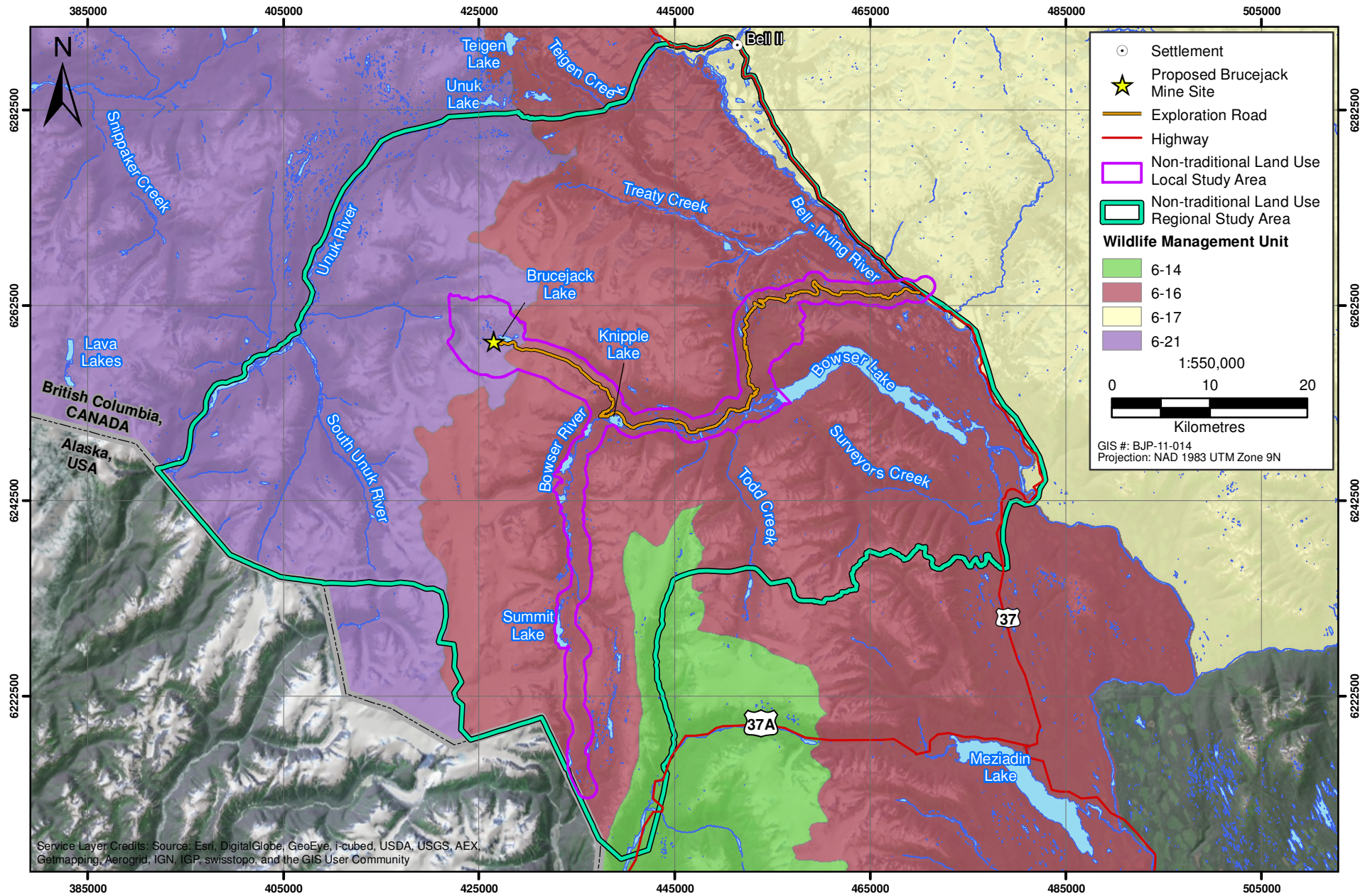
Figure 4.3-1 shows that the majority of the RSA is located within WMU 6-16 (North Coast), with the area immediately around the Mine Site situated within WMU 6-21 (Stikine). The eastern border of the RSA intersects WMU 6-17 (Upper Skeena) and the southern border overlaps a small portion of WMU 6-14 (West Central). Table 4.3-1 highlights the degree to which the RSA and LSA overlap with the WMUs.

**Table 4.3-1. Wildlife Management Units and Study Area Calculations**

WMU	Total WMU Area (ha)	Percentage of WMU within LSA Boundary (%)	Percentage of WMU within RSA Boundary (%)
6-14 (West Central)	1,326,811	0%	0.99%
6-16 (North Coast)	657,673	0.5%	38.10%
6-17 (Upper Skeena)	1,037,197	0.03%	0.68%
6-21 (Stikine)	1,711,365	4.07%	6.05%

Source: BC ILMB (2013); BC MOE (2012a)

<sup>1</sup> Deer, mountain sheep, mountain goat, moose, caribou, elk, cougar, wolf, grizzly bear, black bear, lynx, bobcat, and wolverine.



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

Figure 4.3-1



### Wildlife Management Units in the Brucejack Project Non-traditional Land Use Study Areas

Figure 4.3-1



### 4.3.2 Resident and Non-resident Hunter Harvest Data

Harvest data, including the number of resident and non-resident hunters, and resident and non-resident kills is available from the BC MFLNRO by WMU. Harvest data is provided for the most recent 10 year period (1999 to 2008) available for WMUs 6-16 and 6-21 in Tables 4.3-2 and 4.3-3 below. Data for WMUs 6-14 and 6-17 is not included since the land use RSA overlaps less than 1% of the total area of each WMU 6-14 and WMU 6-17<sup>2</sup> (see Table 4.3-1).

**Table 4.3-2. Resident and Non-resident Hunting in Wildlife Management Unit 6-16 (1999 to 2008)**

	WMU 6-16 Total Resident Hunters <sup>1</sup>					WMU 6-16 Total Resident Hunter Kills <sup>2</sup>				
	Moose	Grizzly	Black Bear	Goat	Wolf	Moose	Grizzly	Black Bear	Goat	Wolf
1999	172	16	35	4	8	26	5	25	no data	0
2000	60	6	14	5	No data	7	4	15	2	no data
2001	56	4	15	3	6	28	1	15	1	0
2002	72	9	9	6	14	22	3	11	1	0
2003	65	7	16	7	No data	26	1	7	4	no data
2004	40	9	11	6	15	10	4	7	4	0
2005	44	4	15	3	0	13	3	11	1	0
2006	50	3	18	no data	No data	10	1	4	1	no data
2007	25	11	23	no data	0	10	4	15	0	no data
2008	no data	19	32	no data	0	no data	3	16	0	no data
	WMU 6-16 Total Non-Resident Hunters <sup>1</sup>					WMU 6-16 Total Non-Resident Hunter Kills <sup>2</sup>				
1999	no data	no data	no data	no data	no data	no data	0	no data	no data	no data
2000	no data	no data	no data	1	1	no data	0	no data	1	0
2001	no data	no data	1	1	no data	no data	0	1	2	no data
2002	no data	no data	no data	1	no data	no data	0	no data	0	no data
2003	8	4	8	3	9	0	2	3	0	0
2004	1	2	3	1	3	0	1	2	0	0
2005	no data	no data	no data	0	0	no data	2	no data	3	1
2006	9	2	1	9	10	4	0	1	3	no data
2007	1	2	no data	2	no data	0	3	no data	2	no data
2008	no data	no data	no data	no data	no data	no data	0	no data	1	no data

Source: MFLNRO (BC MFLNRO 2011a)

Notes:

<sup>1</sup> One hunter may be registered to hunt multiple species within a given year, artificially inflating the total number of hunters.

<sup>2</sup> The total number of annual kills within each WMU may be underrepresented as this includes only kills registered with MFLNRO and does not account for underreporting or hunting by Aboriginal peoples.

The data provide by BC MFLNRO includes the type and frequency of animal harvests per year (where there is data reported for that year) by resident and non-resident hunters (BC MOE 2012b). Overall, this data is presented to characterize current trends in hunting in areas within the land use RSA; however, the ability to estimate the total level of hunting in the RSA is limited (see Section 3.3.2). As data is collected and provided at the WMU level, there is no way of knowing the scale of hunting within the specific area of the land use RSA. Additionally, it is acknowledged that an individual hunter may be licensed to harvest more than one species, artificially inflating the number of hunters active within each WMU. There are also hunters active within each WMU who do not hold hunting licenses or report kills. For example, this data does not include Aboriginal hunters or Aboriginal hunter harvests. As such, the number of annual total kills is likely under represented.

<sup>2</sup> As a result, hunting statistics for WMUs 6-14 and 6-17 may not accurately characterize hunting within the land use RSA.



**Table 4.3-3. Resident and Non-resident Hunting in Wildlife Management Unit 6-21 (1999 to 2008)**

	WMU 6-21 Total Registered Resident Hunters <sup>1</sup>							WMU 6-21 Total Resident Hunter Kills <sup>2</sup>						
	Moose	Grizzly	Black Bear	Sheep	Wolf	Caribou	Goat	Moose	Grizzly	Black Bear	Sheep	Wolf	Caribou	Goat
1999	97	14	6	23	no data	no data	26	29	3	3	3	no data	no data	11
2000	110	12	24	20	6	no data	19	43	5	12	5	0	no data	7
2001	116	8	13	16	12	no data	18	34	3	0	4	6	no data	11
2002	124	13	7	23	6	no data	8	38	1	0	5	0	no data	7
2003	120	12	12	23	14	no data	14	40	1	9	8	0	no data	7
2004	46	5	0	22	no data	no data	9	19	1	no data	11	0	no data	7
2005	75	17	11	22	no data	no data	16	59	5	3	11	no data	no data	3
2006	74	20	9	29	18	2	11	27	5	0	4	0	1	9
2007	73	18	5	21	13	7	20	16	9	5	6	0	0	9
2008	101	33	7	38	14	11	26	50	8	7	7	0	no data	10
	WMU 6-21 Total Non-Resident Hunters <sup>1</sup>							WMU 6-21 Total Non-Resident Hunter Kills <sup>2</sup>						
1999	15	1	no data	9	2	no data	7	13	1	no data	9	2	no data	7
2000	13	3	5	8	no data	no data	10	13	3	3	6	no data	no data	10
2001	16	no data	no data	9	no data	no data	9	12	0	no data	8	no data	no data	9
2002	13	no data	no data	8	1	no data	4	12	1	no data	6	1	no data	4
2003	20	1	1	10	2	no data	14	19	1	0	9	1	no data	13
2004	22	1	no data	12	2	no data	10	20	1	no data	10	1	no data	12
2005	21	no data	2	11	0	no data	13	19	0	2	11	0	no data	14
2006	22	1	2	10	2	1	12	21	1	2	7	0	1	11
2007	15	no data	no data	9	3	1	11	15	0	no data	7	3	1	13
2008	17	1	no data	8	1	no data	7	16	1	no data	5	0	no data	8

Source: MFLNRO (BC MFLNRO 2011a)

Notes:

<sup>1</sup> One hunter may be registered to hunt multiple species within a given year, artificially inflating the total number of hunters.

<sup>2</sup> The total number of annual kills within each WMU may be underrepresented as this includes only kills registered with MFLNRO and does not account for underreporting or hunting by Aboriginal peoples.

Across each WMU there is considerable variation in terrain, species availability, harvester characteristics, and access (B. Jex, pers. comm.). Over the 10 year period for which data is available harvest levels and hunter numbers fluctuate from year to year.

Approximately 67% of the RSA is encompassed by WMU 6-16, and it provides the most representative picture of hunting conditions in the eastern portion of the RSA, which drains into the Bell-Irving River. Moose has been the most harvested species in this WMU, although the number of resident moose kills has declined between 1999 and 2008 (Table 4.3-2). The number of resident moose hunters has also notably declined from 172 in 1999 to 25 in 2007. Other species harvested in this WMU include grizzly bear, black bear, and goat. Notably, a number of resident hunters are licensed to hunt wolf in this WMU, however no wolf harvests were reported between 1999 and 2008. Non-resident hunting is low in this WMU, ranging between zero to three kills annually for grizzly, black bear, and goat. Non-resident moose and wolf harvests were reported only once over the 10 year period in WMU 6-16 (see Table 4.3-2).

WMU 6-21, which overlaps approximately 28% of the RSA, is the most representative of hunting conditions in the western half of the RSA, which drains into the Unuk River. Mountain sheep are located and harvested within this WMU, differentiating it from WMU 6-16. Within WMU 6-21, moose has been the most harvested species by far, with the largest harvest (59 moose) occurring in 2005 (Table 4.3-3). Other species hunted by resident hunters in recent years include black bear, mountain goat, grizzly bear, and wolf. Resident wolf and caribou harvests were reported for only one of the 10 years for which data is provided. Moose is also the most commonly hunted species among non-resident hunters in WMU 6-21. Non-resident hunting is higher in WMU 6-21 than in WMU 6-16; the highest number of non-resident hunters (22) was reported for moose in both 2004 and 2006 (see Table 4.3-3). For both residents and non-residents in WMU 6-21, the number of moose kills has varied between 1999 and 2008 but did not decline.

One active guide outfitter noted there is minimal resident hunting in the RSA based on observations during multiple trips he makes to the area throughout the year. He noted that it is not unusual to only see one other hunter and often he sees no one else at all (R. Milligan, pers. comm.).

### **4.3.3 Guide Outfitting**

#### *4.3.3.1 Overview*

Guide outfitting is a commercial land use that allows non-residents to participate in recreational hunting. All BC non-residents who wish to pursue big-game hunting activities in the province are required to be accompanied by a licensed guide outfitter. Guide outfitters are registered to guide within a specified territory, which is based on the provincial system of WMUs. Guide outfitter licences do not confer property rights on the owner, and guiding rights are only recognized for the person named on the licence.

Three guide outfitting licences overlap the RSA (#601074, #600502 and #601036), two of which also overlap the LSA (Figure 4.3-2). The Project's infrastructure lies within license #601074 and #601036. The following sections highlight how these licence holders use the area associated with their guide outfitting licence. Table 4.3-4 summarizes information regarding the potentially affected guide outfitting licences.

#### *4.3.3.2 Licence #601074*

In summer 2013, guide outfitting licence 601066 was divided into two separate licence areas, approximately representing the southern and northern halves of 601066. The northern portion became guide outfitting license 601073 and the southern portion became 601074. Each guide outfitting area is now associated with new license holders (see Figure 4.3-2).

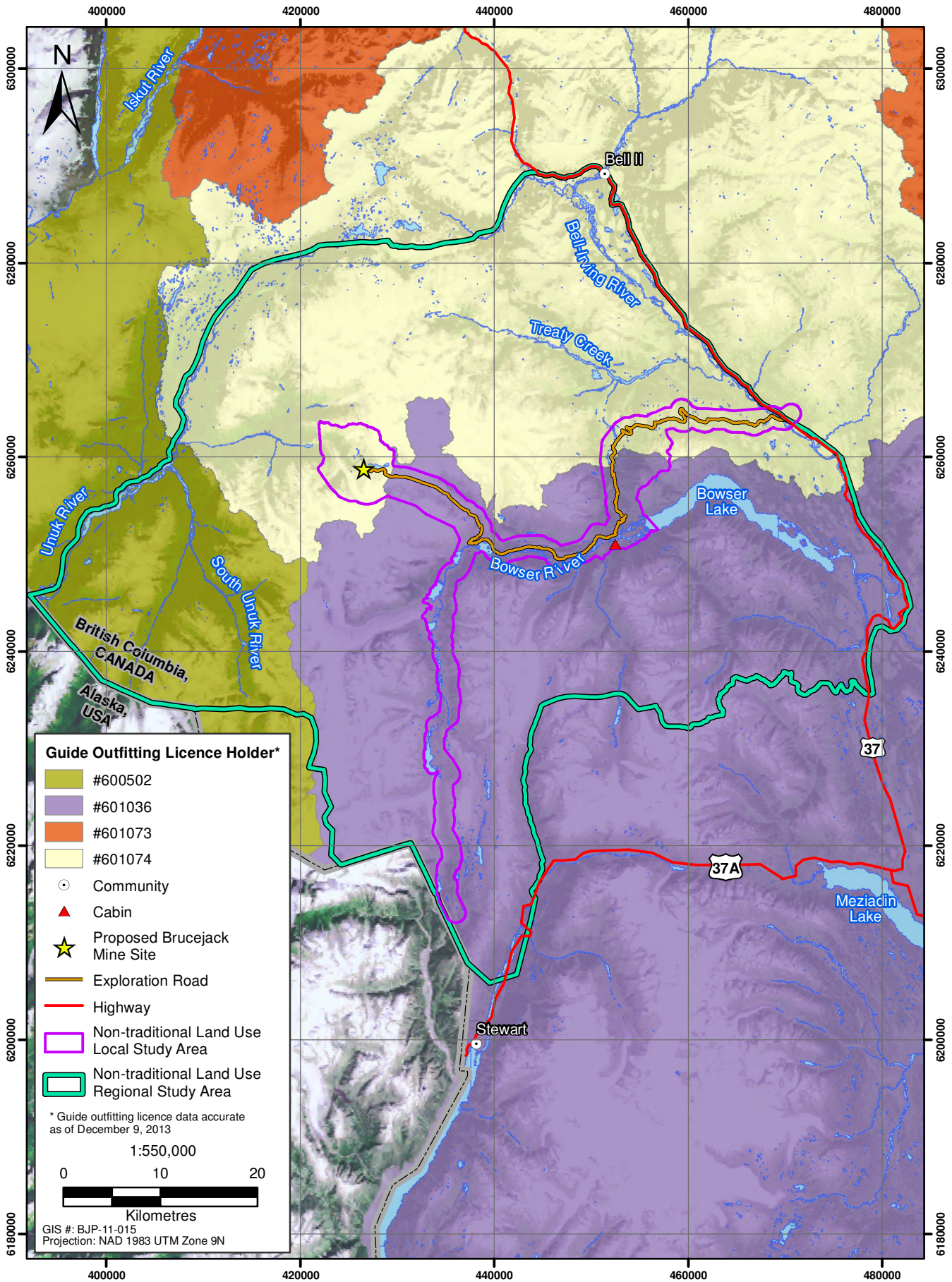


Figure 4.3-2

Table 4.3-4. Guide Outfitting Licences in the Project Study Areas

Licence #	Species	% of Licence Area in LSA <sup>1</sup>	% of Licence Area in RSA <sup>2</sup>	Location of Licence in Relation to the Project
601074	Unknown.	2%	39%	Overlaps the Mine Site and the eastern portion of the exploration access road within the LSA, as well as the northern portion of the RSA.
600502	Black bear, grizzly bear, moose, mountain sheep, mountain goat, wolf.	0%	7%	Located in the southeast corner of the RSA.
601036	Grizzly bear, mountain goat, black bear.	0.8%	6.6%	Includes the most of the exploration access road and the transmission line south route option within the LSA, and a much of the southern and eastern portions of the RSA.

Source: Government of British Columbia (2013a), GOABC (2012), Grand Slam Outfitters & Advertisers (2012), Milligan Outfitting Ltd. (2012)

Notes:

<sup>1</sup> The percentage of the license area within the LSA is calculated using the total license area within the LSA (ha) divided by the total licence area (ha) as defined by MFLNRO including areas extending beyond the land use study areas. The result is presented as the percentage of the total license area that falls within the land use LSA boundary.

<sup>2</sup> The percentage of the license area within the RSA is calculated using the total license area within the RSA (ha) divided by the total licence area (ha) as defined by MFLNRO including areas extending beyond the land use study areas. The result is presented as the percentage of the total license area that falls within the land use RSA boundary.

Prior to the division, guide outfitting license 601066 was held by McCowans Sporting Adventures, a sport hunting and fishing company that operates in British Columbia, Alberta, Saskatchewan, Yukon, and the Northwest Territories. McCowans Sporting Adventures included two lodges and a outfitting business located at Tumeka Lake (Rescan 2013a) and north of Bob Quinn at Willow Creek. The lodges and business are now associated with guide outfitting license 601073 and are located outside of the land use RSA. Guide outfitting license 601073 is not further explored as it is located outside of the land use RSA.

Guide outfitting license area 60174 was registered with BC ILRR on November 28, 2013 to J. Major and forms the southern portion of former guide outfitting licence area 601066 (Government of British Columbia 2013b). Approximately two per cent of the newly created 366,000 ha licence area is overlapped by the land use LSA, while approximately 39% is overlapped by the land use RSA (Table 4.3-4). The license holder noted he intends to establish a new guide outfitting business within the licence area sometime in the future but had not used the area extensively to date (J. Major, pers. comm.).

#### 4.3.3.3 Licence #600502

Licence #600502 is held by the operator for Northwest Ranching and Outfitting who has been a guide outfitter in WMU 6-21 for 25 years, guiding hunts for black bear, grizzly bear, moose, mountain sheep, mountain goat, and wolf. The operator is well known and respected in the guide outfitting industry (Rescan Tahltan Environmental Consultants 2010). This licence area does not overlap the LSA and overlaps 6.9% of the RSA. Although the operator was not available for an interview at the time of writing this report, an interview was completed in 2010 (Rescan 2013d). At that time, the operator made an average of six trips per year, typically with two American or European clients. Trips were usually conducted between August and October, including repeat and new clients. The location of the hunt tended to occur farther north within the licence area, and not in the Unuk River valley.

In 2009, Northwest Ranching and Outfitting earned approximately \$35,000 per hunt and employed two seasonal workers. At that time, the operator planned to expand the business by focusing on sheep, which are prized by trophy hunters. The licence area is accessed by floatplane embarking out of Telegraph Creek and does not include supporting infrastructure, such as cabins or camps. As the licence area is difficult to access, resident hunting was noted to be uncommon (Rescan 2013d).

In 2010, the operator stated that mine development south of the Iskut River would not affect the guide outfitting licence or business as this area did not fall within the business's area of focus (Rescan 2013d).

#### 4.3.3.4 Licence #601036

Licence #601036 is held by Milligan Outfitting, a family owned business that has held the licence since 1984 and has remained active as a guide outfitter in the area, with a short lapse between 1994 and 2003 (R. Milligan, pers. comm.). The land use LSA and RSA overlap 0.8% and 6.6% of this guide outfitting licence area, respectively. Namely approximately half of the exploration access road and the transmission line south route option overlap this licence area. Milligan Outfitting provides personalized hunting and fishing services and hosts approximately two trips per year – one in May for the spring hunt, and one in October for the fall hunt. In 2012, Milligan Outfitting led two trips within the Project RSA, an area not used in approximately five or six years (R. Milligan, pers. comm.).

Milligan Outfitting utilizes a cabin at Bowser Lake (shown in Figure 4.3-2) as well as an abandoned cabin along Bowser River at the mouth of Todd Creek. The licence area is primarily accessed by foot from the Bowser Lake cabin. The cabin can be reached via jet boat from the Bell II bridge on Highway 37. Alternatively, ATV access is available via a logging road near Bowser River. Equipment such as trucks and materials are often left at this location. From here, the jet boat provides further access into the territory (R. Milligan, pers. comm.). Milligan Outfitting guides one to two clients per trip, almost all of whom are from the U.S. Clients are offered angling services at various locations, including Bell-Irving River and Meziadin Lake. The length of trip usually depends on the species of focus. For example, a grizzly hunt takes place over 14 days, while a goat hunt takes place over nine days. Milligan Outfitting employs one guide outfitter and two full-time employees (R. Milligan, pers. comm.).

The most popular species hunted include grizzly bear, mountain goat, and black bear, which are hunted solely as trophy kills (R. Milligan, pers. comm.). Milligan Outfitting operates under a quota for the portion of the licence that lies within the RSA. The quota includes approximately five bears over five years, or one bear per year. During interviews to prepare this report, it was noted that recent activity in the area, especially the presence of increased helicopter traffic, has had a notable effect on wildlife. In the past, grizzly bear populations were found around Bowser Lake and Mount Anderson on the north side of the lake as well as near Bowser River, which were prime bear-denning areas (Rescan 2013c; R. Milligan, Pers. Comm.). However, during the 2011/2012 season, bears were noted on the east side of Bowser Lake as opposed to the west side. The owner attributes this to the increased mining exploration activity and related construction taking place on the west side of the lake (R. Milligan, pers. comm.).

There are no plans to expand the business at this time. The business is very profitable and sustainable due to its high quota and large tenure area that provides an advantage over smaller operations. Business activity has remained strong despite the economic downturn in the U.S. The guide outfitter values guide outfitting for reasons beyond the economic returns he generates, with aspirations his children may carry on the business in the future (R. Milligan, pers. comm.).

## 4.4 TRAPPING

### 4.4.1 Overview

The LSA overlaps three trapline licence areas, including TR 621T003, TR 616T011, and TR 616T012. The boundaries of the RSA overlap an additional three traplines – TR 621T001, TR 614T101 and TR 617T015. Figure 4.4-1 shows the trapline licenses overlapped by the LSA and RSA. Table 4.4-1 summarizes the trapline number, proportion of RSA overlap with the trapline area, and the trapline area location relative to the RSA. In addition, there is a trapline cabin owned by the BC MFLNRO which is further discussed in Section 4.5.

**Table 4.4-1. Trapline Licences within the Non-traditional Land Use Study Areas**

Trapline	Percentage of Trapline Area in LSA <sup>1</sup>	Percentage of Trapline Area in RSA <sup>2</sup>	Areas of Overlap
TR 621T003	6.5%	75%	Encompasses proposed Mine Site.
TR 616T011	4.5%	60%	Encompasses a large portion of the exploration access road, and much of the northeastern portion of the RSA.
TR 621T001	0%	47%	Located in the southwest portion of the RSA.
TR 616T012	14%	90%	Incorporates transmission line south route option and the western portion of the exploration road within the LSA.
TR 614T101	0%	16%	Small portion located within the RSA southern boundary.
TR 617T015	0%	12%	Small portion located within the RSA northern boundary.

Source: BC MOE (2012d); BC ILMB (2013)

Notes:

<sup>1</sup> The percentage of the license area within the LSA is calculated using the total license area within the LSA (ha) divided by the total licence area (ha) as defined by MFLNRO including areas extending beyond the land use study areas. The result is presented as the percentage of the total license area that falls within the land use LSA boundary.

<sup>2</sup> The percentage of the license area within the RSA is calculated using the total license area within the RSA (ha) divided by the total licence area (ha) as defined by MFLNRO including areas extending beyond the land use study areas. The result is presented as the percentage of the total license area that falls within the land use RSA boundary.

### 4.4.2 Trapline Harvest Data

Trapline harvest data by owner (from 1985 to 2009, the most recent year harvest data is available) were obtained from the BC MOE Fish and Wildlife Branch (B. Jex, pers. comm.). The provision of this data by trapline holders is voluntary; therefore, harvest numbers may be under reported. Within the RSA, two trapline licences do not have any registered harvests (B. Jex, pers. comm.).

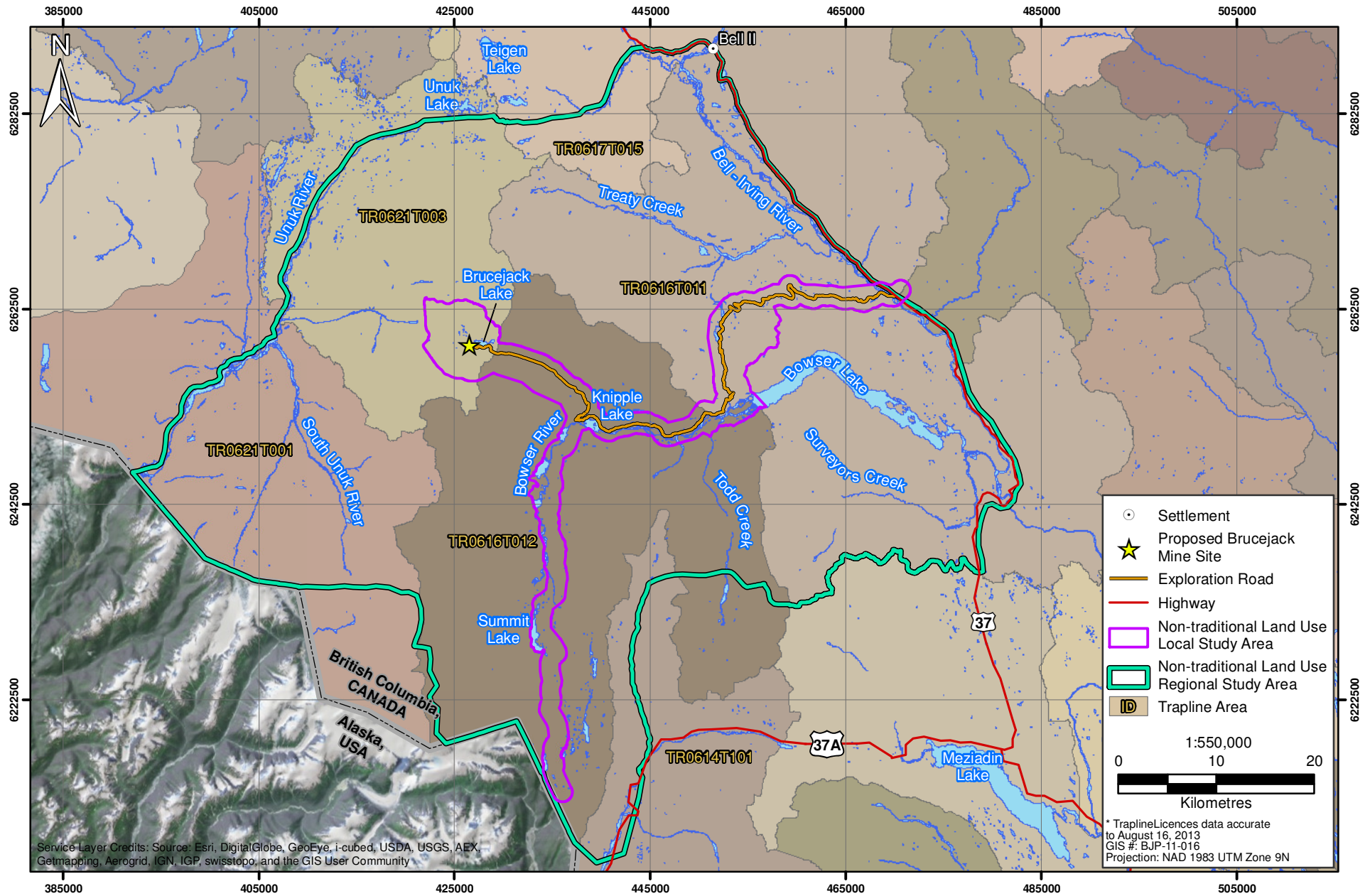
Species commonly harvested on these traplines include marten, squirrel, beaver, lynx, weasel, mink, and wolverine. The average price per pelt fluctuates with market demand, and the annual average price typically affects the level of trapline use in a given year. Overall, prices have risen steadily since the early 2000s, though they fell following the economic downturn in 2008 (B. Monroe, pers. comm.; (Rescan 2013d). Average pelt prices fetched at North American Fur Auctions sales in 2012 for these species ranged between less than \$1 (squirrel) to over \$300 (wolverine; See Table 4.4-2).

**Table 4.4-2. Average Price per Pelt, North American Fur Auctions, 2012**

Species	Average Market Price per Pelt (\$CDN) in 2012	Species	Average Market Price per Pelt (\$CDN) in 2012
Marten	\$84.52	Weasel	n/a
Squirrel	\$0.63	Mink	\$23.00
Beaver	\$31.18	Wolverine	\$317.75
Lynx	\$191.05		

Source: NAFA (2012)

n/a = not available



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

\* TraplineLicences data accurate to August 16, 2013  
GIS #: BJP-11-016  
Projection: NAD 1983 UTM Zone 9N

Figure 4.4-1



### Trapline Licences in the Brucejack Project Non-traditional Land Use Study Areas

Figure 4.4-1



According to the number of individual harvests reported to BC MOE since 1985, the traplines with the highest level of activity are 616T011 (2,145 individuals), 617T015 (1,431 individuals), 621T001 (1,676 individuals) and 614T101 (2,024 individuals; Table 4.4-3). Trapline 616T011 data relates to its use before it was amalgamated with 616T013 in 2009. There is no historical data available for former trapline 616T013. Based on the number of pelts reported per year and each year's average pelt price for each species, total cumulative revenues for active traplines in the RSA ranged from \$11,800 to over \$82,000 between 1985 and 2009. Notably, over 86% of individuals trapped in 614T101 between 1985 and 2009 were marten, indicating that marten are the most commonly trapped species in this trapline area (BC MOE 2012b).

**Table 4.4-3. Summary of Trapline Activity and Use (1985 to 2009)**

Trapline	Most Recent Use (to 2009)	Total Individuals Trapped for all Years <sup>1</sup> (1985 to 2009)
621T003	2006	271
617T015	2004	1,431
616T011	2009	2,145
616T012	1989	No data
621T001	2009	1,676
614T101	2009	2,024

Source: BC MOE (2012b)

<sup>1</sup> Sum of all reported harvests for each year trapped

#### 4.4.3 Trapline Holder Interviews

The six trapline licenses located within the land use RSA include TR 0621T003, TR 0621T001, TR 0617T015, TR 0616T011, TR 616T012, and TR 0614T101. Trapline license TR 621T003 is currently leased to the owner of trapline license TR 621T001 and both licences TR 617T015 and TR616T011 are held by members of Skii km Lax Ha; the use of each of these areas is described below.

##### 4.4.3.1 TR 621T001 and TR 621T003

TR 621T001 is located along the BC/Alaska border and includes the south Unuk River. This licence has been held by the same individual for approximately 40 years. The trapline holder primarily traps in the South Unuk River area down to Border Lake, and also leases the trapline area to the north (TR 621T003) (from the Sulphurets Creek area to Eskay Creek). This trapper usually travels his area by foot, cutting trails, twice per year – once in the spring and once in the fall. The holder anticipates trapping activities will increase once road access is improved (due to the restoration of the old exploration access road leading to the Brucejack property). On average, the trapper obtains 60 pelts a year, and the average number of pelts per year has remained constant over the past five years. Marten is the primary animal trapped by the licence holder; however, from time to time beaver, otter, wolverine, and mink are also trapped.

TR 621T003 is located in the northwestern section of the RSA, and is currently leased to the holder of TR 621T001. TR 621T003 has been held by the same individual since 2000. Both the licence holder and the leasee indicated the area is ideal for trapping marten (D. Green pers. comm; Rescan 2013d).

##### 4.4.3.2 TR 617T015 and TR 616T011

Trapline licences TR 617T015 and TR 616T011 are held by members of Skii km Lax Ha. TR 0616T011 was purchased in 2009 and amalgamated with another connecting trapline area so that it is now a single registered trapline (D. Simpson, pers. comm.). Until recently, this trapline area (TR 0616T011) was used



to harvest marten, beaver, and wolf. Marten were typically trapped from October to December. As many as 160 marten were trapped in one year on TR 0616 T011 which is accessible by access road, foot or snowmobile. While traplines and harvesting are important to the Skii km Lax Ha, their recent involvement in a number of power and mineral exploration projects within their traditional territory has not left time to engage in traditional harvesting activities related to this trapline licence area; which was last trapped around 2009. Further information on traplines held by the Skii km Lax Ha is provided in the Skii km Lax Ha Traditional Knowledge and Traditional Use Report (Appendix 25-A; Rescan 2013b).

4.4.3.3 TR 614T101

Attempts to locate and communicate with the holder of licence TR614T101 were unsuccessful. Table 4.4-3 provides harvest data for this trapline area between 1985 and 2009. As shown in Figure 4.4-1, this license area is not overlapped by the land use LSA and the RSA overlaps a minimal portion (16%) of this total trapline area.

4.4.3.4 TR 616T012

Trapline license TR 616T012 was inactive at the time of writing (summer 2013) but became active on November 7, 2013. Information relevant to this trapline license such as interest holder and other data is unavailable (Government of British Columbia 2013b).

4.5 COMMERCIAL RECREATION

4.5.1 Overview

Two commercial recreation licences intersect the LSA, and an additional four intersect the RSA. Licences within the LSA include 6406985 (guided mountaineering/rock climbing) and 6406136 (heliskiing). Other types of commercial recreation licences within the RSA include, for example, river rafting, fishing camps, and a trapline cabin. Figure 4.5-1 shows six identified commercial licences within and near the LSA and RSA. Table 4.5-1 provides a summary of the business name and operations, as well as the type of commercial licence, the commercial licence number, and its location within the study areas.

Table 4.5-1. Summary of Commercial Recreation Licence Holders

Company Name	Type Of Commercial Licence (Licence #)	Overlap with LSA and RSA
Bear Enterprises	Guided Mountaineering/ Rock Climbing (6406985)	Center of the RSA, and intersecting the exploration access road. 9.8% of this licence overlaps the LSA.
Last Frontier Heliskiing	Heliski (6406136) and Multiple Use (6407499)	Overlaps the majority of the RSA and LSA. 3.4% of this licence overlaps the LSA. 6407499 includes the Bell II Lodge and angling areas along the Bell-Irving River south of Bell II. Does not overlap the LSA.
Spey Lodge	Eco Tourist Lodge/Fish Camp (6407503)	In the RSA along the Bell-Irving River south of Bell II. Does not overlap the LSA.
Ministry of Forests, Lands, and Natural Resource Operations	Trapline Cabin (6403593)	On the western boundary of the RSA north of Mitchell Creek. Does not overlap the LSA.
Ministry of Forests, Lands, and Natural Resource Operations	Trapline Cabin (6406083)	Within the RSA on the South Unuk River. Does not overlap the LSA.
Ministry of Forests, Lands, and Natural Resource Operations	Trapline Cabin (6403027)	Three locations, two trapline cabins on the Unuk River, and one on the South Unuk River, within the RSA. Does not overlap the LSA.
Ministry of Forests, Lands, and Natural Resource Operations	Trapline Cabin (6405705)	Located at Bell II, partially within the RSA. Does not overlap the LSA.
Explorers League: World and Wilderness Rafting	Guided Freshwater Recreation (6406943)	Located along the Iskut River and Unuk River, which forms the western boundary of the RSA. Does not overlap the LSA.

Source: BC ILMB (2013)

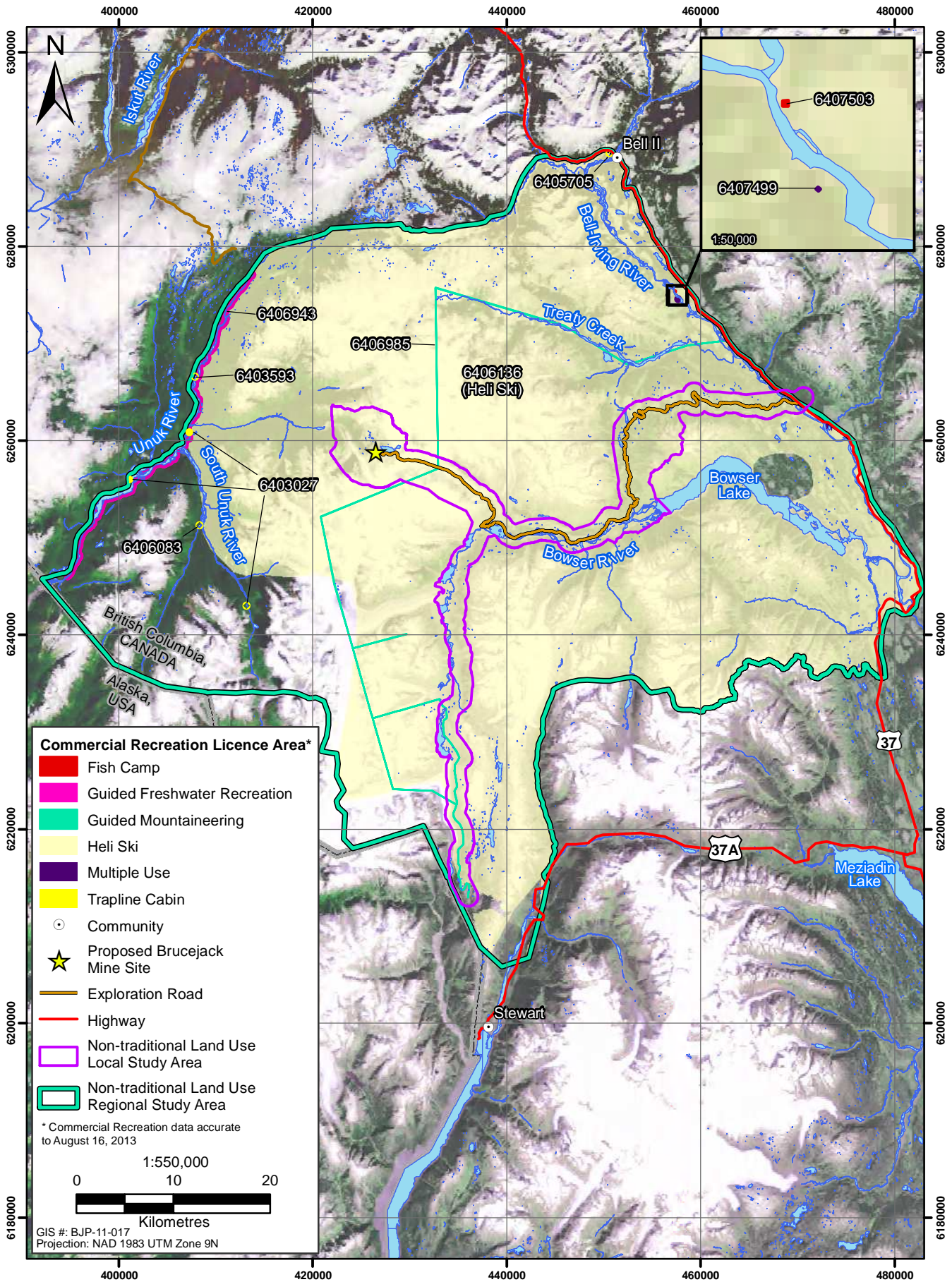


Figure 4.5-1

#### 4.5.2 Heliskiing and Lodging

##### 4.5.2.1 *Last Frontier Heliskiing (Licence #6406136) and Rivers West Enterprises Ltd. (Licence #6407499)*

###### Rivers West Enterprises Ltd

Rivers West Enterprises Ltd., based in Vernon, runs and operates the Bell II Lodge which provide accommodation and services to LFH clients (go2 Tourism 2012), located on the northern border of the RSA. The current licence has been held since 2004 and is valid through 2014 (Government of British Columbia 2013b). The lodge offers accommodation, restaurant, coffee shop, RV hook-ups and camping, fuel (gas, diesel, and propane), helicopter landing and fuel, minor automotive repairs, and also has a gift shop. These facilities were built in 1979 as a basic gas station and garage and were later updated to include a lodge to be used as a base location for a heli-skiing business (Bell 2 Lodge n.d.).

###### Last Frontier Heliskiing

The Last Frontier Heliskiing (LFH) commercial recreation licence encompasses the entire LSA and approximately 75% of the RSA. The RSA overlaps about 3.4% of the total area of the licence. LFH has been operating for 16 years from mid-December to the end of April. LFH draws clients internationally with 70% from Europe, 20% from the US, and 10% from elsewhere. Approximately 50 to 60% of clients are repeat customers. LFH has two lodges to accommodate clients, including one at Bell II and one in Stewart. Heli-ski services are offered in the winter, and both lodges operate as hotels in the off-season. The recreation licence area extends from the lodge at Stewart to the lodge at Bell II and encompasses approximately 9,500 km<sup>2</sup>. The area is characterized by mountains, lakes, glaciers, valley floors, rivers, and creeks. The total number of occupied lodge nights was estimated at 10,000 to 12,000 per year. The lodge at Bell II also includes a gas station and coffee shop (F. Fux, pers. comm.).

LFH typically contracts two to three helicopters during the ski season, to make trips between the lodge and the mountain tops multiple times throughout the day. Each helicopter can accommodate three groups of five. According to the LFH Director of Operations, LFH has been successful in part due to the location, which is remote and surrounded by pristine wilderness. Clients enjoy the availability of “fresh powder,” an experience difficult to obtain in more southerly locations. The experience of skiing with no other tracks or people in sight is one reason clients travel to northwestern BC to heliski. The ‘open bowls’ and glaciers that characterize the area are especially attractive to clients and provide a unique experience (F. Fux, pers. comm.).

In addition to heli-skiing, LFH also offers angling services and heli-fishing. The fishing season is from mid-September to the end of October. Typical angling services focus on steelhead fishing on the Bell-Irving River. LFH makes approximately five trips per season, with ten clients per trip. Heli-fishing entails transporting clients by helicopter to a remote lake or river, most often locations on the Nass River, where they are left to fish for the day, and brought back to lodge in the evening. LFH has offered heli-fishing services for the past ten years (F. Fux, pers. comm.).

Overall, business has been steady over the past decade, with only a slight decrease in client number in 2008. Prices for a seven-day package range from \$7,680 at the beginning and end of the season to \$10,580 at the height of the season. Groups of skiers also have the option of a private tour at a cost of between \$11,500 and \$19,882 per person, which includes the exclusive use of a helicopter for between 9 and 24 hours of use depending on the package (F. Fux, pers. comm.).

The LFH tenure contains over 400 runs, some of which are added and/or modified each year. The LFH director of operations indicated the aesthetics of area are very important to the business and noted the

value of wilderness and the absence of human activity to the client experience (F. Fux, pers. comm.). LFH has expressed some concerns that the project will infringe on the heli-skiing business including the likely loss of at least two of the more valued ski runs.

### 4.5.3 Fishing Camps

#### 4.5.3.1 *Spey Lodge/ Boundary Lodge (Licence #6407503)*

Spey Lodge provides fly fishing expeditions and lodging at two locations: Spey Lodge located on the banks of the Skeena River just east of the Skeena/Copper River confluence, and Boundary Lodge located on the Bell-Irving River, west of Highway 37 (inside the northeastern boundary of the RSA; Figure 4.5-1). The Spey Lodge owner obtained the commercial recreation licence in 2004 and constructed the lodges in 2005. The lodge has been fully occupied for the last four seasons and attracts clients from the United Kingdom, France, Germany, and Japan. The owner estimates that repeat customers comprise about 75% of the business, and that most repeat clients have frequented the lodge every summer for the past 15 years (W. Faetz, pers. comm.). The cost for a six-night package is \$4,400 and a seven-night package is \$5,200 (Spey Lodge 2012).

Spey Lodge employs five staff and operates from March to November, serving approximately 120 clients per year. The average length of stay for clients is about eight days. A typical group consists of six people who participate in catch-and-release fly-fishing at both locations using boats, two-hand rods, or a flat rod. The lodge provides transportation to and from each location, both of which are accessible by road. Steelhead and salmon are the most popular and most common species of fish caught during the fly-fishing expeditions. There are three boat launches associated with Spey Lodge at Bell I, Glacier Creek, and Bell II (W. Faetz, pers. comm.).

Over the past year, the owner of Spey Lodge has noticed an increase in the presence of people in the Bell-Irving Valley. The main challenge for Spey Lodge is continuing to provide the overall pristine wilderness experience, a characteristic of the BC outback that continues to entice repeat clients each year. At Spey Lodge, clients value the experience of the outdoors and being in a relatively undeveloped area as much as the activity of fly-fishing. The owner of Spey Lodge states that BC is the perfect location for this type of business because the wilderness is accessible and beautiful and there are qualified people to provide this type of fishing trip and wilderness tour (W. Faetz, pers. comm.).

#### 4.5.3.2 *Other Angling Activities*

A 2010 interview revealed that angling activities had been operating out of the Bell II Lodge for 10 years. Angling trips are no longer organized by the lodge or River West Enterprises, though they remain available for purchase through the lodge by independent operators (Bell II Lodge, pers. comm.). Angling trips in 2010 were led over eight weeks in the fall, starting in September. Approximately 64 clients went angling during the season. Most activity focussed on steelhead fishing along the Bell-Irving River, including its tributaries, such as Teigen Creek. They used a tent camp along the Bell-Irving River approximately 15 km south of Bell II Lodge (just above Treaty Creek) for overnight trips. Interviews with independent angling agencies were not completed.

### 4.5.4 Guided Backcountry Expeditions

#### 4.5.4.1 *Bear Enterprises (Licence #6406985)*

Bear Enterprises (now Bear Mountaineering and the Burnie Glacier Chalet) is based out of Smithers, and has been operating in the RSA since 1995. The current licence has been held since 2004 and is valid

until 2014 (ILRR 2013b). The area of the licence overlaps portions of the LSA, and trek lines span the RSA (Figure 4.5-1), specifically, 9.8% of the total licence area is overlapped by the LSA.

Burnie Glacier Lodge operates in both summer and winter but is most popular from January to May, for about 10 weeks of the year. The licence holder offers guided backcountry expeditions between Bell II and Hyder, Alaska, along routes that include parts of the Knipple Glacier, Teigen Creek, and Hodkin Lake, depending on the chosen route. The area provides high quality snow for skiing, remote high peaks, and larger glaciers. Access to the licence area is via Highway 37 or helicopter charter from Bell II. The licence holder last led a guided backcountry expedition within the land use RSA in 2010 (C. Dietzfelbinger, pers. comm.). The license holder indicated that he does not intend to increase the amount of business currently conducted within the land use RSA. According to the licence holder, clients are drawn to the area by its natural beauty, accessible terrain, and an interest in the region's history (C. Dietzfelbinger, pers. comm.).

#### **4.5.5 River Rafting**

##### *4.5.5.1 Explorers League: World and Wilderness Rafting (Licence #6406943)*

This commercial recreation licence has two locations; one northwest of the RSA along the Iskut River, and the other along the Unuk River, or the western boundary of the RSA. In 2010, the Explorers League offered guided freshwater rafting tours, travelling down the Unuk River from near its confluence with Storie Creek into Alaska (Rescan 2013d). They have operated in the area for approximately 10 years, and their current licence is valid to 2014 (ILRR 2013a).

The company typically offers one seven-day trip per year in June, accommodating up to 20 individuals made up of Canadian, U.S., and some international clients. The 2012 trip on the Unuk River cost \$5,000 per participant; a trip was next planned for June 10 to 15, 2013 at a cost of \$5,990 (Explorers League 2013). The Unuk River trip includes hiking, camping, and wildlife viewing, and the area is accessed from the existing Eskay Creek Mine Road. A strong draw for clients is the remote wilderness and variety of wildlife in the area (Rescan 2013d).

#### **4.5.6 Other Commercial Recreation**

##### *4.5.6.1 Trapline Cabin (License #6403593)*

Commercial recreation license 6403593 is a trapline cabin registered to the BC MRLNRO. This license was first registered February 3, 1989 and is located on the western border of the land use RSA (Government of British Columbia 2013b).

##### *4.5.6.2 Trapline Cabin (License #6406083)*

Commercial recreation license 6406083 is a trapline cabin registered to the BC MRLNRO. This license was first registered October 24, 1997 and is located on the South Unuk River within the land use RSA (Government of British Columbia 2013b).

##### *4.5.6.3 Trapline Cabin (License #6403027)*

Commercial recreation license 6403027 is a trapline cabin registered to the BC MRLNRO. This license was first registered October 6, 1987 and represents three trapline cabin locations; two on the Unuk River and one on the South Unuk River (Government of British Columbia 2013b).

#### 4.5.6.4 Trapline Cabin (License #6405703)

Commercial recreation license 6405703 is a trapline cabin registered to the BC MRLNRO. This license was first registered February 1, 1999 and is located northwest of Bell II (Government of British Columbia 2013b).

## 4.6 FORESTRY

The LSA overlaps two forest districts (Skeena-Stikine and Kalum), as well as the Cassiar and Nass timber supply areas (TSA). The Cassiar TSA includes the height of land between the Iskut and Unuk River drainages and the Teigen and Ningunsaw drainages. The Nass TSA is linked to the area covered under the Nass South SRMP (BC MFLNRO 2012b). Figure 4.6-1 depicts both TSAs and related cut blocks.

The Cassiar TSA, administered by the Skeena-Stikine Forest District, is the largest TSA in BC, covering approximately 13.2 million ha (i.e., one-sixth of the province). About 25% of the Cassiar TSA (approximately 3.7 million ha) is considered productive forest area, and 8.5 million ha is considered non-productive or non-forested. The current Annual Allowable Cut (AAC) for the Cassiar TSA is 305,000 m<sup>3</sup>. For the 2001 to 2006 period, the last date range for which data are available, approximately 1.46 million m<sup>3</sup> of undercut volume was reported, amounting to 61,000 m<sup>3</sup> per year over five years, or 20% of the current AAC (BC MFLNRO 2011b).

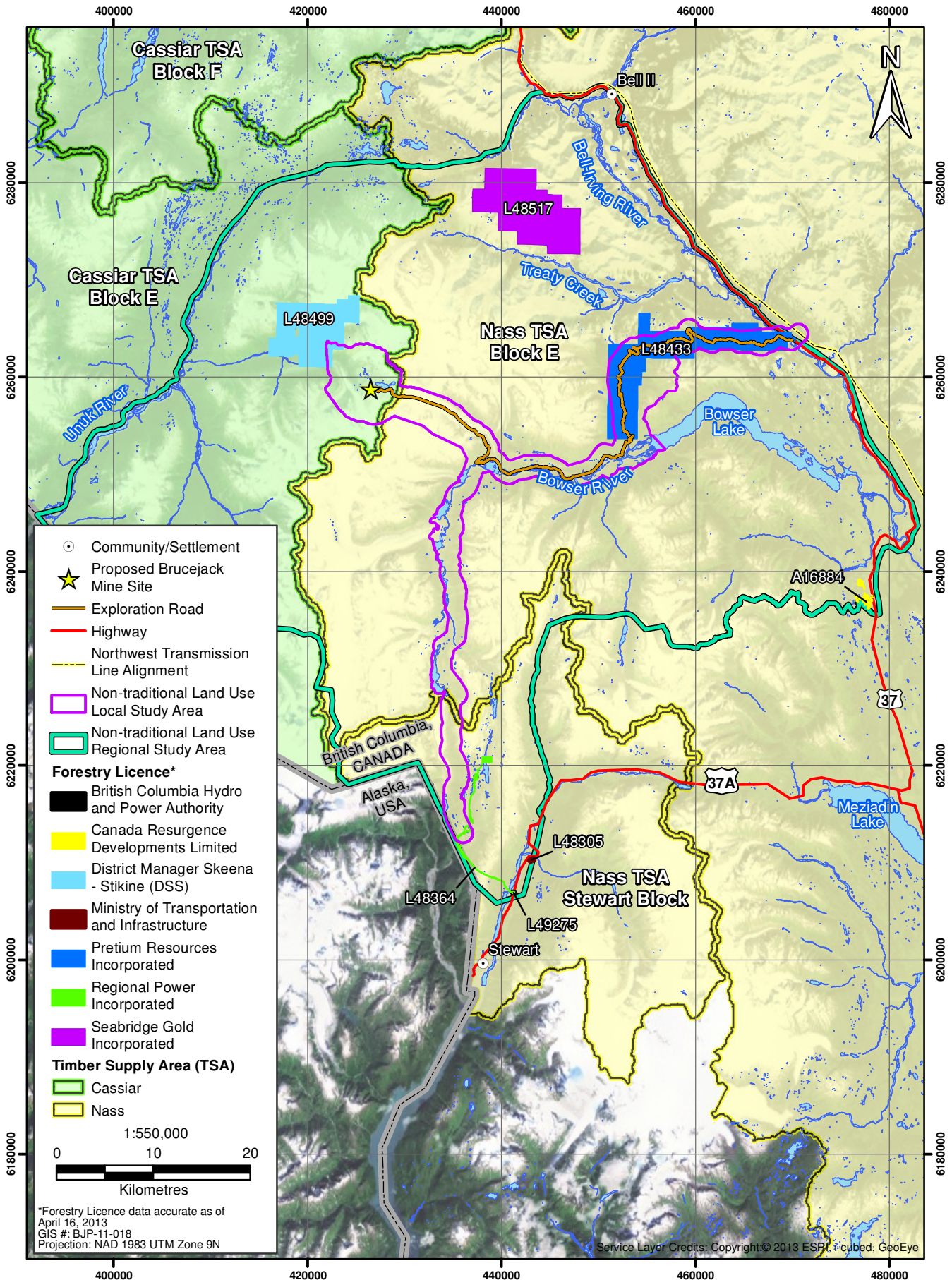
The Nass TSA, administered by the Kalum Forest District, covers 1.67 million ha. Crown-owned productive forest land equals 39% of the total TSA area, while almost 59% of the total land base is considered non-productive or non-forested. The current AAC for this TSA is 865,000 m<sup>3</sup>. Current harvesting levels represent 25% of the AAC (BC MFLNRO 2011c).

Table 4.6-1 provides a summary of forest licence holders in the LSA and RSA. As of January 2013, there were three forest licences within the LSA, and seven forest licences within the RSA (Figure 4.6-1). Pretium holds forestry licence L48433, located along the exploration access road. The licence held by BC Hydro and Power Authority is linked to the construction of the Northwest Transmission Line (NTL; see Section 4.12.3 for a description of this project). The licence held by the District Manager Skeena-Stikine (L48499) is located adjacent to the LSA near the proposed Brucejack Mine Site. Seabridge Gold Inc., Canada Resurgence Developments, and the Ministry of Transportation and Infrastructure, also hold forest licences within the RSA, including several inactive cut blocks along the eastern border of the RSA linked to the forestry licence held by Canada Resurgence Developments.

**Table 4.6-1. Summary of Forest Licence Holders in the Project Study Areas**

Licensee	Licence #	TSA	Licence Location
Pretium Resources Inc.	L48433	Nass	North of Bowser Lake, extending from the west end of the lake north to the headwaters of Scott Creek and east to Highway 37
British Columbia Hydro and Power Authority	L48305	Nass	North of Stewart, at the southernmost edge of the RSA along Highway 37A
Canada Resurgence Developments Ltd.	A16884	Nass	From Bell I to the southeastern edge of the RSA
District Manager Skeena Stikine	L48499	Cassiar	Along the northwestern edge of the minesite in the LSA
Ministry of Transportation and Infrastructure	L48305	Nass	On the edge of the southern boundary of the RSA
Regional Power Inc.	L48364	Nass	Within the southern tip of the LSA and RSA
Seabridge Gold Inc.	L48517	Nass	Within the northern boundary of the RSA

Source: Government of British Columbia (2013b); Ministry of Citizen's Services and Open Government (2013)



Forestry Licences and Timber Supply Areas in the Brucejack Project Non-traditional Land Use Study Areas

Figure 4.6-1

## 4.7 MINING AND MINERAL EXPLORATION

### 4.7.1 Overview

Until 2008, the Eskay Creek Mine operated near the RSA. In addition, there are a number of mine projects proposed in the area, including the KSM Project (roughly 8 km northwest from the proposed Brucejack Mine Site). Projects to the north of the RSA include Galore Creek (150 km northwest of Stewart), Arctos Anthracite (160 km northeast of Stewart, BC), and Schaft Creek (60 km south of Telegraph Creek). The Huckleberry mine is the closest producing mine and is located southeast of Kitimat, BC approximately 360 km from the proposed Brucejack Project (BC EAO 2013; Invest Northwest 2013b).

### 4.7.2 Mineral Claims

There are a total of 1,206 mineral claims within the RSA, with 297 of these mineral claims overlapping the LSA (Government of British Columbia 2013b). Table 4.7-1 summarizes mineral tenures held in the LSA and RSA. The 12 largest mineral claim holders (greater than 5,000 ha) are shown in Figure 4.7-1 in relation to the project study areas as of May 2013. Forty-nine individuals or businesses hold smaller minerals claims (less than 5,000 ha) that overlap the RSA (Table 4.7-1). Five entities have mineral claims over 5,000 ha that overlap the LSA, including Pretium Exploration Inc., Seabridge Gold Inc., Teuton Resources Corp., Auramax Resources Corp., Geofine Exploration Consultants Ltd., and Mountain Boy Minerals Ltd. (Government of British Columbia 2013a). A table showing all of the mineral tenures within the land use LSA is found in Appendix 1.

**Table 4.7-1. Mineral Claims within the Regional and Local Study Areas<sup>1</sup>**

Name	Total Area of Claims (Ha)	Name	Total Area of Claims (Ha)
Pretium Exploration Inc.	101,527.4	Decade Resources Ltd.	1,661.6
Teuton Resources Corp.	41,437.8	Boliden Limited	1,633.4
Seabridge Gold Inc.	38,454.7	Client ID#276889	1,597.8
St. Andrew Goldfields Ltd.	22,068.6	Client ID#143363	1,551.2
Geofine Exploration Consultants Ltd.	13,564.1	Jayden Resources (Canada) Inc.	1,513.8
Mountain Boy Minerals Ltd.	12,539.1	Client ID#113745	1,430.2
Eskay Mining Corp.	11,085.6	Client ID#206788	1,415.6
Client ID#146571	8,305.14	Client ID#138050	1,377.7
Auramax Resource Corp.	7,496.0	Client ID#119158	1,309.0
Castle Granduc Exploration Inc.	5,933.0	Client ID#143767	937.9
Client ID#102844	5,901.7	Client ID#204027	774.2
Eilat Resources Inc.	5,634.0	Client ID#145111	576.1
Green Swan Capital	3,625.3	Red Eye Resources Ltd.	539.4
Brigade Holdings Canada Ltd.	3,220.6	American Creek Resources Ltd.	524.7
Client ID#271470	3,203.0	Client ID#208932	469.1
0945473 B.C. Ltd.	2,964.1	Client ID#202028	468.9
Cache Minerals Inc.	2,872.7	Barrick Gold Inc.	451.4
Client ID#139085	2,496.2	Great Bear Resources Ltd.	431.7
Client ID#117069	2,398.0	Client ID#240981	412.0
Client ID#129717	376.6	Turnagain Resources Inc.	53.7
Client ID#102947	322.7	Client ID#118937	361.6
Nanika Resources Inc.	274.2	Client ID#125352	36.1

(continued)



**Table 4.7-1. Mineral Claims within the Regional and Local Study Areas<sup>1</sup> (completed)**

Name	Total Area of Claims (Ha)	Name	Total Area of Claims (Ha)
Client ID#219636	233.3	Client ID#258448	36.0
Client ID#140980	197.3	Client ID#210652	18.1
Canada Minerals Inc.	180.0	Client ID#124128	18.1
Client ID#125075	142.5	Client ID#146695	18.1
Client ID#113058	126.5	Client ID#106203	18.0
Client ID#252757	90.4	Client ID#106836	18.0
Client ID #131784	89.8	BCT Mining Corp.	17.8
Client ID#208209	71.7	467054 BC Ltd.	8.7
Client ID#261908	54.2		

Source: Government of British Columbia (2013b)

Note:

<sup>1</sup> Data are current as of May 2013

#### 4.7.3 Placer Claims

Placer claims apply to metal or natural substances which can be mined but are found in loose earth, rock, gravel and sand (BC MEMPR 2011). As at May 2013, there were 71 placer claims belonging to five people or businesses which overlap the RSA (Table 4.7-2). Within the LSA, there are two placer claims holders: Pretivm and Seabridge Gold Inc. (Government of British Columbia 2013a). Figure 4.7-2 shows placer claims in relation to the RSA and LSA. Table 4.7-2 identifies placer tenures within the LSA and RSA.

**Table 4.7-2. Placer Tenures within the Regional and Local Study Areas<sup>1</sup>**

Placer Claim Holder	No. of Claims	Total Area of Claims (ha)	Located in the LSA	Located in the RSA
Pretivm Exploration Inc.	20	3591.3	Y	Y
Client ID#138050	3	196.5	N	Y
Seabridge Gold Inc.	42	11,678.0	Y	Y
Client ID#250624	1	160.8	N	Y
Lyncorp Mining Services Inc.	14	1,374.9	N	Y

Source: Government of BC (2013a)

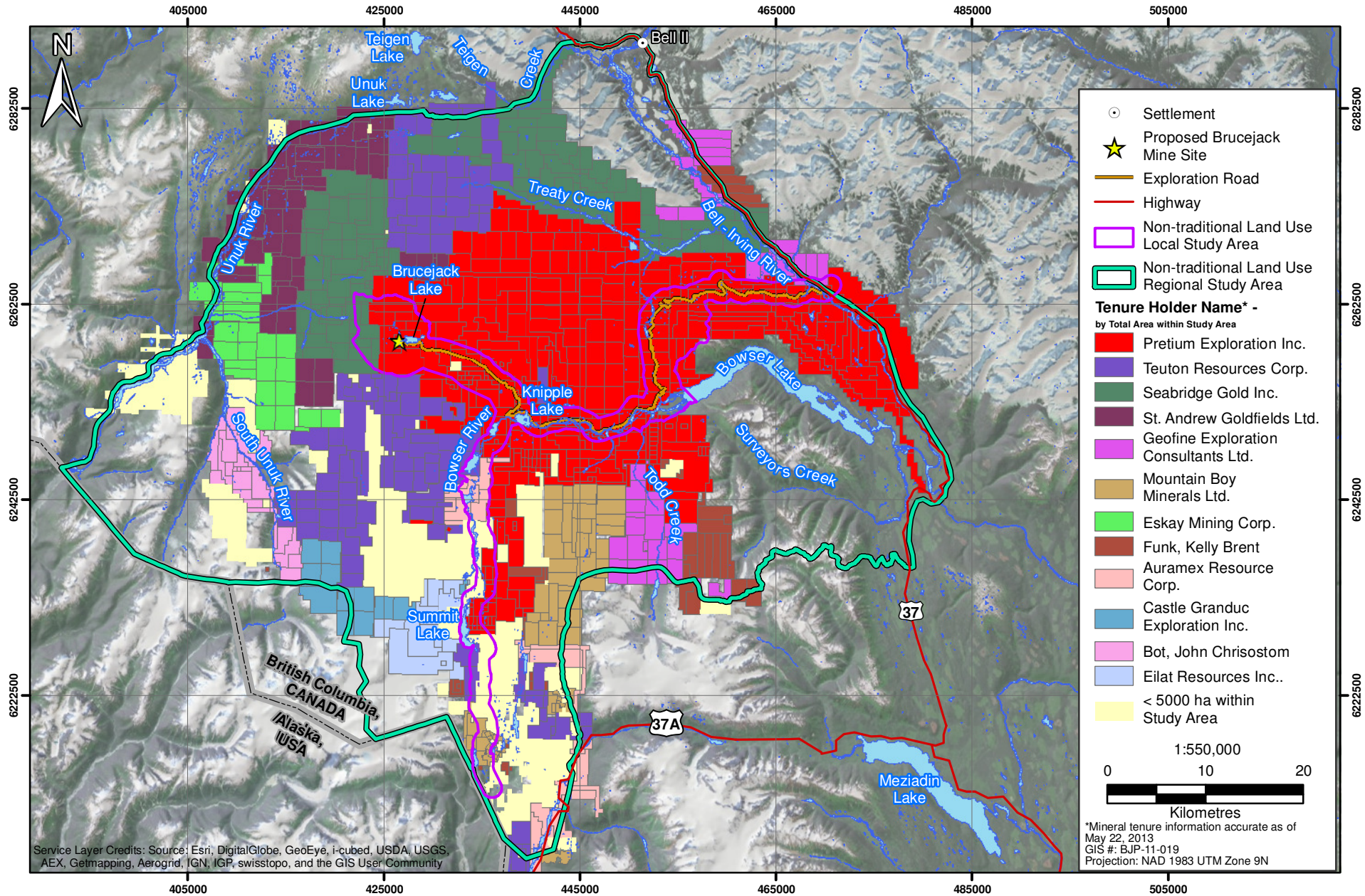
Note:

<sup>1</sup> Data are current as at May 2013

## 4.8 WATER LICENSES

All surface water in BC is owned by the Crown on behalf of residents of the province. Authority to divert and use surface water is obtained by a licence or approval in accordance with the statutory requirements of the province's *Water Act* (1996e) and the *Water Protection Act* (1996f).

There are two water licences belonging to Pretivm and Boliden Ltd. within the LSA. Licence C128950 is located at Brucejack Lake and licence C065537 is located at the southern end of the proposed south option transmission line (Figure 4.8-1). There are an additional three water licences within the RSA; two of which belong to Long Lake Hydro Inc. in the southern portion of the RSA, and one that belongs to River West Enterprises Ltd. at the Bell II Lodge. Table 4.8-1 details the name of the licensee, the stream on which the licence applies, and the current status and use of the licence.



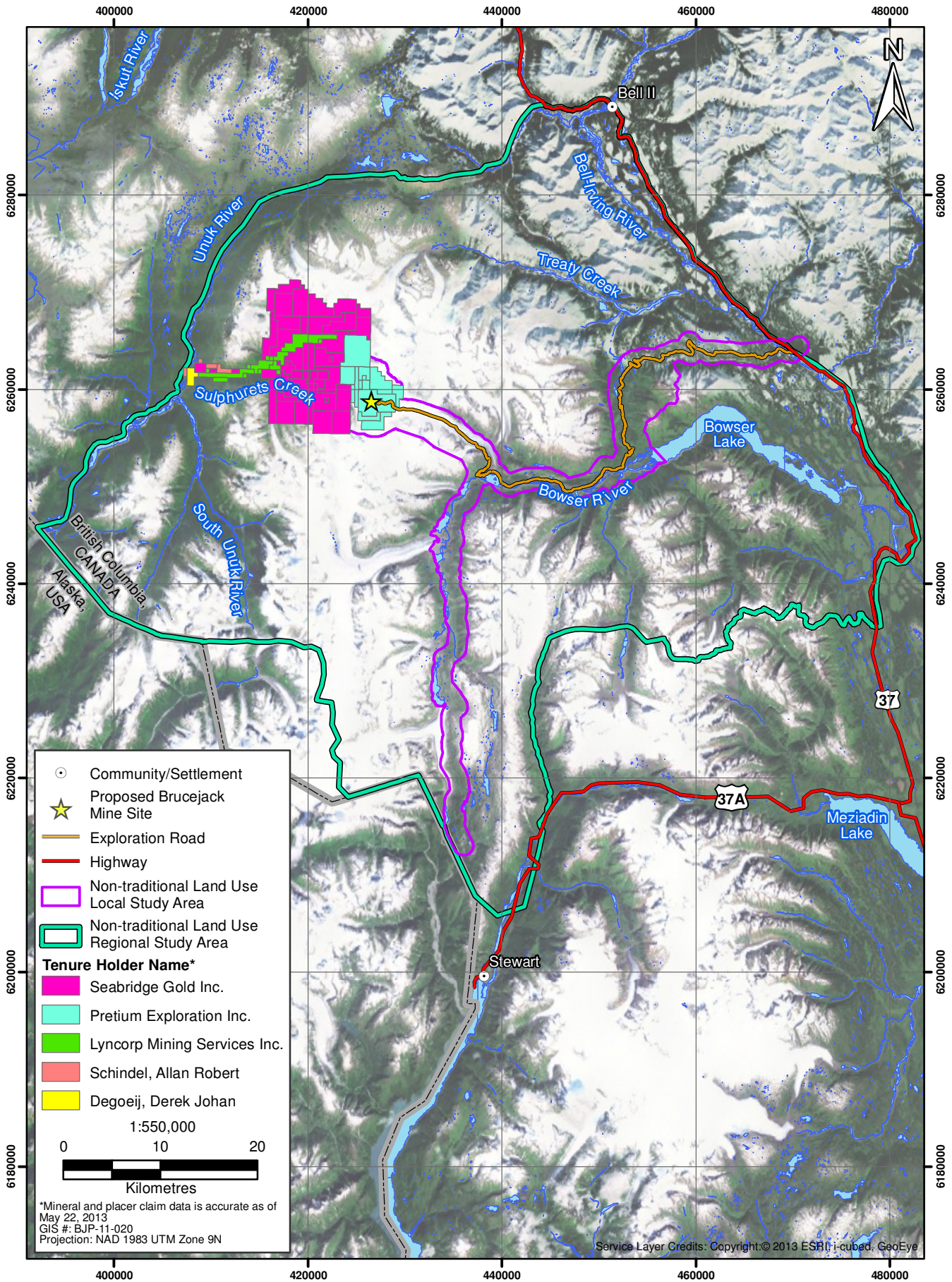


Figure 4.7-2

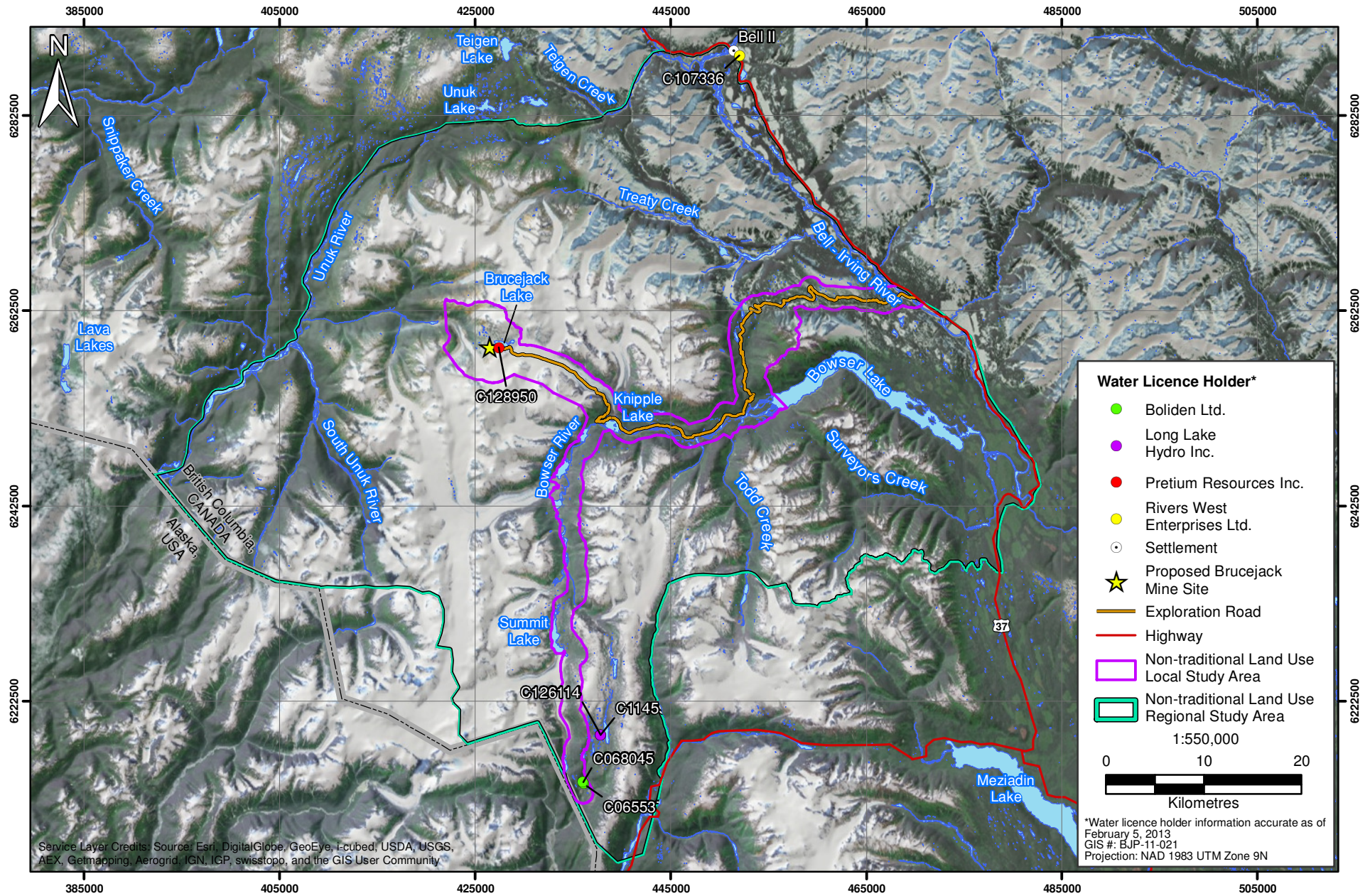


Figure 4.8-1

Water Licences in the Brucejack Project Non-traditional Land Use Study Areas (as at February 2013)

Figure 4.8-1



**Table 4.8-1. Water Licences in the Brucejack Gold Mine Project Study Areas**

Licence Number	Licensee	Stream	LSA or RSA	Use	Licence Status
C128950	Pretium Resources Inc.	Brucejack Lake	LSA	Work Camps	Current
C114597	Long Lake Hydro Inc.	Cascade River	RSA	Power-General	Current
C126114	Long Lake Hydro Inc.	Cascade River	RSA	Power-General	Current
C065537	Boliden Ltd.	Cascade River	LSA	Land Improvement	Current
C107336	Rivers West Enterprises Ltd.	Hodder Creek	RSA	Enterprise	Current

Source: BC MOE (2013)

#### 4.9 NAVIGABLE WATERS PROTECTION ACT (NWPA)

The *Navigable Water Protection Act* (NWPA) states that ‘navigable waters’ includes a “canal and any other body of water created or altered as a result of the construction of any work” and further states that “no work shall be built or placed in, on, over, through or across any navigable water without the Minister’s prior approval of the work, its site and the plans for it” (Transport Canada 2013). It is expected that the proposed Project will require a navigable waters assessment.

The land use RSA encompasses five non-traditional land use licences linked to use of the area that could potentially include travel by water. These include trapline license TR 621T003, guided mountaineer license 6406985, guided freshwater licence 6406943, fish camp license 6407503, and guide outfitter licence 601074. Each of the five license holders were contacted as part of the land use research program. Three of five responded and stated they did not travel by water in their respective licence areas; including TR 621T003, guided mountaineer 6406985, and guide outfitter licence 601074 (D. Green, pers. comm; C. Deitzfelbinger, pers. comm.; and J. Major, pers. comm). Two licence holders, specifically, Spey Lodge (6407503) and Explorer’s League (6406943) were unavailable to provide this information. Potential navigable use of waterbodies may also be pursued by members of the Skii km Lax Ha. This is discussed in detail in Chapter 25.

#### 4.10 PUBLIC RECREATION

The RSA includes a variety of recreational opportunities and activities for the public. However, there are no formal hiking trails, snowmobile routes, or other recreational sites within the LSA or RSA, and there is no documented public use of the area. Any recreation activities that occur take place on an informal basis.

The Salmon Glacier viewpoint is accessible via the Granduc mine road and includes an observation deck near the parking lot. The District of Stewart has compiled a self-guided auto tour of the Salmon Glacier for tourists. The Salmon Glacier is a destination for individuals travelling in the area and provides spectacular views of the glacier as well as wildlife viewing at times (Trailpeak 2013).

#### 4.11 AGRICULTURE

There are no known agricultural activities or Agricultural Land Reserves within the LSA or RSA.

#### 4.12 OIL AND GAS

There are no oil and gas tenures in the LSA or RSA.

## 4.13 TRANSPORTATION AND UTILITIES

### 4.13.1 Roads

The LSA includes a 75 km unpaved exploration access road from Hwy 37. A portion of this road was constructed by Newhawk Gold Inc. in the late 1980s. That road has been rehabilitated and a new section added from the west end of Bowser Lake to Highway 37. Approximately 10 km of the road is along the Knipple Glacier (Figure 4.12-1).

In the LSA, within the transmission line south route option, an unpaved service road runs between Long Lake and the Long Lake Hydro Project Generation Station. This road was originally part of the Granduc Road, which was built to service several mines including the Premier Mine and the Granduc Mine (Regional Power 2011). The road has been integrated into the Long Lake Project (along with other existing infrastructure). It is used by tourists to access the Salmon Glacier viewpoint and by mineral exploration tenure holders to access staging areas near the former Granduc mine and Tide Lake airstrip.

Highway 37 (the Stewart-Cassiar Highway) and a portion of Highway 37A run along the eastern and southern edges of the land use RSA, respectively. Highway 37 runs primarily north to south through northwestern BC for a total distance of 724 km, and is one of only two overland routes to Alaska. It connects a number of small, rural settlements in northwestern BC. The highway is almost entirely paved or sealed and has a speed limit of 80 to 90 km/hour. Conditions are suitable for a range of personal, recreational, and industrial vehicles, although motorists are cautioned that logging and other large trucks use the road 24 hours a day (BC MOTI 2011).

A small number of forestry roads are located within the RSA and can potentially be accessed via Highway 37 (Figure 4.12-1). Only one road intersects with the exploration access road to the Project site. Other roads in the RSA include forestry roads that are located some distance (approximately 38 km) from Project infrastructure. It is not likely that these roads are accessed by vehicles as the bridge over the Bowser River, southwest of the Bowser Lake outlet, was removed, and there is no active road access to Bowser Lake, other than by snowmobile during winter months. Alternatively, First Nations and/or commercial recreational licence holders may use forestry and other roads to access the Bowser Lake area on foot.

### 4.13.2 Airstrips

There are commercial airports at Stewart and Bob Quinn, both of which are located outside of the non-traditional land use RSA. Within the land use RSA there are two small airstrips. One is a small landing strip or runway in the LSA along the transmission line south route option (Figure 4.12-1), in a place known as Tide Lake Flats. It was originally constructed as a 1,000-foot airstrip that was used to ferry freight from Stewart to the Granduc Mine, prior to the completion of the Granduc Road (McLeod and McNeil 2004). The second is an airstrip along the current exploration access road that follows the Bowser River. This airstrip was formerly used by Newhawk Gold Mines Ltd. but is no longer in use. There are plans to rehabilitate this airstrip for the Brucejack Gold Mine Project.

### 4.13.3 Utilities

BC Hydro's Northwest Transmission Line (NTL) project is under construction with completion anticipated in 2014. The NTL involves the construction of a 335 km, 287 kilovolt transmission line connecting the Skeena Substation, near Terrace, to a new substation near Bob Quinn Lake (BC Hydro 2012). The fully constructed NTL will run along the eastern border of the RSA and near Highway 37 (Figure 4.12-1).

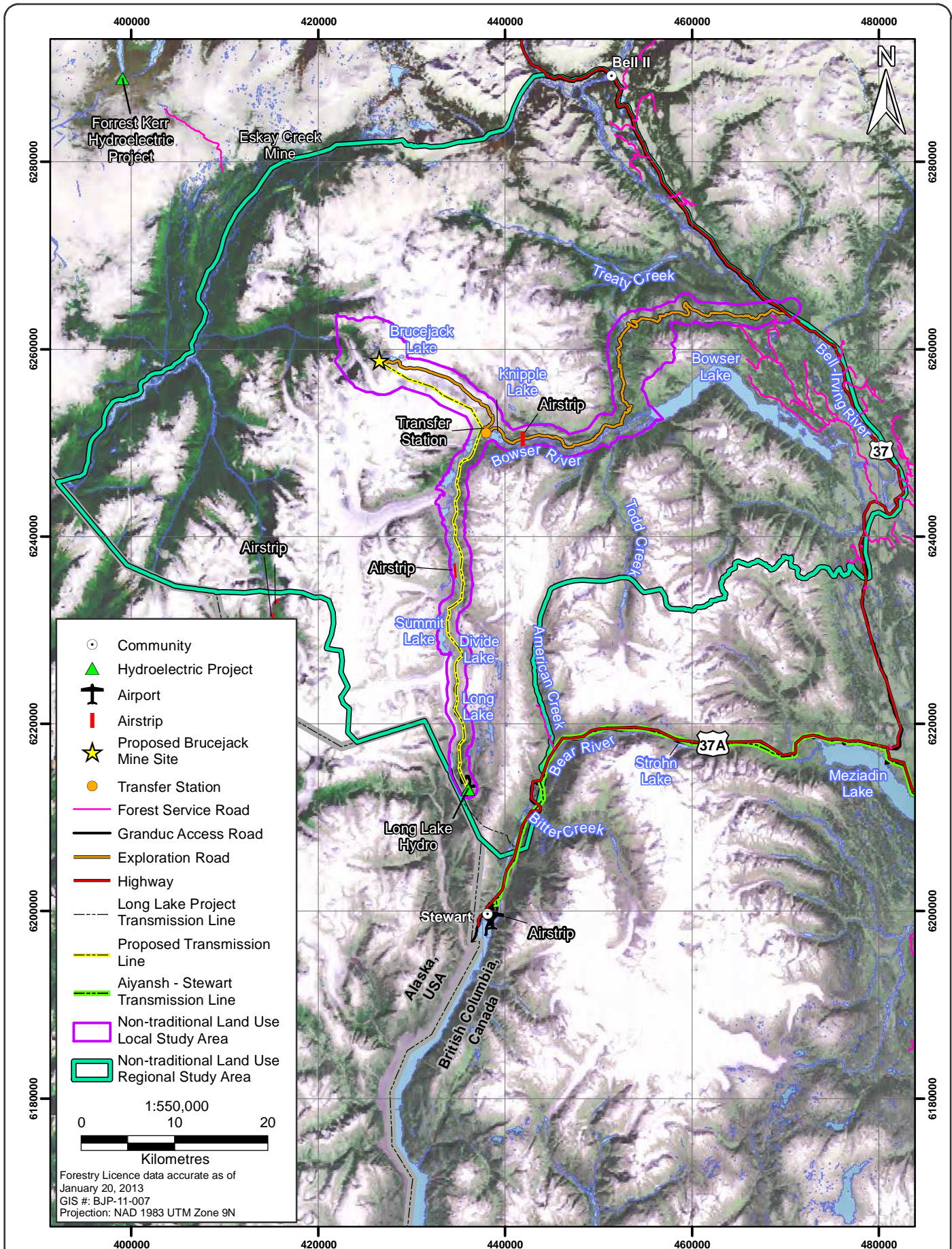


Figure 4.12-1

The Long Lake Hydroelectric Project is located in the southern end of the LSA (along the transmission line south route option). It is an approximately 31 MW hydroelectric project located on Cascade Creek near the BC/Alaska border. Construction of the project began in the spring of 2011 and the project became operational in December 2013 (bclocalnews.com 2013; Invest Northwest 2013a). The 138 kilovolt Aiyansh-Stewart Transmission Line overlaps the southern tip of the RSA within the Bear River valley along Highway 37A (Figure 4.12-1). The line begins at the Skeena Substation in Terrace and runs through New Aiyansh, Cranberry Junction and Meziadin Junction before proceeding to Stewart, servicing each community, or approximately 1,600 customers in 2012 (Terrace Standard 2012).



## 5. Conclusion

## 5. Conclusion

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The CIS LRMP and the Nass South SRMP overlap the RSA. Mining activities are permitted under these plans subject to provincial mineral legislation. Border Lake Provincial Park is located partially within the western boundary of the RSA. Although mining activities are prohibited within the park, the Project is located some distance away from it. There are no parks or Protected Areas inside the LSA.

The level of land use activity in the RSA is minimal and seasonal in nature. Resident and non-resident hunter harvest data for the Wildlife Management Units that overlap the LSA and RSA are available and indicate that moose was the most commonly harvested species between 1999 and 2008. Resident and non-resident hunting in the area has continued either at comparable or reduced levels in that time period. Interviews with guide outfitter licence holders indicated that portions of the LSA have been used for guided hunting trips, but they do not use the area often and operate on a seasonal basis. Anecdotal data gathered during baseline interviews noted that a recent increase of human activity, related to mineral exploration in northwestern BC over the past decade, has increased the ability of resident harvesters to access the backcountry; however, this increase is difficult to quantify.

Trapping data indicates that the six traplines overlapping the Project study areas are used infrequently and seasonally. Overall, trapping and hunting activities in the area have decreased somewhat over the past three decades.

A limited number of people access the area for recreational or commercial purposes. Those that do are motivated by the area's isolated wilderness and likely participate in guided mountaineering, heli-skiing, guided freshwater recreations, and fish camps, among others. Three of these licences overlap with the Project LSA: 6406985 (guided mountaineering), 6407503 (freshwater recreation), and 6406136 (heliskiing). Overlap with commercial recreation licences within the LSA is minimal in comparison to the total size of each commercial recreation licence.

Forestry operations are also small in scale within the TSAs overlapping the LSA and RSA. Licences are held primarily by mineral exploration companies and hydro related activities. Mineral tenures and placer claims are more active in the LSA and RSA due to the acknowledged potential of mineral resources in this area. Water licenses identified in the LSA have been obtained either to support the mining sector, or the number of hydroelectric projects currently under construction or in the EA stages.

There are no known public recreation, agriculture, or oil and gas activities taking place in the LSA or RSA. There are no known non-traditional land users that likely travel by water within the land use LSA.

Paved roads are on the outlying areas of the RSA; those roads that do exist within the LSA and RSA are unpaved and primarily support the mining and forestry sectors. Access as indicated earlier is difficult, particularly considering the steepness of terrain and the presence of large glacier fields. A number of utilities and infrastructure based projects are currently under development within and adjacent to the RSA to service the mineral development projects in the Region.

## References

## References

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- Green, D. 2012. Trapper. Personal Communication: August 22, 2012.
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# Appendix 1

## Mineral Tenures in the Land Use Local Study Area



# Appendix 1. Mineral Tenures in the Land Use Local Study Area

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Table A1-1. Mineral Tenures in the Land Use Local Study Area

Crown Tenure#	Tenure Holder
250526	BOLIDEN LIMITED
250527	BOLIDEN LIMITED
250528	BOLIDEN LIMITED
250529	BOLIDEN LIMITED
250714	BOLIDEN LIMITED
250767	BOLIDEN LIMITED
250851	RED EYE RESOURCES LTD.
251148	RED EYE RESOURCES LTD.
252193	BOLIDEN LIMITED
252952	BOLIDEN LIMITED
254532	BOLIDEN LIMITED
255205	AMERICAN CREEK RESOURCES LTD.
255207	AMERICAN CREEK RESOURCES LTD.
255209	AMERICAN CREEK RESOURCES LTD.
255400	BOLIDEN LIMITED
255401	BOLIDEN LIMITED
255402	BOLIDEN LIMITED
255403	BOLIDEN LIMITED
301579	467054 BC LTD.
302030	BOLIDEN LIMITED
338685	RED EYE RESOURCES LTD.
374303	AMERICAN CREEK RESOURCES LTD.
374304	AMERICAN CREEK RESOURCES LTD.
394825	TEUTON RESOURCES CORP.
394826	TEUTON RESOURCES CORP.
404864	JAYDEN RESOURCES (CANADA) INC.
404865	JAYDEN RESOURCES (CANADA) INC.
404866	JAYDEN RESOURCES (CANADA) INC.
404868	JAYDEN RESOURCES (CANADA) INC.
404869	JAYDEN RESOURCES (CANADA) INC.
404870	JAYDEN RESOURCES (CANADA) INC.
404872	JAYDEN RESOURCES (CANADA) INC.
405601	JAYDEN RESOURCES (CANADA) INC.

(continued)

NON-TRADITIONAL LAND USE BASELINE

Table A1-1. Mineral Tenures in the Land Use Local Study Area (continued)

Crown Tenure#	Tenure Holder
405602	JAYDEN RESOURCES (CANADA) INC.
405603	JAYDEN RESOURCES (CANADA) INC.
405604	JAYDEN RESOURCES (CANADA) INC.
405872	JAYDEN RESOURCES (CANADA) INC.
405873	JAYDEN RESOURCES (CANADA) INC.
405874	JAYDEN RESOURCES (CANADA) INC.
406212	JAYDEN RESOURCES (CANADA) INC.
406213	JAYDEN RESOURCES (CANADA) INC.
406214	JAYDEN RESOURCES (CANADA) INC.
406215	JAYDEN RESOURCES (CANADA) INC.
406223	JAYDEN RESOURCES (CANADA) INC.
407410	Client ID #206788
410699	Client ID #206788
412700	JAYDEN RESOURCES (CANADA) INC.
501145	0945473 B.C LTD.
501185	0945473 B.C LTD.
503002	0945473 B.C LTD.
504666	Client ID #206788
507105	Client ID #206788
507141	Client ID #206788
507143	Client ID #206788
507144	Client ID #206788
508249	EILAT EXPLORATION LTD.
508807	TEUTON RESOURCES CORP.
508822	TEUTON RESOURCES CORP.
508823	TEUTON RESOURCES CORP.
508913	TEUTON RESOURCES CORP.
509216	PRETIUM EXPLORATION INC.
509223	PRETIUM EXPLORATION INC.
509397	PRETIUM EXPLORATION INC.
509400	PRETIUM EXPLORATION INC.
509463	PRETIUM EXPLORATION INC.
509464	PRETIUM EXPLORATION INC.
509506	PRETIUM EXPLORATION INC.
509565	TEUTON RESOURCES CORP.
515633	EILAT EXPLORATION LTD.
515878	EILAT EXPLORATION LTD.
516251	SEABRIDGE GOLD INC.
516252	SEABRIDGE GOLD INC.

(continued)

Table A1-1. Mineral Tenures in the Land Use Local Study Area (continued)

Crown Tenure#	Tenure Holder
516253	SEABRIDGE GOLD INC.
516254	SEABRIDGE GOLD INC.
516262	SEABRIDGE GOLD INC.
516263	SEABRIDGE GOLD INC.
516266	SEABRIDGE GOLD INC.
516267	SEABRIDGE GOLD INC.
516268	SEABRIDGE GOLD INC.
516269	SEABRIDGE GOLD INC.
517869	Client ID #206788
518844	Client ID #206788
524181	AURAMEX RESOURCE CORP.
524183	AURAMEX RESOURCE CORP.
524186	AURAMEX RESOURCE CORP.
527242	EILAT EXPLORATION LTD.
537229	AURAMEX RESOURCE CORP.
538639	Client ID #206788
539880	Client ID #143767
539887	Client ID #143767
553594	PRETIUM EXPLORATION INC.
553598	PRETIUM EXPLORATION INC.
553599	PRETIUM EXPLORATION INC.
553610	PRETIUM EXPLORATION INC.
553615	PRETIUM EXPLORATION INC.
564931	Client ID #143767
565046	Client ID #143767
569185	PRETIUM EXPLORATION INC.
569195	PRETIUM EXPLORATION INC.
570464	PRETIUM EXPLORATION INC.
571922	PRETIUM EXPLORATION INC.
583912	Client ID #143363
587884	PRETIUM EXPLORATION INC.
587907	PRETIUM EXPLORATION INC.
588361	PRETIUM EXPLORATION INC.
588362	PRETIUM EXPLORATION INC.
588364	PRETIUM EXPLORATION INC.
588365	PRETIUM EXPLORATION INC.
592320	PRETIUM EXPLORATION INC.
592321	PRETIUM EXPLORATION INC.
592322	PRETIUM EXPLORATION INC.

(continued)

Table A1-1. Mineral Tenures in the Land Use Local Study Area (continued)

Crown Tenure#	Tenure Holder
592324	PRETIUM EXPLORATION INC.
592325	PRETIUM EXPLORATION INC.
592326	PRETIUM EXPLORATION INC.
592327	PRETIUM EXPLORATION INC.
592328	PRETIUM EXPLORATION INC.
592329	PRETIUM EXPLORATION INC.
592332	PRETIUM EXPLORATION INC.
592333	PRETIUM EXPLORATION INC.
592334	PRETIUM EXPLORATION INC.
592335	PRETIUM EXPLORATION INC.
592336	PRETIUM EXPLORATION INC.
592337	PRETIUM EXPLORATION INC.
592338	PRETIUM EXPLORATION INC.
592339	PRETIUM EXPLORATION INC.
592440	PRETIUM EXPLORATION INC.
592441	PRETIUM EXPLORATION INC.
592442	PRETIUM EXPLORATION INC.
592443	PRETIUM EXPLORATION INC.
592444	PRETIUM EXPLORATION INC.
592963	PRETIUM EXPLORATION INC.
592967	PRETIUM EXPLORATION INC.
592975	PRETIUM EXPLORATION INC.
592976	PRETIUM EXPLORATION INC.
592979	PRETIUM EXPLORATION INC.
592981	PRETIUM EXPLORATION INC.
593449	PRETIUM EXPLORATION INC.
593501	PRETIUM EXPLORATION INC.
593507	PRETIUM EXPLORATION INC.
593510	PRETIUM EXPLORATION INC.
593511	PRETIUM EXPLORATION INC.
593512	PRETIUM EXPLORATION INC.
593513	PRETIUM EXPLORATION INC.
593514	PRETIUM EXPLORATION INC.
593515	PRETIUM EXPLORATION INC.
594640	PRETIUM EXPLORATION INC.
594650	PRETIUM EXPLORATION INC.
598759	PRETIUM EXPLORATION INC.
598760	PRETIUM EXPLORATION INC.
598761	PRETIUM EXPLORATION INC.

(continued)

Table A1-1. Mineral Tenures in the Land Use Local Study Area (continued)

Crown Tenure#	Tenure Holder
598766	PRETIUM EXPLORATION INC.
598771	PRETIUM EXPLORATION INC.
604739	PRETIUM EXPLORATION INC.
604740	PRETIUM EXPLORATION INC.
604741	PRETIUM EXPLORATION INC.
604742	PRETIUM EXPLORATION INC.
604743	PRETIUM EXPLORATION INC.
604785	PRETIUM EXPLORATION INC.
604787	PRETIUM EXPLORATION INC.
607645	PRETIUM EXPLORATION INC.
608123	PRETIUM EXPLORATION INC.
608125	PRETIUM EXPLORATION INC.
629203	Client ID #143767
629403	Client ID #143767
629424	Client ID #143767
629767	Client ID #143767
629803	Client ID #143767
629843	Client ID #143767
632344	Client ID #143767
637289	PRETIUM EXPLORATION INC.
637303	PRETIUM EXPLORATION INC.
638843	GEOFINE EXPLORATION CONSULTANTS LTD.
638844	GEOFINE EXPLORATION CONSULTANTS LTD.
638845	GEOFINE EXPLORATION CONSULTANTS LTD.
684146	PRETIUM EXPLORATION INC.
684184	PRETIUM EXPLORATION INC.
685663	PRETIUM EXPLORATION INC.
685664	PRETIUM EXPLORATION INC.
685666	PRETIUM EXPLORATION INC.
687084	AURAMEX RESOURCE CORP.
692129	PRETIUM EXPLORATION INC.
692186	PRETIUM EXPLORATION INC.
692187	PRETIUM EXPLORATION INC.
706293	PRETIUM EXPLORATION INC.
737023	PRETIUM EXPLORATION INC.
737902	PRETIUM EXPLORATION INC.
742163	PRETIUM EXPLORATION INC.
834457	JAYDEN RESOURCES (CANADA) INC.
834945	JAYDEN RESOURCES (CANADA) INC.

(continued)

Table A1-1. Mineral Tenures in the Land Use Local Study Area (continued)

Crown Tenure#	Tenure Holder
834949	JAYDEN RESOURCES (CANADA) INC.
835116	PRETIUM EXPLORATION INC.
835117	PRETIUM EXPLORATION INC.
835118	PRETIUM EXPLORATION INC.
835121	PRETIUM EXPLORATION INC.
835130	PRETIUM EXPLORATION INC.
835132	PRETIUM EXPLORATION INC.
835571	PRETIUM EXPLORATION INC.
835573	PRETIUM EXPLORATION INC.
835640	PRETIUM EXPLORATION INC.
835642	PRETIUM EXPLORATION INC.
835644	PRETIUM EXPLORATION INC.
835647	PRETIUM EXPLORATION INC.
835786	PRETIUM EXPLORATION INC.
835787	PRETIUM EXPLORATION INC.
835789	PRETIUM EXPLORATION INC.
835790	PRETIUM EXPLORATION INC.
835905	AURAMEX RESOURCE CORP.
836206	PRETIUM EXPLORATION INC.
836208	PRETIUM EXPLORATION INC.
836212	PRETIUM EXPLORATION INC.
836215	PRETIUM EXPLORATION INC.
836218	JAYDEN RESOURCES (CANADA) INC.
836219	JAYDEN RESOURCES (CANADA) INC.
836450	JAYDEN RESOURCES (CANADA) INC.
841442	PRETIUM EXPLORATION INC.
841446	PRETIUM EXPLORATION INC.
841449	PRETIUM EXPLORATION INC.
841454	PRETIUM EXPLORATION INC.
842104	JAYDEN RESOURCES (CANADA) INC.
842334	PRETIUM EXPLORATION INC.
842943	PRETIUM EXPLORATION INC.
842987	PRETIUM EXPLORATION INC.
842995	PRETIUM EXPLORATION INC.
842996	PRETIUM EXPLORATION INC.
842998	PRETIUM EXPLORATION INC.
843000	PRETIUM EXPLORATION INC.
843001	PRETIUM EXPLORATION INC.
843002	PRETIUM EXPLORATION INC.

(continued)

Table A1-1. Mineral Tenures in the Land Use Local Study Area (continued)

Crown Tenure#	Tenure Holder
843004	PRETIUM EXPLORATION INC.
843011	PRETIUM EXPLORATION INC.
843391	PRETIUM EXPLORATION INC.
843552	PRETIUM EXPLORATION INC.
843553	PRETIUM EXPLORATION INC.
843555	PRETIUM EXPLORATION INC.
843973	PRETIUM EXPLORATION INC.
844214	PRETIUM EXPLORATION INC.
844386	PRETIUM EXPLORATION INC.
846560	PRETIUM EXPLORATION INC.
846658	PRETIUM EXPLORATION INC.
846664	PRETIUM EXPLORATION INC.
846666	PRETIUM EXPLORATION INC.
846669	PRETIUM EXPLORATION INC.
846671	PRETIUM EXPLORATION INC.
846672	PRETIUM EXPLORATION INC.
846674	PRETIUM EXPLORATION INC.
846675	PRETIUM EXPLORATION INC.
849918	RED EYE RESOURCES LTD.
854579	PRETIUM EXPLORATION INC.
854587	Client ID #271470
856049	PRETIUM EXPLORATION INC.
856059	PRETIUM EXPLORATION INC.
856061	Client ID #263248
856426	PRETIUM EXPLORATION INC.
862768	PRETIUM EXPLORATION INC.
866502	PRETIUM EXPLORATION INC.
866615	PRETIUM EXPLORATION INC.
898154	Client ID #219636
953716	Client ID #146571
963329	Client ID #146571
983452	Client ID #146571
993684	Client ID #143363
999202	PRETIUM EXPLORATION INC.
1000537	PRETIUM EXPLORATION INC.
1005443	Client ID #252757
1012096	Client ID #146695
1012831	Client ID #202028
1012832	Client ID #202028

(continued)

Table A1-1. Mineral Tenures in the Land Use Local Study Area (completed)

Crown Tenure#	Tenure Holder
1012833	Client ID #202028
1012849	Client ID #261908
1013206	Client ID #208932
1013611	Client ID #258448
1013907	PRETIUM EXPLORATION INC.