

Lower Dean River Lodge Heli-Sports Management Plan

December 2019

Prepared for

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This Management Plan has been
approved by:

Ministry of Forestry, Lands, Natural
Resource Operations and Rural
Development

Date



*Dean River, BC.
Credit: Lower Dean River Lodge*

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TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 PROJECT OVERVIEW	1
1.2 NATURE AND TYPE OF TENURE	2
1.3 THE PROPONENT	2
1.4 FIRST NATIONS ENGAGEMENT	2
2.0 GENERAL DESCRIPTION OF OPERATION AND ACTIVITIES	3
2.1 GENERAL DESCRIPTION OF AREA.....	3
2.2 LOCATION JUSTIFICATION/RATIONALE	3
2.3 ACCESS.....	4
2.4 SEASONAL EXPECTATIONS OF USE	5
2.5 ACTIVITY ZONES	6
2.6 BASE OPERATIONS.....	6
3.0 COMMERCIAL RECREATION ACTIVITIES OFFERED ON CROWN LAND	7
3.1 DESCRIPTION OF ACTIVITIES	7
3.1.1 <i>Winter</i>	7
3.1.2 <i>Summer</i>	9
4.0 INTENSIVE USE SITES	10
4.1 SITE PLANS	10
4.1.1 <i>Lodge – Existing LDRL Lodge</i>	10
4.1.2 <i>Supporting Infrastructure</i>	10
4.2 INFRASTRUCTURE AND OPERATIONS	12
4.2.1 <i>Utility Requirements and Sources</i>	12
4.2.2 <i>Water Supply</i>	12
4.2.3 <i>Waste Collection, Treatment and Disposal</i>	12
5.0 ENVIRONMENTAL	12
5.1 LAND IMPACTS	12
5.1.1 <i>Vegetation Removal</i>	12
5.1.2 <i>Soil Disturbance</i>	13
5.1.3 <i>Riparian Encroachment</i>	13
5.1.4 <i>Pesticides and Herbicides</i>	13
5.1.5 <i>Visual Impacts</i>	13
5.1.6 <i>Archeological Sites</i>	13
5.1.7 <i>Construction Methods and Materials</i>	14
5.2 ATMOSPHERIC IMPACTS.....	14
5.2.1 <i>Sound, Odor, Gas, or Fuel Emissions</i>	14
5.3 IMPACTS TO WATER OR LAND COVERED BY WATER	15
5.3.1 <i>Drainage Effects</i>	15
5.3.2 <i>Public Access</i>	15
5.3.3 <i>Flood Potential</i>	15
5.4 DISTURBANCE TO FISH, WILDLIFE, AND HABITAT	15
5.4.1 <i>Fish and Aquatic Habitat</i>	16
5.4.2 <i>Old Growth Management Areas</i>	16
5.4.3 <i>Wildlife Habitat Areas</i>	16
5.4.4 <i>Protected Areas and Conservancies</i>	16
5.4.5 <i>Species At-Risk</i>	16
5.4.6 <i>Other Species of Concern</i>	18

6.0 SOCIO-COMMUNITY	21
6.1 LAND USE	21
6.1.1 <i>Local Government</i>	21
6.1.2 <i>Land Management Plans and Regional Growth Strategies</i>	22
6.2 SOCIO-COMMUNITY CONDITIONS	24
6.2.1 <i>Existing and Adjacent Users</i>	24
6.2.2 <i>Existing Services</i>	25
7.0 APPENDICES	26
7.1 FIGURES	26
7.2 INTENSIVE USE SITES	42
7.3 FIRST NATIONS ENGAGEMENT	43

1.0 Introduction

On behalf of the Lower Dean River Lodge (LDRL), Brent Harley and Associates (BHA) is pleased to submit this Management Plan to the Ministry of Forests, Lands, Natural Resources Operations, and Rural Development (FLNRORD). This Management Plan details a proposed helicopter recreation operation on Crown lands along BC's Central Coast.

1.1 Project Overview

The Lower Dean River Lodge is an existing fly-fishing operator and wilderness lodge that has been welcoming guests to the Dean River since 1960. Its current operations are permitted under a Park Use Permit awarded by BC Parks. This Management Plan describes LDRL's vision to expand its operations from a single season, fly fishing business into a four-season commercial recreation operator, and in doing so, operate on Crown lands outside Provincial Parks and Protected Areas. The Management Plan has been created to complement the Park Use Permit while meeting the requirements for commercial recreation tenure under the Adventure Tourism Policy.

As envisioned, the LDRL will offer world-class helicopter-based recreation opportunities and heli-assisted touring throughout the proposed tenure area. The LDRL would extend its operations into the winter with the addition of heli-skiing and backcountry touring (non-mechanized) in the winter and would add heli-hiking and heli-mountain biking in summer to complement its existing fishing experiences. The LDRL is proud to offer one of the most highly regarded fishing experiences in world and is excited by the opportunity to offer that same quality of experience to heli-sports guests through all four seasons.

Helicopter recreation operations will be based from the Lower Dean River Lodge, located in the Dean River Conservancy, approximately 50 kilometers north of Bella Coola, BC. The Lodge has been used for almost 60 years as the site of world-class, fly-in fly-fishing experiences, hosting guests from around the world. Helicopter operations have been integral to the LDRL's ongoing success and the proposed additions are a logical extension, building on LDRL's knowledge of the land and experience operating a remote tourism business. The proposed operations will extend from December to May (Winter), and July to October (Summer), and will initially have the capacity to host up to 12 guests at one time.

The proposed tenure area is comprised of two areas, referred to as North and South. The South area runs from the Dean River Watershed, where the LDRL's existing Park Use Permit and fishing lodge are located, north and is enclosed by Tweedsmuir Provincial Park – South and the Huchsduwachsd Nuyem Jees / Kitlope Heritage Conservancy. The North area extends from the northern boundaries of Tweedsmuir Provincial Park – South and the Huchsduwachsd Nuyem Jees / Kitlope Heritage Conservancy to the southern boundary of Burnie-Shea Provincial Park, as far west as the Gardener Canal and as far east as the eastern edge of the Whitesail Range. The LDRL recognizes that these lands are the traditional territories of the Nuxalk, Wet'suwet'en, and Haisla Nations and have reached out to each to understand their values and goals for the land (see Sec. 1.4).

The extent of the proposed tenure area and the locations of the recreation activities proposed have been shaped by and respect important environmental values, such as Mountain Goat critical winter habitat, and the values of the First Nations as expressed in Land and Resource

Management Plans (LRMPs) and Sustainable Resource Management Plans (SRMPs). As such, the LDRL has identified, based on the data available, and will avoid sensitive wildlife and cultural areas, and will work with the Province and First Nations to identify additional areas.

This management plan outlines the LDRL's activities within the proposed tenure area, illustrating the diligent use of Crown land and the creation of a world-class recreation experience. The following sections provide a description of the operating area and recreation activities, projected levels of use, and outline of other resources, commercial recreation, public recreation, and environmental values and uses within the proposed operating area.

1.2 Nature and Type of Tenure

This Management Plan for commercial mechanized recreation has been prepared for FLNRORD to fulfill the requirements detailed in the Adventure Tourism Policy to obtain a License of Occupation for a 30-year term over a tenure approximately 660,000 ha in size.

1.3 The Proponent

The Lower Dean River Lodge (LDRL) is limited company registered in British Columbia, Canada.

Incorporation Number
#52338

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1.4 First Nations Engagement

The LDRL is eager to discuss the proposed Commercial Recreation operation with local First Nations with an interest in the tenure area. During the development of this Management Plan, the LDRL reached out to several First Nations that were identified through Provincial data to understand their values within the proposed tenure area and the potential for the commercial recreation operation to contribute to their goals and aspirations. The LDRL looks forward to engaging with all First Nations with an interest in the tenure area through the review process and working to ensure their goals and objectives are integrated into the LDRL Management Plan.

The LDRL has a strong working relationship with the Nuxalk Nation that has been built through their existing fly-fishing business and will look to build on and strengthen this relationship through the Management Plan review and approval process. The Nuxalk have expressed interest in the early iterations of this proposal but have reserved comment until more details can be provided.

In early conversations with the Office of the Wet'suwet'en Nation, LDRL was made aware of the Nation's independent project review process. LDRL is committed to completing the Wet'suwet'en review process in a timely manner and carrying out any revisions as a necessary step of the tenure approval process. The LDRL is eager to discuss the proposed commercial recreation operation and ways it may be able to support Wet'suwet'en's objectives for their traditional territory.

The LDRL looks forward to building strong working relationships with the First Nation's upon whose territory their proposed tenure lies. These relationships are important to LDRL as operators on the land.

A log of correspondence between LDRL and the identified First Nations is included in the Appendix.

2.0 General Description of Operation and Activities

2.1 General Description of Area

The proposed tenure area lies along the Central Coast and straddles the Coast Mountains and Interior Plateau. It is comprised of two areas, North and South, with the North measuring 513,936 ha and the South measuring 146,204 ha (Fig. 1 & 2).

Daily operations will be based out of the Lower Dean River Lodge within the Dean River Conservancy, approximately 50 km north of Bella Coola, BC. The LDRL have been operating their luxury wilderness lodge in this remote setting for decades, with access provided solely by helicopter.

2.2 Location Justification/Rationale

The extent of the proposed tenure area was defined by the LDRL's extensive knowledge of the area, the physical and climatological capacity of the lands to support the proposed recreation activities, important fish, wildlife, and habitat values, and land use objectives detailed in overlapping LRMPs and SRMPs.

As noted, the LDRL has been operating in the Dean River watershed since 1960 and in that time has become intimately familiar with the land, water, wildlife, and scenic beauty of the region. At the core of the vision of expanded four-season operation is a desire to share this special place with others in a low-impact way that promotes understanding and respect for the land and its stories. Further, and more pragmatically, this time on the land has given the LDRL a deep understanding of the recreation potential of the area, as they have been effectively scouting the area for the last six decades. To this understanding they have added the results of analyses into the physical and environmental values, and legal objectives for the land as part of the Management Plan planning process.

Analysis of the physical realities of the area indicated that there is considerable potential for heli-skiing, the primary winter activity. Elevation in the area ranges from 0 m at sea level to more than 2,700 m at Tsaydaychuz Peak, and analysis illustrated that a significant amount of the tenure area sits between 1,200 m and 2,000 m suggesting skiable vertical in the range of 800 m, comparable to the largest ski resorts in Canada (Fig. 3).

A ski slope analysis, wherein the land is divided into gradients that correspond to industry accepted skier classifications (i.e. beginner, intermediate, advanced, expert), illustrated that the tenure area possesses a good distribution of terrain (Fig. 4). Terrain in the North and South contain significant areas of intermediate ski terrain, the largest segment of the skier market, as well as challenging advanced and expert terrain suited to experienced skiers that participate in heli-skiing. Similarly, a mountain bike slope analysis, which follows a comparable procedure to the ski slope analysis, found considerable high-quality mountain biking terrain in both the North and South (Fig. 5).

The proposed tenure area's climatological realities also support winter recreation, the annual snowfall ranging from 4 m in the southern valleys to greater than 28 m on the northern peaks (Fig. 6). Average snow depth, as collected from the Mt. Pondsosy and Tahtsa Lake snow stations¹ measured 5.2 m and 8.4 m, confirming a more than adequate base on which to operate heli-ski and backcountry touring experiences.

Overlaid on these physical realities were environmental values captured in Wildlife Habitat Areas, Ungulate Winter Range, SARA – Potential Critical Habitat, and Old Growth Management Area spatial datasets collected from the DataBC (Fig. 7, 8, & 9). The spatial extent of these values, in combination with the Desired Behaviours in the Wildlife Guidelines for Backcountry Tourism and Commercial Recreation in British Columbia², effectively delineated the lands on which the desired recreation experiences could occur. The results of this analysis and the implications for the LDRL are discussed in Section 5.

Finally, existing recreation sites and trails (Fig. 10) and the goals and objectives contained within overlapping LRMPs and SRMPs (Fig. 11) were integrated into the proposed recreational activities and supporting infrastructure. The LDRL will work to ensure that their operations do not negatively impact existing public recreation features and are aligned with and support the achievement of these goals and objectives.

Collectively, these pieces shaped the extent of the proposed tenure area and the proposed distribution of recreational activities and supporting infrastructure within the tenure.

2.3 Access

Access to the Lodge will adopt the method used for current fishing operations. Guests will travel to the area from Vancouver via a charter plane, staging in the communities of Bella Coola or Anahim Lake. Access to the Lodge from these staging areas will be via helicopter. In poor weather, longer, lower elevation flight paths around the inlet or to Anahim Lake and up the Dean River Valley will be used. Due to its remote location and absence of road development, helicopters offer the only reliable access to the Lodge and surrounding terrain.

As visitation increases and the Northern area is used more frequently, the LDRL will look to develop staging in of the communities of Smithers and Kitimat. The LDRL will work with FLNRORD to adjust the Management Plan as necessary to accommodate these changes.

¹ Government of British Columbia (2019). *Aquarius Web Portal*. Available at: <http://aqrt.nrs.gov.bc.ca/>

² Government of British Columbia (2006). *Wildlife Guidelines for Backcountry Tourism and Commercial Recreation in British Columbia*. Retrieved from: http://www.env.gov.bc.ca/wld/twg/documents/wildlife_guidelines_recreation_may06_v2.pdf

2.4 Seasonal Expectations of Use

The LDRL plans to gradually roll-out the proposed recreation activities, starting with heli-skiing and then heli-assisted backcountry touring in the winter season, and later summer operations consisting of heli-mountain biking and heli-hiking. The delayed start of summer season operations accounts for the time needed to develop the trail networks for the mountain biking and hiking activities.

It is anticipated that year-over-year growth will increase rapidly through the first three seasons as the LDRL operation goes from unknown to an established industry operator, and then remain steady for the following years. Total visitation, as measured by Client Days, is expected to grow from 150 in Year 1 with winter only operations to 775 in Year 5 when LDRL will operate through all four seasons.

For winter operations, the LDRL will ensure that Client Days are evenly distributed throughout the tenure, taking into consideration weather and snowpack conditions, the presence of wildlife, group skill level and expectations, and efforts to provide guests with an 'untracked' skiing experience. In the summer, the LDRL will employ a similar approach but with considerations shifted to trail conditions rather than snowpack.

Table 1. Projected Visitation by Activity and Season for Years 1 to 5

Activity Report				Client Days				
Activity	Season of Use	Frequency of Use	Typical Period of Use	2021/22	2022/23	2023/24	2024/25	2025/26
Heli-Skiing	Winter	7 days/week	Dec. – May	150	250	350	400	450
Backcountry Touring	Winter	7 days/week	Dec. – May	-	20	40	50	60
Heli-Mountain Biking	Summer	7 days/week	Jul. – Oct.	-	-	20	30	40
Heli-Hiking	Summer	7 days/week	Jul. – Oct.	-	100	150	200	225

2.5 Activity Zones

The proposed tenure exists in two sections: South and North. The initial focus will be on utilizing the proposed South tenure area as LDRL has extensive local knowledge of this terrain and it is in proximity to the existing Lodge on the Dean River. This area will host heli-skiing, heli-hiking, and heli-mountain biking (Fig. 12 & 13).

The North tenure area will be split into two zones, divided into east and west. The east zone will not be used for heli-skiing activities due to the presence of Mountain Goat critical winter habitat and objectives contained in the Morice LRMP. Rather, this zone will feature backcountry touring (self-propelled, non-mechanized) during the winter, and mountain biking and hiking in the summer. Travel to and from this zone during the winter will respect the spatial buffers and required vertical separation for Mountain Goat habitat detailed in the Wildlife Guidelines.

The west zone in the North will be used for heli-skiing in the winter and heli-hiking in the summer. At this time, activity in this zone will be concentrated in the southern areas to limit flight times and ensure a high-quality ski experience for guests.

2.6 Base Operations

The LDRL operations will be based out of their existing Lodge on the Dean River. The Lodge can accommodate up to 12 guests at one time and operates under a Park Use Permit which provides for year-round operation.

The intent of LDRL is not to expand the Lodge but rather to expand the operational season, and current Lodge capacity is anticipated to be sufficient to meet projected demand. However, if demand increases and additional capacity is required, these changes will be pursued through a Management Plan amendment in adherence to the Adventure Tourism Policy.

The LDRL's experience as a remote tourism operator provides advantages to its entrance into the heli-sports industry as they have well-established operations protocols in place. The LDRL have staff trained and certified in Level 1 First Aid with transport certification who are very familiar with safe operating procedures around helicopters. While they have never had any trauma emergencies at their lodge, they have successfully managed all medical emergencies that have occurred. They have also responded to multiple incidents on the Dean River involving members of the public. The LDRL believes that the privilege to operate in its remote setting comes the responsibility to help others when in need and will carry this ethic into its expanded heli-sports operations.

In accordance with their emergency protocols, all medical emergencies are transported by helicopter to Bella Coola. If this is not an option, alternatives include Anahim Lake, Bella Bella, Smithers, Terrace, and Kitimat depending on each centre's capacity and weather conditions.

3.0 Commercial Recreation Activities Offered on Crown Land

3.1 Description of Activities

As part of their expansion, the LDRL will work towards becoming carbon neutral through partnerships with its helicopter operators and offsetting programs following proven approaches in the industry.³⁴ The LDRL sees this commitment as part of their responsibility to maintain and preserve the land on which they operate.

3.1.1 Winter

Heli-Skiing

Daily activities will be staged out of the Lodge, with guests travelling to the Lodge by helicopter from regional populations centres, such as Bella Coola or Kitimat (see Sec. 2.3). Typically, guests will arrive at these centres the night before and be transported to the Lodge the following morning to ensure Day 1 is a complete day.

As envisioned, the LDRL will offer 5 - 7 day ski packages. The first day of each trip will consist of lodge orientation, area orientation (i.e. area history, First Nations history, and environmental values), guest safety briefing and training (e.g. Lodge safety, field/helicopter safety, guide communication and expectations), and gear inspection and preparation (e.g. airbags, beacon, probe, and shovel practice). The last day may contain a half day of skiing before guests fly out.

A typical day of heli-ski operations will have guests eating breakfast by 8am, followed by a safety meeting (e.g. snow and weather conditions), gear check, and review the day's plan at 9am. Skiers will then be transported from the Lodge to the top of ski runs by helicopter, with guests taking multiple runs per day. The number of runs on any given day will vary based on skier ability and fitness, snow and weather conditions, and the length of day (i.e. sunlight). However, as a baseline, the LDRL aims to offer 4 to 6 runs in the morning, followed by lunch, and another 3 to 4 runs in the afternoon, returning to the Lodge at least a half hour before sunset. At the end of the day, gear will be checked and stored and the guide will check-in with guests regarding their experience that day, and what might be improved. Guides will then meet in the Lodge to review any issues that arose that day and discuss the snow and weather conditions for the next day while guests enjoy the amenities of the Lodge (e.g. hot tub, sauna, massages).

As planned, the LDRL will initially operate a single Airbus H125 helicopter (formerly AStar). The helicopter has the capacity to host four groups of six skiers (consisting of five guests and one ACMG certified guide), supported by a pilot. In its first years, the LDRL anticipates it will operate with one group of five skiers (consisting of four guests and one ACMG certified guide) for their operations and grow to four groups of six skiers by Year 5.

³ Blackcomb Helicopters (2019). *Carbon Offset Program*. Available at: <https://blackcombhelicopters.com/carbon-offset-program>

⁴ Harbour Air Seaplanes (2019). *Going Green*. Available at: <https://www.harbourair.com/about/corporate-responsibility/going-green/>

A range of activities will be developed to entertain guests during "down days". These may include First Nation cultural tours, boat tours of the Dean Channel, fishing, wildlife viewing and sightseeing, snowshoeing, or cross-country skiing.

Backcountry Touring

Backcountry Touring involves skiers traversing, climbing (i.e. "skinning"), and descending terrain under their own power. It can be thought of as a combination of cross-country skiing and alpine skiing.

The LDRL plans to offer Backcountry Touring experiences in the east of the North area. This zone has considerable critical Mountain Goat habitat and as such is not suitable for extensive helicopter operations. Instead, the LDRL will utilize areas outside this habitat and spatial buffers detailed in the Wildlife Guidelines as starting points for Backcountry Touring. Guests would be flown by helicopter to these starting points and then access terrain otherwise unavailable in a low-impact manner, all the time respecting the 100 m spatial buffer from critical Mountain Goat habitat stipulated in the Wildlife Guidelines.

Backcountry Touring packages will be developed as the LDRL operations grow, but as envisioned, would operate in a similar manner to heli-ski packages. The experience could range from a few to several days in the backcountry, with the first day dedicated to the orientation and safety meetings described for heli-ski guests. Backcountry Touring groups of up to four will require an ACMG certified guide, and a means to remain in contact with the Lodge at all times. The LDRL would coordinate with the guide daily, updating them on snow and weather forecasts, and responding to any needs they may have.

3.1.2 Summer

The summer season activities proposed are intended to act as a complement to the LDRL's existing, world-class fly-in fishing experiences. The activities have been structured to maintain the fishing experience, as this is the primary draw, but provide additional activities that appeal to guests and their family members of who don't fish but are interested in the beauty of the natural surroundings.

Heli-hiking

Heli-hiking is envisioned as an 'add-on' to the LDRL's existing fishing experiences, comprised of 1 to 2 day packages at the beginning or end of a fishing trip. In the morning of their first day, guests would participate in a safety meeting (e.g. helicopter safety, backcountry safety) before being flown to their destination. The trails themselves are proposed for higher elevations, above treelines where the impact of hiking on the landscape would be minimized. Further, heli-hiking will make use of the same heli-pads used for heli-skiing in the winter to further reduce impacts and realize operational efficiencies.

Heli-mountain biking

The vision for heli-mountain biking is like that for heli-hiking in that the experience is centred on exploration and immersion in nature, as opposed to high-speed downhill mountain biking often featured in popular culture. It would be targeted to those same guests that are considering a heli-hiking experience but may want something more adventurous or just different.

Heli-mountain biking packages could extend for 1 to multiple days, with up to 4 guests joined by a mountain bike guide. On their first day guests would attend a safety and orientation meeting that addresses helicopter safety, backcountry safety, and mountain bike safety. They would then be assigned safety gear and complete a gear check before discussing the plan for the day with their guide.

Trails are envisioned as suitable to beginner to intermediate riders, with moderate slopes and limited technical features. Like hiking trails, mountain bike trails would be concentrated at higher elevations to minimize the need for vegetation removal and overall environmental impact, and where appropriate trails would host both hiking and mountain biking (not concurrently). The gradient of terrain in the South area and in the east zone of the North area is most conducive to mountain biking and will be the focus of development efforts.

The initial investment of time and resources into mountain biking is considerable, and as such it will not be pursued unless the LDRL sees a strong case for doing so. It has been included in projected Client Days based on a best-case scenario.

4.0 Intensive Use Sites

4.1 Site Plans

4.1.1 Lodge – Existing LDRL Lodge

As noted, the existing LDRL Lodge in the Dean River Conservancy will be used as the accommodation and staging area for the operation. The Lodge is a luxury, remote wilderness lodge that has successfully hosted guests for almost 60 years. The LDRL does not anticipate needing to undertake any renovations to accommodate the proposed activities and will comply at all times with the conditions detailed in their Park Use Permit.

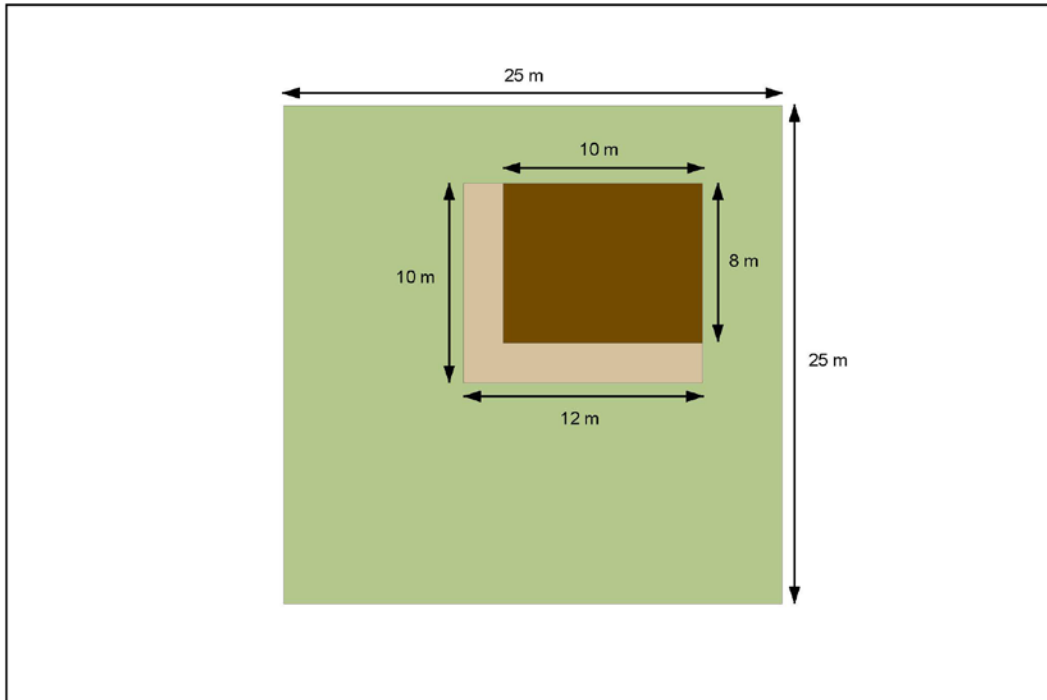
4.1.2 Supporting Infrastructure

To support operations, LDRL proposes to develop a series of Backcountry Huts that will serve as mid-day rest areas (e.g. lunch location), start and end points for summer activities (e.g. hiking), and emergency shelters should conditions prevent return to the Lodge (see schematic following page, and Fig. 14). Additionally, a network of fuel caches and radio repeater beacons will be positioned throughout the tenure area (see schematic on following page, Fig. 14). Radio repeater beacons, fuel caches, and emergency caches will be temporary to allow the LDRL to install and remove them as operational realities dictate. A full list of sites is included in the Appendix.

Backcountry huts and fuel caches have been sited in proximity to each other to limit the extent of disturbance, and all developments are situated at least 30 m from waterbodies. Radio repeater beacons have been placed at high points throughout the tenure to ensure adequate radio coverage. The illustration on the following page depicts the general site design specifications. Each of these installations has been placed strategically where they can best serve helicopter operations (i.e. safety, efficiency).

Where possible, pre-existing disturbances or bare land have been chosen for these sites to limit disturbance to the land. Preliminary locations for these sites are presented in Figure 14. However, the final locations of these sites will be determined in coordination with the pilots, guides, First Nations, and the Provincial Government based on the operational, environmental, and cultural realities of the area.

For all Intensive Use Sites, where the removal of trees or shrubs is required to create or enhance openings for helicopter landing areas, the LDRL will secure Occupant Licenses to Cut from FLNRORD. Further, the LDRL will secure the appropriate radio frequency license(s) from Industry Canada.



Lower Dean River Lodge
Backcountry Hut Schematic

Legend

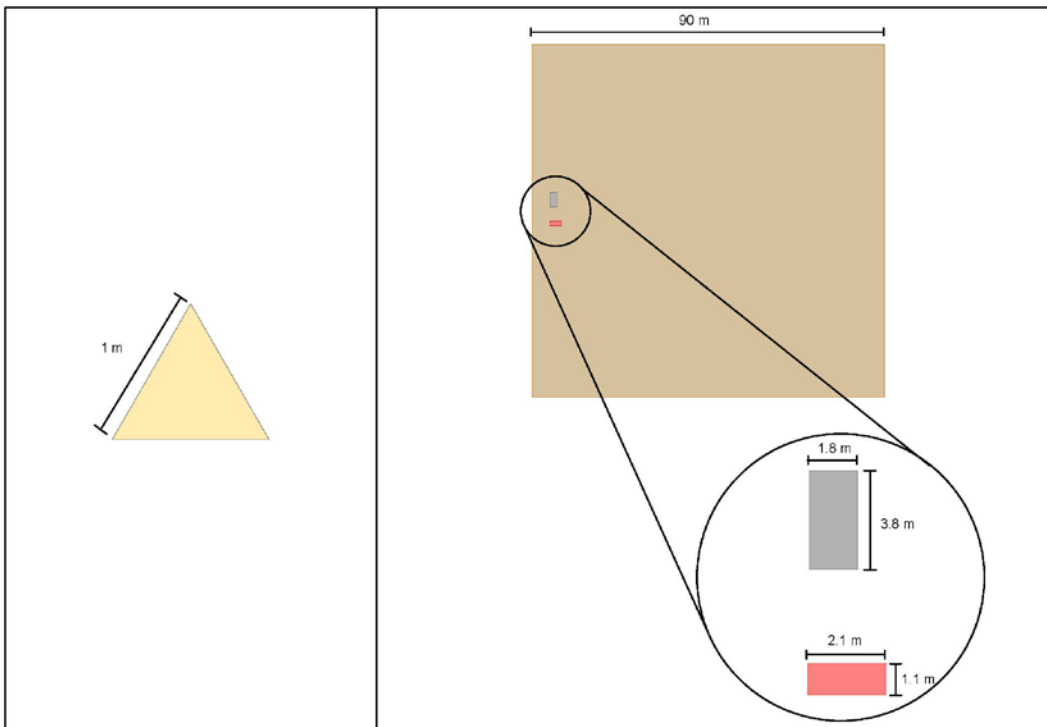
- LOC Area
- Hut Footprint
- Platform Footprint

Prepared for:

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Lower Dean River Lodge
Fuel Cache & Radio Schematic

Legend

- Emergency Cache
- Fuel Cache
- Helipad
- Radio Beacon

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4.2 Infrastructure and Operations

4.2.1 Utility Requirements and Sources

The LDRL Lodge is powered by a diesel generator that has the capacity to meet projected demand through all four seasons of operations. The LDRL does not anticipate the need for additional winter power equipment other than the possible addition of snow removal equipment which will be gas powered.

4.2.2 Water Supply

Potable water at the Lodge is provided under the existing Park Use Permit and water infrastructure can operate through the winter season. For the Backcountry Huts, where required, LDRL will look to draw freshwater from surface sources onsite, either through a gravity system or pump, if necessary. The LDRL will apply for all necessary water permits.

4.2.3 Waste Collection, Treatment and Disposal

The LDRL's existing waste collection systems at the Lodge are well-established, sufficient to meet the projected visitation, and adhere to the terms of their Park Use Permit. Operations across the tenure area, including the Backcountry Huts, will adhere to a strict pack it in/pack it out policy for all waste. Wastewater at the Backcountry Huts will be treated through composting toilets, or if visitation creates the need, a septic system. The LDRL will adhere to Provincial regulations regarding design of the wastewater treatment systems and will apply for all necessary permits.

5.0 Environmental

5.1 Land Impacts

5.1.1 Vegetation Removal

As envisioned the LDRL operation will require limited vegetation removal. Backcountry huts, helipads, fuel caches, and radio repeater beacon locations may need to be cleared from time to time to ensure safe helicopter operations, and to align with FireSmart guidelines. To limit initial impact, the locations for these sites make use of existing disturbances (e.g. logging cutblocks) or are located on bare land.

In addition to supporting infrastructure, LDRL will likely pursue the development of gladed ski runs, wherein selective logging practices are used to thin forest stands, allowing skiers to pass through and creating an exciting guest experience.

For both the required infrastructure and gladed ski runs, LDRL will avoid vegetation removal in Wildlife Habitat Areas, Potential Critical Habitat developed under the Species at Risk Act, and Old Growth Management Areas. Additionally, all tree removal will occur outside of the March 1 through August 31 period to reduce impacts on all bird species and will be preceded by a search

for the nests of birds protected under Section 34 of the Wildlife Act⁵. Should the nest of a bird requiring protection under the Wildlife Act be located, LDRL will comply with the recommended buffer distances in Table 4.1 (Section 4) of Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia⁶.

The LDRL will pursue all vegetation removal in collaboration with impacted First Nations and stakeholders, and with respect to Community Forest Agreements as well as the BC Forest and Range Practices Act (FRPA).

Before undertaking any vegetation removal, LDRL will secure an Occupant License to Cut.

5.1.2 Soil Disturbance

The impacts to soil will be limited to the footprints of backcountry huts, heli-pads, fuel caches, and radio repeater beacons. Through the planning process, locations for these developments were selected to minimize the grading required to create a level surface and ensure safe operations.

5.1.3 Riparian Encroachment

All intensive use sites will be located beyond 30 m from any riparian zone.

5.1.4 Pesticides and Herbicides

The LDRL will not apply pesticides or herbicides within the tenure area. Vegetation management around the sites noted above (e.g. backcountry huts) will be accomplished through mechanical vegetation removal (e.g. brush cutters).

5.1.5 Visual Impacts

All the backcountry huts and associated heli-pads have been positioned and will be built to be unobtrusive and blend with the surrounding landscape. This will be aided by building materials that align visually with the natural setting (See Construction Methods and Materials). Additionally, sites, such as fuel caches and radio repeater beacons, have been situated so they do not interrupt scenic views, effectively hidden from sight, while still ensuring safe operations.

5.1.6 Archeological Sites

No registered archeological sites have been found within the proposed tenure area. The LDRL Heli-Sports will work with the Nuxalk, Wet'suwet'en, and Haisla Nations to identify any historic or culturally significant areas and determine if further archaeological investigation is required. The LDRL will integrate protocols into its operations plan to avoid and preserve any areas that are discovered.

⁵ *Wildlife Act*, RSBC 1996, c 488, s 34. Retrieved from: http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96488_01#section34

⁶ Retrieved from: <https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/best-management-practices/develop-with-care/dwc-section-4.pdf>

Operationally, all pilots and guides will receive a cultural awareness training that will help them identify these sites. The stories of the local First Nations will form an integral part of the guest experience, with training and interpretive programming designed to create an appreciation for First Nations culture and history in the area. Wherever possible, LDRL will look to partner with the local First Nations to develop opportunities for guest education and immersive cultural programming centred on First Nations history and culture.

5.1.7 Construction Methods and Materials

As planned, LDRL will make use of their existing Lodge and helicopter staging areas located in Dean River Conservancy and subject to their Park Use Permit as approved by BC Parks. No additional development of this area will be required to accommodate the proposed recreation activities.

The construction of backcountry huts will take place outside of the March 1 to August 31 period in adherence with Section 34 of the Wildlife Act where tree removal is required. At sites where tree removal is not required, the construction period is planned to extend from July to September, depending on other environmental sensitivities, wildfire risk, and the priorities of the LDRL.

Materials for the backcountry huts will be delivered by road where the proposed sites are road adjacent. Alternatively, materials will be staged from an existing access road and flown to the site by helicopter.

All construction will adhere to the BC Building Codes and be carried out by a licensed contractor. The buildings will be wood framed, with wooden siding and roofing, modern insulated windows, modern insulation, and heated by a wood or propane stove. The foundation of the buildings will be temporary, comprised of concrete paving stones (or similar), with posts and grade beams. No electrical service is envisioned at this time, but should solar panel technology prove to be a reliable and improved option for the backcountry huts, the LDRL will consider it. The backcountry huts will maintain a dark finish and aim to replicate the colours and textures of the surrounding forest lands. The intent is for the backcountry huts to be a part of the landscape, not stand apart from it.

5.2 Atmospheric Impacts

5.2.1 Sound, Odor, Gas, or Fuel Emissions

Helicopter operations will create additional auditory disturbances within the tenure area, but this will be mitigated through appropriate horizontal and vertical separation from known wildlife habitat as prescribed in the *Wildlife Guidelines*. Further, helicopter flight paths have been chosen to ensure the greatest spatial separation between known wildlife areas to eliminate opportunities for wildlife to be surprised by helicopter operation.

Helicopter operation will also result in additional greenhouse gas (GHG) emissions associated with the combustion of fossil fuels. To address these impacts, and any associated with Lodge operations, the LDRL is committed to achieving carbon neutrality through a program of GHG reductions and carbon offsetting. The LDRL will work with established carbon offsetting companies (e.g. Offsetters.ca) to measure and offset their GHG emissions on an annual basis, and, where feasible, pursue operational changes and infrastructure modernization to lower GHG emissions.

Organic odors that will arise from Lodge operations (e.g. cooking) and may be considered an animal attractant. The Lodge already employs strategies to address this issue. Odors from fuel or equipment will be managed following the protocols already put in place by the Lodge.

5.3 Impacts to Water or Land Covered by Water

5.3.1 Drainage Effects

The LDRL does not anticipate that its operations will have a significant effect on drainage patterns in the area due to its limited overall footprint. Any impacts will be limited to backcountry huts, helipads, and fuel caches, some of which have been proposed on sites of pre-existing disturbances or bare land. All work that requires alteration to local drainage patterns will address the potential for erosion following industry best practices⁷.

5.3.2 Public Access

Public access to all lakes, rivers, and other water bodies will be maintained, unless access is determined to create a health or safety risk to the public, guests, or staff of the LDRL. Any changes to public access to local water bodies considered by LDRL will be pursued in collaboration with local stakeholders and the Province.

5.3.3 Flood Potential

None of the proposed development sites is at risk of flooding.

5.4 Disturbance to Fish, Wildlife, and Habitat

Collection and analysis of Provincial records on the presence of existing fish, wildlife, and habitat values, in combination with the scope and intensity of land use proposed by LDRL suggest that the impacts to fish, wildlife, and habitat will be minimal. Further, to mitigate any potential impacts, the *Wildlife Guidelines for Backcountry Tourism/Commercial Recreation in British Columbia*, as amended from time to time, will be adhered to when carrying out activities authorized by the Crown land tenure. The LDRL shares the goal, listed in the Wildlife Guidelines, that environmental values and tourism recreational activities co-exist on the landscape. Indeed, it is these environmental values that are core to envisioned guest experience and personal values of the LDRL management. The following section details the results of the review of Provincial data on fish, wildlife, and habitat, which is illustrated in Figures 7, 8, & 9.

⁷ Ministry of Environment (2004). *Environmental Best Management Practices for Urban and Rural Land Development in British Columbia*. Retrieved from: http://www.env.gov.bc.ca/wld/documents/bmp/urban_ebmp/EBMP%20PDF%203.pdf

5.4.1 Fish and Aquatic Habitat

The proposed tenure area does not contain any Fisheries Sensitive Watersheds or occurrences of Rare or Endangered Fish⁸. The area is home to a diversity of freshwater and marine species (e.g. Coho, Chinook, Sockeye, Rainbow Trout) and waterbody types. These environmental values form the foundation for the LRDL's existing operations, and their health is fundamental to the continued viability of its heli-operations. In all cases, the LDRL will respect riparian setbacks and work to limit any indirect impacts their activities may have on fish or aquatic habitat.

5.4.2 Old Growth Management Areas

Review of Provincial data⁹ determined that the proposed tenure area overlaps with 7,040 ha of Old Growth Management Area. The LDRL has planned its recreation activities and supporting infrastructure to avoid these areas and limit any direct or indirect impact from their operations.

5.4.3 Wildlife Habitat Areas

The proposed tenure overlaps with approved Wildlife Habitat Areas¹⁰ for Grizzly Bear (*Ursus arctos horribilis*) and Northern Caribou (*Rangifer tarandus*), amounting to 31,264 ha and 9,313 ha, respectively. The LDRL will avoid these areas and no recreation features or supporting infrastructure will be located within a Wildlife Habitat Area.

5.4.4 Protected Areas and Conservancies

The proposed tenure area does not overlap with any Park, Protected Area, or Conservancy. A helicopter flight path has been planned to travel over the Huchsduwachsdu Nuyem Jeas/Kitlope Heritage Conservancy and connect the southern and northern parts of the proposed tenure. However, helicopters will maintain a minimum vertical separation of 500 m when crossing over the Conservancy.

5.4.5 Species At-Risk

Critical habitat modelling completed by Environment Canada¹¹ suggests that the proposed tenure area contains critical habitat for Marbled Murrelet (*Brachyramphus marmoratus*) and Southern Mountain Caribou (*Rangifer tarandus*). While the habitat modelling approach employed requires the identified habitat to be confirmed through detailed study, the LDRL has developed its commercial recreation activities to avoid these potential habitats and maintain appropriate spatial buffers.

⁸ Ministry of Environment (2019). *Habitat Wizard*. Available at: <http://maps.gov.bc.ca/ess/hm/habwiz/>

⁹ Ministry of Forests, Lands, Natural Resource Operations and Rural Development (2019). *Old Growth Management Areas – Legal – Current*. Retrieved from: <https://catalogue.data.gov.bc.ca/dataset/old-growth-management-areas-legal-current>

¹⁰ Ministry of Forests, Lands, Natural Resource Operations and Rural Development (2019). *Wildlife Habitat Areas – Approved*. Retrieved from: <https://catalogue.data.gov.bc.ca/dataset/wildlife-habitat-areas-approved>

¹¹ Environment Canada (2019). *Critical Habitat for federally-listed species at risk (posted)*. Retrieved from: <https://catalogue.data.gov.bc.ca/dataset/critical-habitat-for-federally-listed-species-at-risk-posted->

In addition to potential critical habitat identified by Environment Canada, the following Red and Blue listed species were identified through the BC Species and Ecosystem explorer as having the potential to occur within the tenure area based on the Biogeoclimatic Zones present in the proposed tenure area¹². In total, there are 14 Red listed species and 25 Blue listed species, all of which are plant communities. No occurrence of these communities has been yet to be found within the proposed tenure area.

Table 1. Species At-Risk with Potential to Occur

English Name	BC Listing
Black cottonwood / Sitka willow - thimbleberry	Red
Douglas-fir / Douglas maple / Hooker's fairybells	Red
Dune wildrye - beach pea	Red
Few-flowered spike-rush / hook-mosses	Red
Hudson Bay clubrush / rusty hook-moss	Red
Lodgepole pine / kinnikinnick	Red
Purple reedgrass Herbaceous Vegetation	Red
Sandberg's bluegrass - slender wheatgrass	Red
Saskatoon / slender wheatgrass	Red
Sitka sedge / peat-mosses	Red
Sitka spruce / salmonberry Moist Submaritime	Red
Sitka spruce / salmonberry Very Wet Maritime	Red
Western hemlock - black cottonwood / salmonberry	Red
Western hemlock / queen's cup	Red
Amabilis fir - Sitka spruce / devil's club	Blue
Amabilis fir - western redcedar / devil's club Moist Submaritime	Blue
Amabilis fir - western redcedar / oak fern	Blue
Amabilis fir - western redcedar / salmonberry Very Wet Maritime	Blue
Black cottonwood - red alder / salmonberry	Blue
Black cottonwood / willows Dry Submaritime	Blue
Black spruce / buckbean / peat-mosses	Blue
Douglas-fir - lodgepole pine / kinnikinnick Moist Submaritime	Blue
Douglas-fir - western hemlock / falsebox	Blue
Labrador-tea / western bog-laurel / peat-mosses	Blue
Lodgepole pine / few-flowered sedge / peat-mosses	Blue
Narrow-leaved cotton-grass - shore sedge	Blue
Scrub birch / water sedge	Blue
Shore sedge - buckbean / peat-mosses	Blue
Sitka willow / Sitka sedge	Blue
Slender sedge / common hook-moss	Blue
Western hemlock - amabilis fir / deer fern	Blue

¹² Ministry of Environment (2019). *BC Species and Ecosystems Explorer*. Accessed Oct. 17, 2019. Retrieved from: <http://a100.gov.bc.ca/pub/eswp/search.do?method=change>

Western hemlock - amabilis fir / step moss	Blue
Western hemlock - Douglas-fir / electrified cat's-tail moss Dry Submaritime 2	Blue
Western hemlock - lodgepole pine / red-stemmed feathermoss	Blue
Western hemlock - western redcedar / salal Very Wet Maritime	Blue
Western redcedar - Douglas-fir / vine maple	Blue
Western redcedar - Sitka spruce / skunk cabbage	Blue
Western redcedar / devil's club	Blue
Whitebark pine / clad lichens - curly heron's-bill moss	Blue

5.4.6 Other Species of Concern

Mountain Goat

Analysis of the Provincial Ungulate Winter Range dataset indicates that the proposed tenure overlaps with suitable winter habitat for Mountain Goats (*Oreamnos americanus*). While this species is not federally listed, they are management priority for the government of BC. Further, past research has identified heli-skiing as potentially having a significant negative impact on Mountain Goats. Following the *Wildlife Guidelines*, the LDRL will adhere to the following desired behaviors:

- Do not land in identified Mountain Goat winter ranges.
- No intentional "flightseeing" of Mountain Goats.
- Stay at distances to prevent changes to the behaviour of animals (greater than 1,500 m line-of-sight).
- Avoid occupied habitats where Mountain Goats have been seen in the current season and/or animals consistently occupy the area and the area is mapped as occupied.
- Minimize use in areas of high probability or potential, where there is documented past use by Mountain Goats or sheep.

Further, to minimize use in areas of high probability or potential, LDRL will:

- Distribute aerial activities across the operating area so that these habitat areas receive less use (particularly for landings and take-offs) relative to other areas where the probability of interaction with goats is lower.
- Identify and maintain use of regular and predictable patterns and distribution of flights and non-motorized travel routes. Such paths will be established away from all high-value habitats and travel using those routes will be done in as predictable a manner as is reasonably possible.
- Fly on the opposite side of the valley from high probability areas.
- Fly at a distance of 1,500 m line-of-sight where no geographic barriers exist and maintain a 500 m vertical separation from habitat.

- Fly aircraft in a way that reduces noise and ensures that animals are not surprised by sudden encounters (including avoiding the use of helicopters having a high blade vortex interaction).
- Seek the approval of FLNRORD of all non-motorized travel routes for skiing, snowshoeing, hiking, biking, and inland water-related activities (e.g., paddleboard, kayak) and will maintain a minimum separation of not less than 100 m from high value habitats (e.g., winter range) as per the Wildlife Guidelines.
- Remove all route markers established on the land base immediately post season.
- Ensure that the pre-season training for guides and pilots includes operational awareness of the Wildlife Guidelines, this Management Plan and Wildlife Mitigation Strategy, and any government permit conditions.
- Ensure that monitoring and feedback systems are in place to show due diligence with respect to meeting the intent of this category, including recording real time helicopter flight data using a global positioning system (GPS) and the provision to FLNRORD of a signed report of a R. P. Bio, in each post-season addressing:
 - (i) deviations from this Management Plan or Wildlife Mitigation Strategy (if any);
 - (ii) the rationale for any deviations;
 - (iii) in the event of any deviations, recommendations for better compliance with this Management Plan or Wildlife Mitigation Strategy;
 - (iv) a record of all mountain goats incidentally observed during operations and their approximate location; and
 - (v) flight lines for each operating helicopter.
- Follow the established practices of the BC Helicopter and Snowcat Skiing Operators Association (BCHSSOA) when animals are inadvertently encountered.

The proposed helicopter flight paths are presented in Figure 14. However, as the use and suitability of terrain is explored and identified, the LDRL will inform FLNRORD, at least annually, of changes to flight paths which will be subject to comment and revision.

Caribou

The proposed tenure area for the LDRL overlaps with critical winter habitat for Caribou (*Rangifer tarandus*) as delineated in the Province's Ungulate Winter Range dataset. Caribou are protected under the Federal Species At-Risk Act and Provincial Wildlife Act and Forest and Range Practices Act. To achieve the objectives of no increase in harassment, no increased negative reactions, or abandonment of habitat, the LDRL commits to the following desired behaviours as listed in the *Wildlife Guidelines*:

- Record wildlife encounters, actions taken and responses by animals.
- No intentional "flightseeing" of Mountain Caribou.
- Ensure a system is in place to proactively identify high-use habitats with a high probability for encountering caribou and to show how activities shift during the operating season in response to the presence of caribou.

- Minimize activity in and near identified high-use areas.
- Avoid activity in occupied habitats (see below).
- Stay at a sufficient distance from caribou to prevent changes to their behaviour or their use of habitat (more than 500 m line-of-sight is default).
- Seasonal closures might be necessary.
- Operate in a manner that is consistent with government's approved approach to recovery planning for Mountain Caribou.

Further, the following definition for “occupied habitats” and protocols to manage them as detailed in the *Wildlife Guidelines* will be employed unless revised by FLNRORD:

- "Occupied habitats" are areas known to be occupied by caribou within at least the last 48 hours. Occupation is determined by the observation of Caribou in the target area or by observation of tracks (either Caribou or other ungulate) in the target area.
- The LDRL will shift activity from the occupied area to an area where the likelihood of encountering Caribou is low.
- The LDRL will not resume aerial activity in occupied habitats for at least 48 hours and only after a high-level reconnaissance flight can confirm the absence of the animals or their tracks (i.e., the areas are no longer occupied).
- A high-level reconnaissance flight will entail approaching the target area at an altitude of 500 m or higher and conducting an observation flight over the target area before gradually descending toward the ground.
- If at any time Caribou or tracks (either Caribou or other ungulate) are detected during the reconnaissance flight, the LDRL will consider the target area occupied and further aerial activities will be suspended for at least the next 48 hours, at which time the procedure may be repeated.

LDRL will ensure that all pilots and guides are trained to identify signs of Caribou.

Grizzly Bear and Wolverine

No known occurrences of Grizzly Bear or Wolverine dens exist within the proposed tenure area, but this likely due to the limited use of the area and a subsequent lack of data. Also, as noted above, the proposed tenure area overlaps with Wildlife Habitat Areas designated for Grizzly Bear suggesting that an occurrence of Grizzly Bear dens is highly likely. As such, for both Grizzly Bear and Wolverine, the LDRL commits to the following desired behaviours as detailed in the *Wildlife Guidelines*:

- When den is discovered, LDRL will maintain a 500 m line-of-sight distance whether in a helicopter or on the ground; and
- Will not participate in intentional "flightseeing" of denning sites.

6.0 Socio-Community

6.1 Land Use

The LDRL will work to contribute to the goals of the affected Regional Districts and First Nations and will make reasonable efforts to accommodate the interests of other natural resource users.

6.1.1 Local Government

The tenure area proposed by the LDRL overlaps with Electoral Area A of the Central Coast Regional District, Electoral Areas E and G of the Bulkley Nechako Regional District, and Electoral Area C of the Regional District of Kitimat-Stikine. The activities proposed in the LDRL Management Plan align with the regulations and bylaws of these Regional Districts and contribute to their goals and objectives.

Electoral Area A of the Central Coast Regional District (CCRD) is, for the most part, not regulated by local bylaws¹³. Further, there is no strategy or policy directly relating to commercial recreation. However, the LDRL Management Plan aligns with the CCRD Community Economic Development Operating Plan 2016 – 2019¹⁴. The Operating Plan includes priorities to support local economic empowerment and create a resilient local economy, which the addition of the LDRL operation, and the increased tourism and local procurement it brings, will undoubtedly contribute to.

The situation is similar in Electoral Areas E and G of the Bulkley Nechako Regional District (BNRD) where no specific direction on commercial recreation has been developed. Instead Official Community Plans¹⁵¹⁶ in both regions note General Area Goals to protect and be stewards of environmentally sensitive areas and provide opportunities for economic development and diversification. The OCPs also incorporate the land use objectives of the Morice Land and Resource Management Plan (see below) which, along with environmental data from the Province, guided the development of the activities proposed in the LDRL Management Plan. And as stated above, the increased tourism and local procurement in the region will contribute to BNRD's economic goals.

Finally, the Regional District of Kitimat-Stikine (RDKS) has identified the creation of sustainable local jobs as strategic priority in its 2019-2022 Strategic Plan¹⁷, though no specific consideration has been given to the role tourism or recreation may play in achieving it. However, Tourism

¹³ Central Coast Regional District (2019). *Zoning*. Available at: <https://www.ccrd.ca/land-use-planning/zoning>

¹⁴ Central Coast Regional District (2016). CCRD Community Economic Development Operating Plan 2016-2019. Retrieved from: https://www.ccrd.ca/sites/default/files/docs/land-use-planning/Operating_Plan_2016-2019.pdf

¹⁵ Regional District of Bulkley Nechako (2017). *Burns Lake Rural and Francois Lake (North Shore) Official Community Plan*. Retrieved from: https://www.rdbn.bc.ca/application/files/6715/4526/1811/Area_B_E_OCP_Schedule_A_Bylaw_1785.pdf

¹⁶ Regional District of Bulkley Nechako (2011). *Houston, Topley, Granisle Rural Official Community Plan*. Retrieved from: https://www.rdbn.bc.ca/application/files/5015/5733/5294/Area_G_OCP_Schedule_A.pdf

¹⁷ Regional District of Kitimat-Stikine (2019). *2019-2022 Strategic Plan*. Retrieved from: https://www.rdks.bc.ca/sites/default/files/2019-2021_rdks-strategic_plan.pdf

Development has been identified by the RDKS's Economic Development Commission¹⁸. Working in partnership with the Northern BC Tourism Association and destination marketing organizations, they actively promote “scenic, wilderness, and recreational and cultural resources” of the region. The helicopter-based recreation activities proposed in this management plan are strongly aligned with this effort and LRDL would be eager to assist in these promotional efforts.

6.1.2 Land Management Plans and Regional Growth Strategies

The LRDL proposed tenure area overlaps with the Morice Land and Resource Management Plan (2007), Kalum Sustainable Resource Management Plan (2006), Central Coast Land and Resource Management Plan (2004), and the Great Bear Rainforest Order (2016). In developing the Management Plan for LRDL, the goals and objectives established by these LRMPs and SRMPs for the lands within the tenure were incorporated and respected.

Morice Land and Resource Management Plan

The Morice Ranges – Nanika Lake area has been designated as a “No Timber Harvesting Area” Area Specific Resource Management Zone to protect important fisheries values integral to the Wet’suwet’en Nation. The goals for this area include the preservation and conservation of critical habitat and water quality, as well as “continued opportunity for a high value recreational experience”¹⁹. To achieve this, the Morice LRMP states that there should be no timber harvesting, settlement/industrial development, or new road development in the area.

The proposed tenure area also overlaps with an area designated as a High Biodiversity Emphasis Area north of Atna Provincial Park, and a General Forested Area. High Biodiversity Emphasis Areas are designated to preserve forest areas that are representative of historic natural ecosystem function and processes, while General Forested Areas are managed for a range of resource interests, including biodiversity.

The LRDL Heli-Sports Management Plan respects the No Timber Harvesting Areas, High Biodiversity Area, and General Forested Area. As proposed, this area would see limited use that would be dedicated to self-propelled backcountry touring (as opposed to heli-skiing) in the winter and heli-mountain biking in the summer. This significantly reduces the need for heli-pads and related infrastructure. LRDL has proposed two backcountry huts for the area to provide shelter in event of inclement weather or unforeseen circumstances that prevent return to the Lodge.

Kalum Sustainable Resource Management Plan

The lands east of the Morice LRMP fall under the Kalum SRMP, the application of the Kalum LRMP (2002). The Kalum SRMP identifies a patchwork of watersheds from the Huchsduwachsdun Nuyem Jeas/Kitlope Heritage Conservancy in the south, north to the District of Kitimat, as Undeveloped Watersheds and Grizzly Bear Identified Watersheds, which overlap in several instances.

¹⁸ Regional District of Kitimat-Stikine (2019). *Economic Development Commission*. Available at: <https://www.rdks.bc.ca/content/economic-development-commission>

¹⁹ Province of British Columbia (2007). *Morice Land and Resource Management Plan*. Retrieved from: <https://www2.gov.bc.ca/gov/content/industry/crown-land-water/land-use-planning/regions/skeena/morice-lrmp>

Undeveloped Watersheds are identified for their biodiversity and ecological values, and the objectives established for them work to preserve their function and processes. The Kalum SRMP establishes old seral forest targets, expressed as a percentage of total watershed area, for each watershed.

Objectives for the Grizzly Bear Identified Watersheds in the Kalum SRMP focus on maintaining sufficient supply and quality of habitat and forage. Specifically, the Kalum SRMP identifies ensuring adequate supply of berry feeding and natural levels of forage supply and implementing regeneration and free-to-grow standards where appropriate as key objectives. This is operationalized through area targets for specific biogeoclimatic zones and subzones associated with forage species²⁰.

The activities proposed in the LDRL Management Plan respect these designations, with the footprint of disturbance limited to backcountry huts and associated heli-pads. Further, LDRL will work with the Province, First Nations, and stakeholders to ensure the forest stand and vegetation objectives and targets for the identified watersheds are achieved. In support of this, backcountry huts and associated infrastructure proposed by the LDRL avoid Old Growth Management Areas and Grizzly Bear Wildlife Habitat Areas.

Central Coast Land and Resource Management Plan (2004)

The proposed tenure lands in the south, bordered by Tweedsmuir Provincial Park-South to the east and the Huchsduwachsdu Nuyem Jees/Kitlope Heritage Conservancy to the west, overlap with the Central Coast Land and Resource Management Plan.

Addressing Tourism and Recreation, the LRMP states that one of its goals is to “promote and maintain opportunities for recreation and tourism”²¹. Further, specifically for air-based recreation, the LRMP’s objectives include ensuring that there continue to be opportunities for fixed wing and rotary aircraft in all LRMP zones, except in ecological reserves and where special exceptions have been noted.

The proposed tenure area lands defined above fall within the Operating Area Ecosystem Based Management Area. These areas are open to a full range of resource and economic uses applied through an Ecosystem-Based Management approach. Commercial recreation is noted as one of the permitted uses²¹.

This area is also identified as a Grizzly Bear Management Area. A range of strategies to maintain current population levels are detailed, including restrictions on road development and bans on hunting. However, no additional constraints placed on commercial use.

The proposed activities and associated infrastructure detailed in the Management Plan are aligned with the strategies to maintain Grizzly Bear populations, avoiding Grizzly Bear WHA and Old Growth Management Areas. Further, where permitted and feasible, the LDRL will make use of existing forest roads to limit the impact of their operations.

²⁰ Province of British Columbia (2006). *Kalum Sustainable Resource Management Plan*. Retrieved from: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/skeena-region/kalum-srmp/kalum_srmp_plan.pdf

²¹ Province of British Columbia (2003). *Central Coast Land and Resource Management Plan*. Retrieved from: <https://www2.gov.bc.ca/gov/content/industry/crown-land-water/land-use-planning/regions/west-coast/great-bear-rainforest/centralcoast-lrmp>

Great Bear Rainforest Order

Also overlapping with the proposed tenure area in the south are land use objectives defined by the Great Bear Rainforest Order. These include Important Fisheries Watersheds, Grizzly Bear Habitat, and the Kimsquit River Reserve Zone.

The objective for Important Fisheries Watersheds is to “maintain Equivalent Clearcut Area of less than 20% in each of the Important Fisheries Watersheds”, unless a series of conditions are met²². This is to maintain hydrological processes and protect aquatic habitat and fisheries.

Much like other designations discussed above, objectives for a Grizzly Bear Habitat area are concerned with habitat retention and improvement. Within the Order, Grizzly bear habitat is classified as Class 1 and Class 2, with the objective to maintain 100% of Class 1 habitat and 50% of Class 2 habitat. Unfortunately, data identifying Class 1 and Class 2 habitat is not publicly available but, regardless, the LDRL will work with the Province, First Nations, and stakeholders to ensure these objectives are met.

Finally, the Kimsquit River Reserve Zone is a 150 m buffer area around the river in which timber harvesting and development activities are not permitted unless no other reasonable or practical option exists²². The LDRL will work to preserve this buffer, limiting operations and development.

6.2 Socio-Community Conditions

6.2.1 Existing and Adjacent Users

Neighbouring Communities/First Nations

The proposed tenure is in a remote area of BC's Central Coast and does not overlap with any municipalities or First Nations Reserves. The proposed tenure does surround two First Nations Reserves, the Kimsquit No.1 and Chatscah No. 2. The LDRL team have engaged with the impacted First Nations in the area to understand their values, goals, and objectives for the land.

Public Use and Access/Recreation

Existing public recreation use in the proposed tenure area is minimal. A network of Provincially designated recreation trails exists north of Tahtsa Lake around Mt. Ney and correspond with an Avalanche Terrain Exposure Scale area (i.e. Sibola Range area) which was developed to provide avalanche forecasting to snowmobilers using the larger area.

Beyond these designated areas, there does not appear to be any formal recreation activity. The Recreation Opportunity Spectrum dataset prepared by the Province notes that much of the opportunity in the area is limited to primitive and semi-primitive non-motorized recreation. Effectively, the forestry roads take on a secondary role for recreation and the intensity of use radiates from those roads into the more remote areas.

²² Province of British Columbia (2016). *Great Bear Rainforest Order*. Retrieved from: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/timber-pricing/coast-timber-pricing/maps-and-graphics/great_bear_rainforest_order_-_jan_21_2016.pdf

The LDRL will make all reasonable efforts to ensure that their operations do not compromise the existing public recreational experiences in the proposed tenure area.

Resource and Industry

Forestry is still active in several areas within the proposed tenure area, mostly contained to the lower elevations in the east and flatter lands in the west. It is unlikely that the interests of the LDRL will overlap with forestry operators, but where possible the LDRL will use existing forestry roads to aid in the development of any required infrastructure (e.g. heli-pads, fuel caches). The LDRL will also look for opportunities to collaborate with local forestry operators on any tree removal that is required for helicopter and commercial recreation operations.

Mining and mineral exploration is also active in the proposed tenure area. While there are extensive mineral claims between Whitesail Lake and Morice Lake Provincial Park, there are only 2 active mining leases in the east of the proposed tenure area, both registered to Huckleberry Mines Ltd. (Tenure #353594 & # 982642). No operations are proposed for the area covered by mining leases and LDRL will work with mining operators to ensure neither operation is negatively affected.

Commercial Adventure Tourism Operators

The tenure area proposed by LDRL does not overlap with the tenure of any existing commercial recreation tourism operators.

Guide Outfitter Tenures

The LDRL does not anticipate its operations will impact or be impacted by the operations of Guide Outfitters working in the area. However, it will work with them to ensure operations do not adversely impact each other. The Guide Outfitters in the area are:

- Michael Lewis (Cert # 601071)
- Chad Hanson (Cert # 604067)
- Karl Seitzinger (Cert # 600650)
- Angus Morrison (Cert # 601101)
- Gary Blackwell (Cert # 601079)

6.2.2 Existing Services

The development of the LDRL operations will not create additional demand for medical or fire services in the area and will result in additional emergency response capabilities in the region. LDRL will make all reasonable efforts to make their resources and knowledge of the area available to regional emergency services.

7.0 Appendices

7.1 Figures

Figure 1. Provincial Context

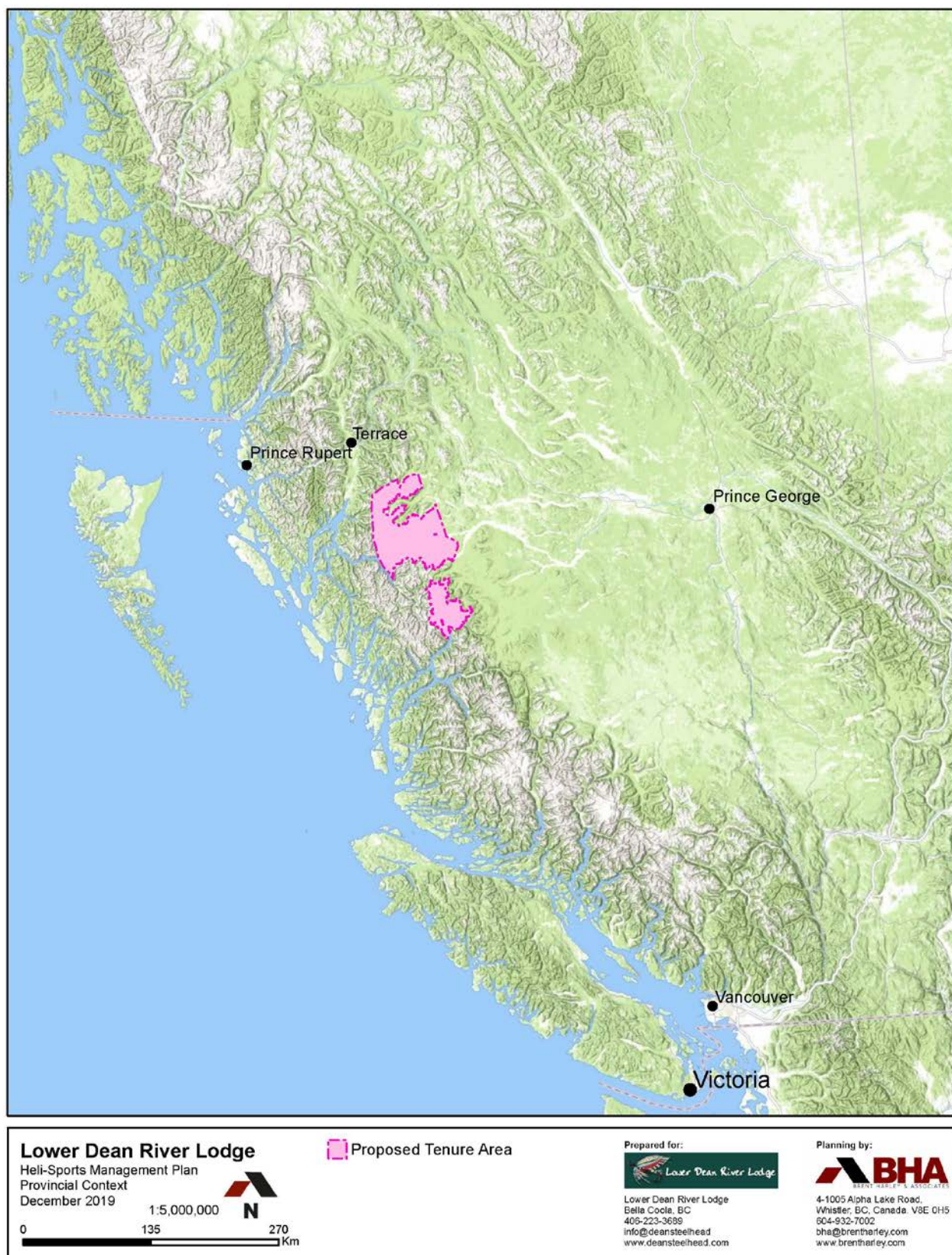


Figure 2. Operational Overview

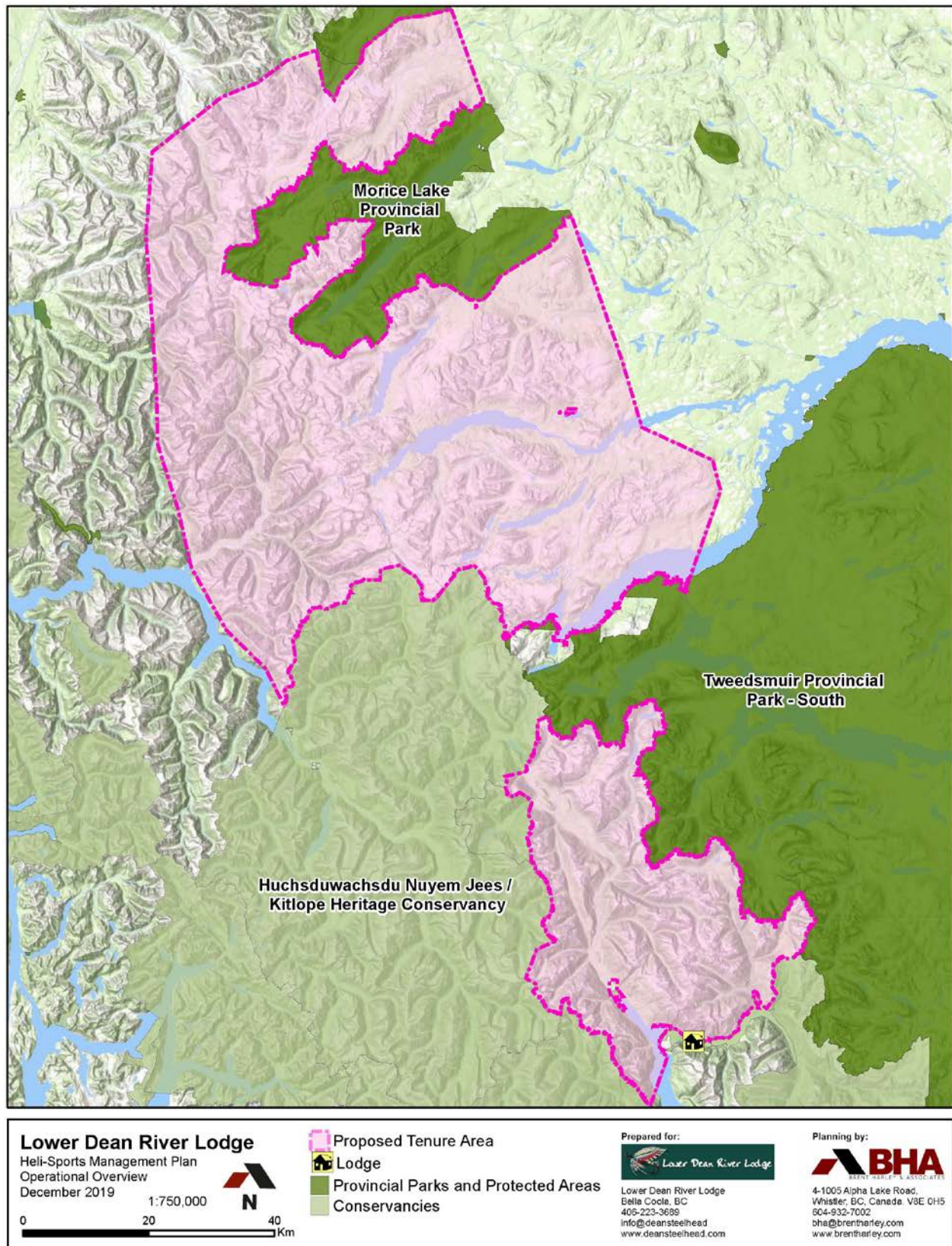


Figure 3. Elevation Analysis

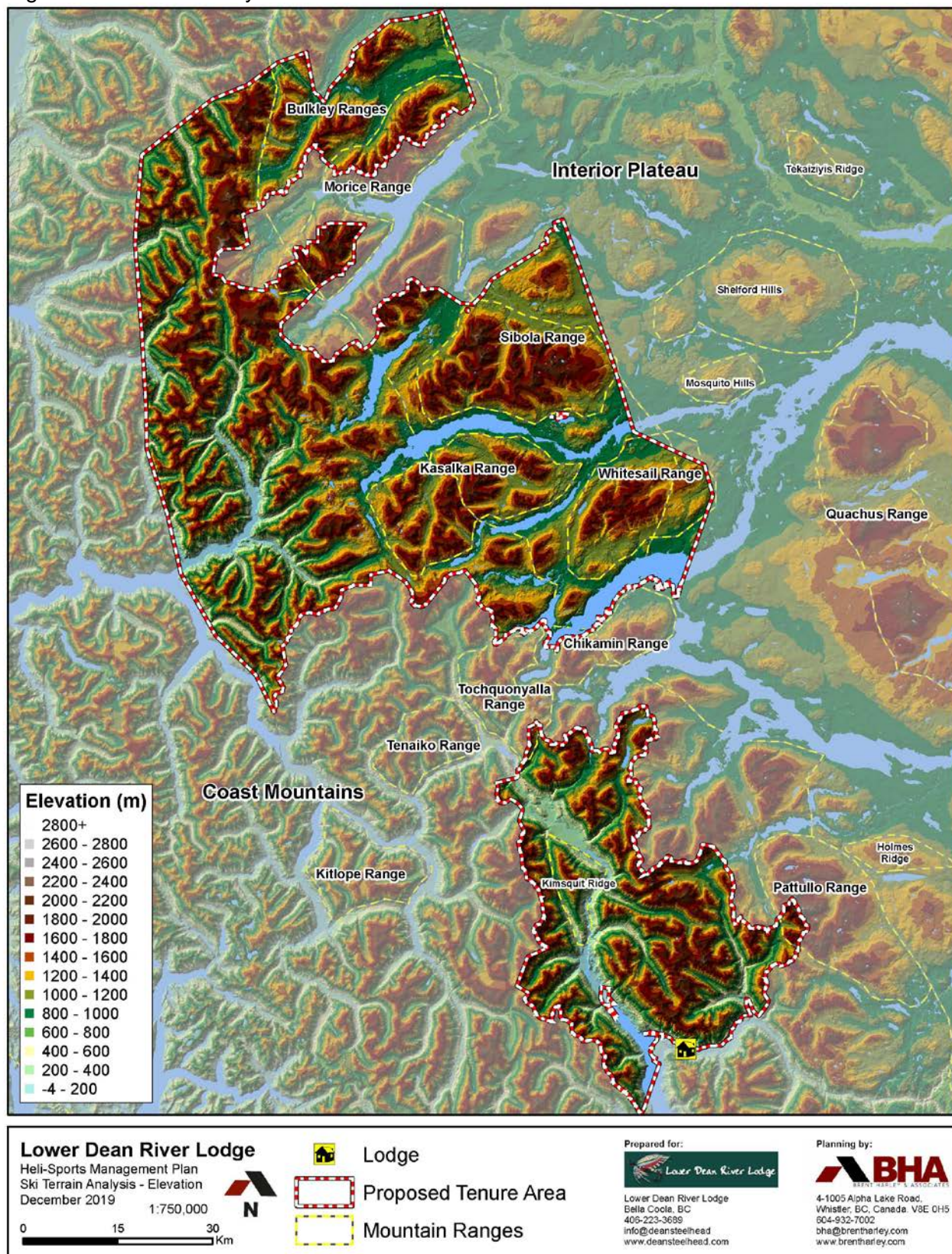


Figure 4. Ski Slope Analysis

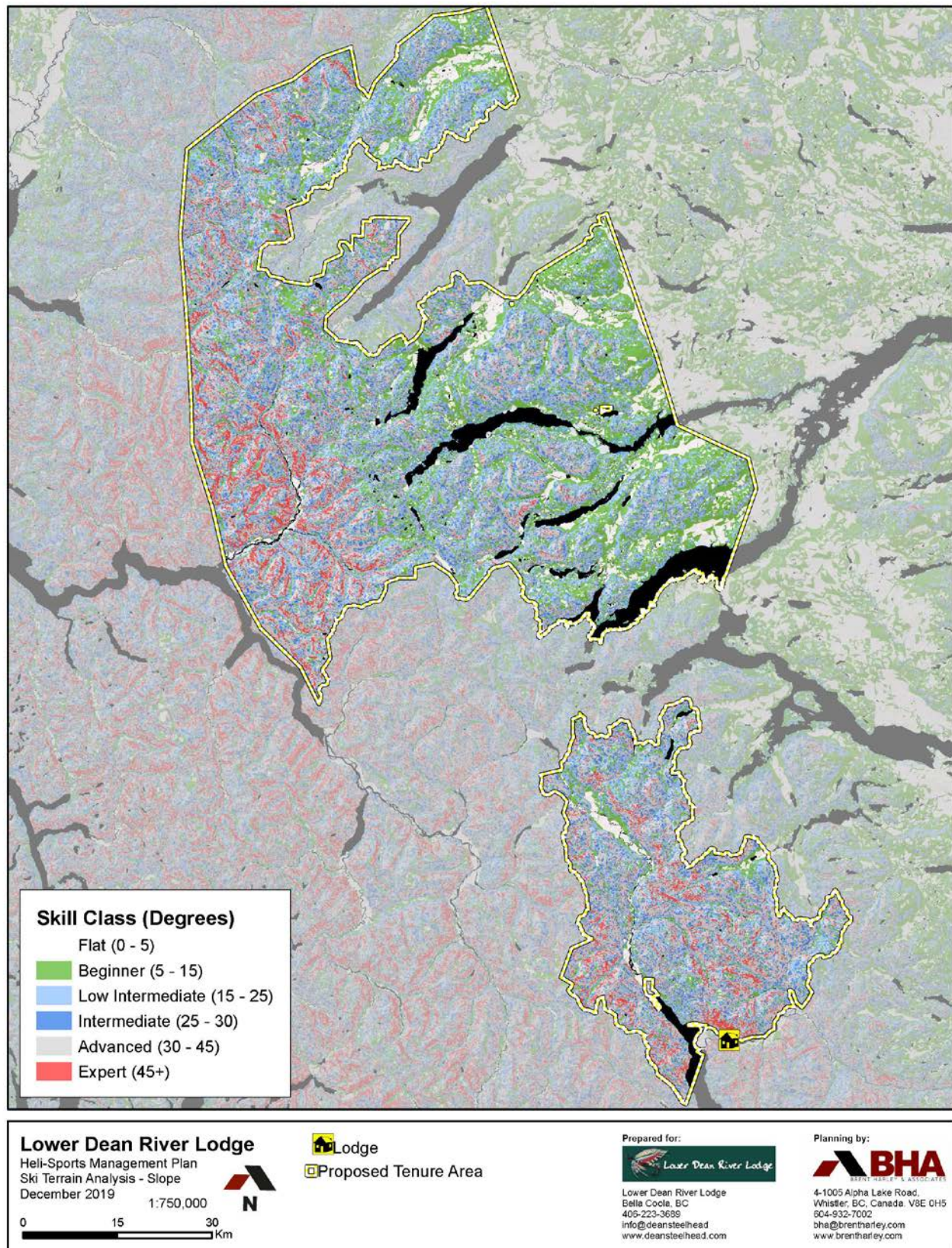


Figure 5. MTB Slope Analysis

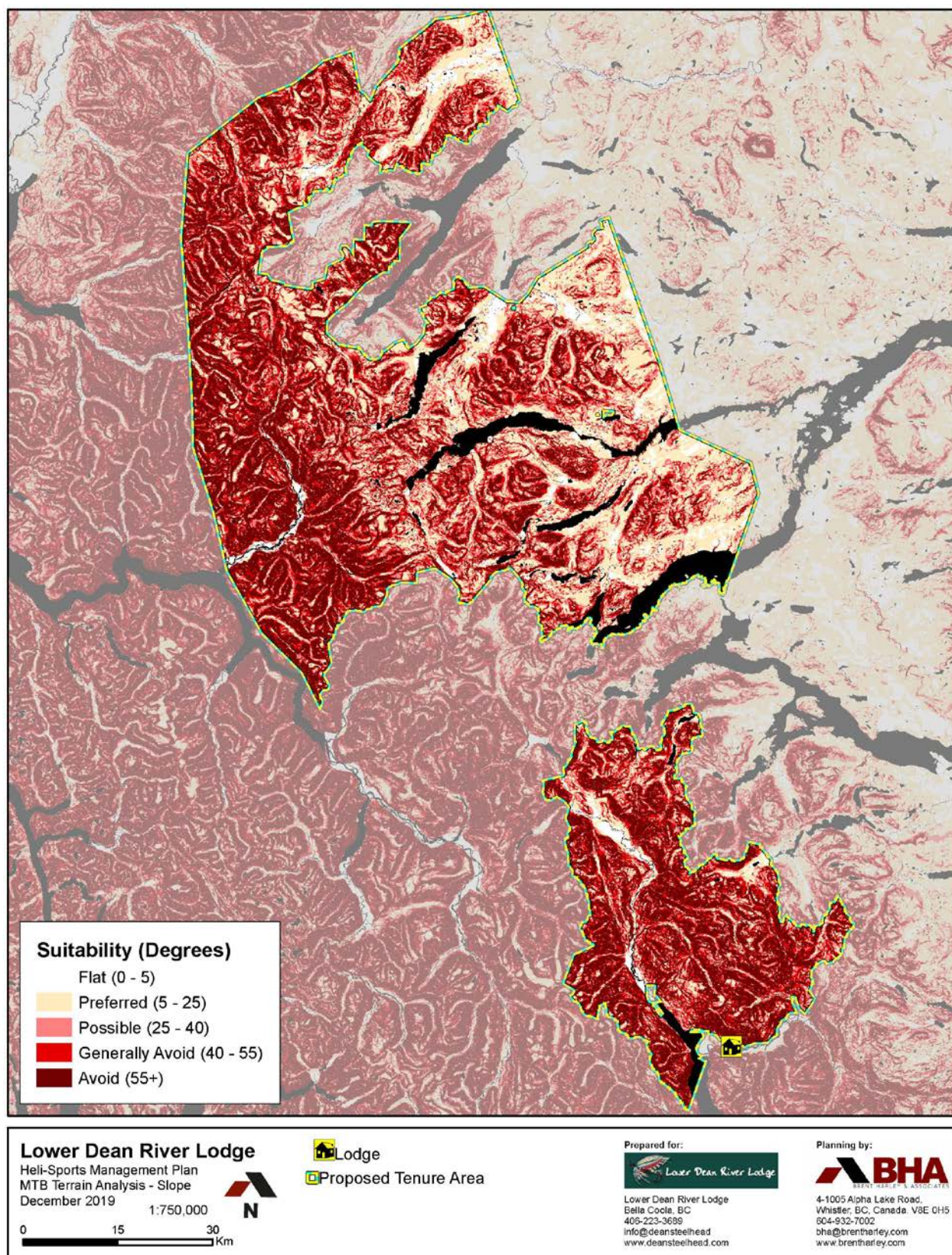


Figure 6. Historic Snowfall and Snowpack

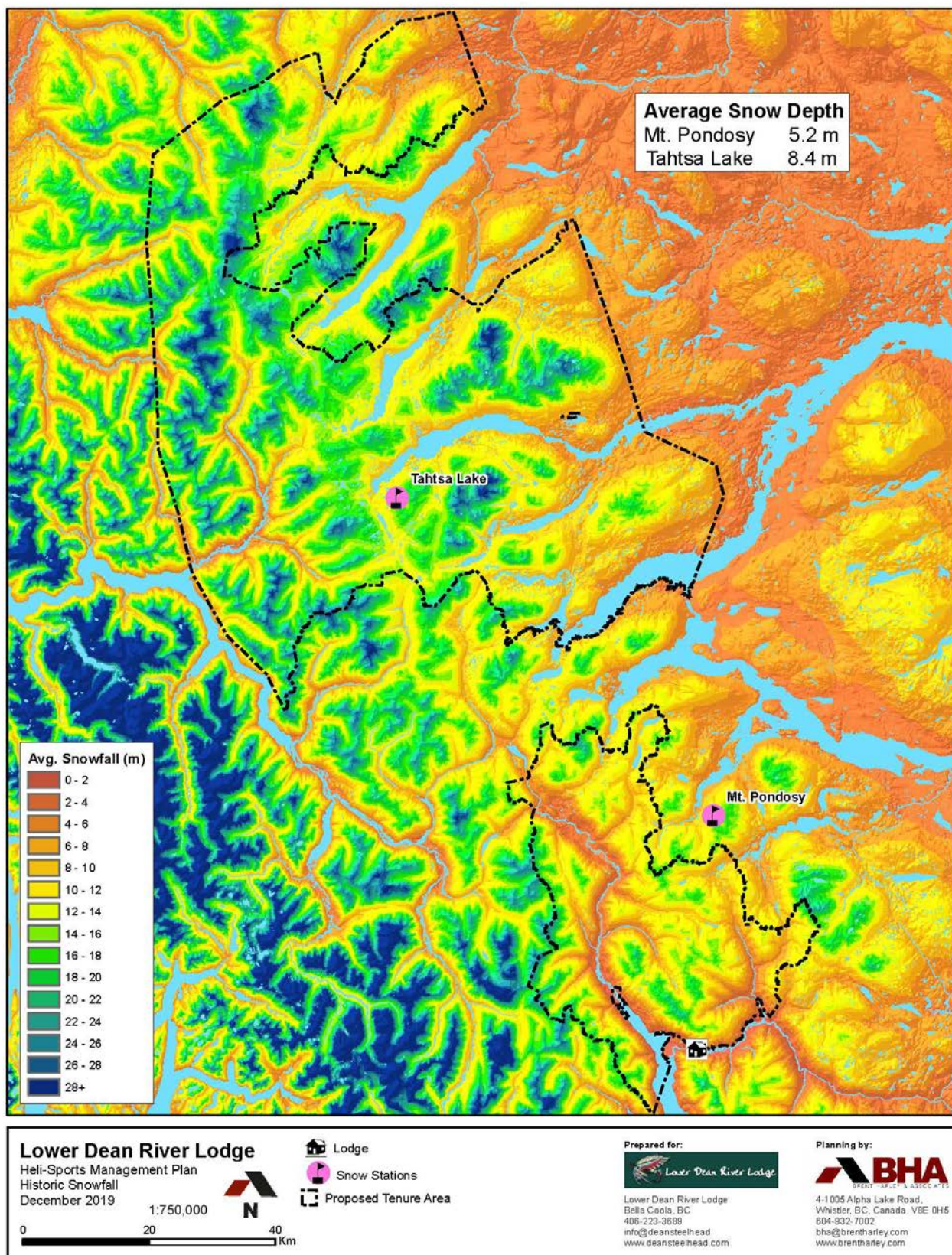


Figure 7. Environmental Values - Forest

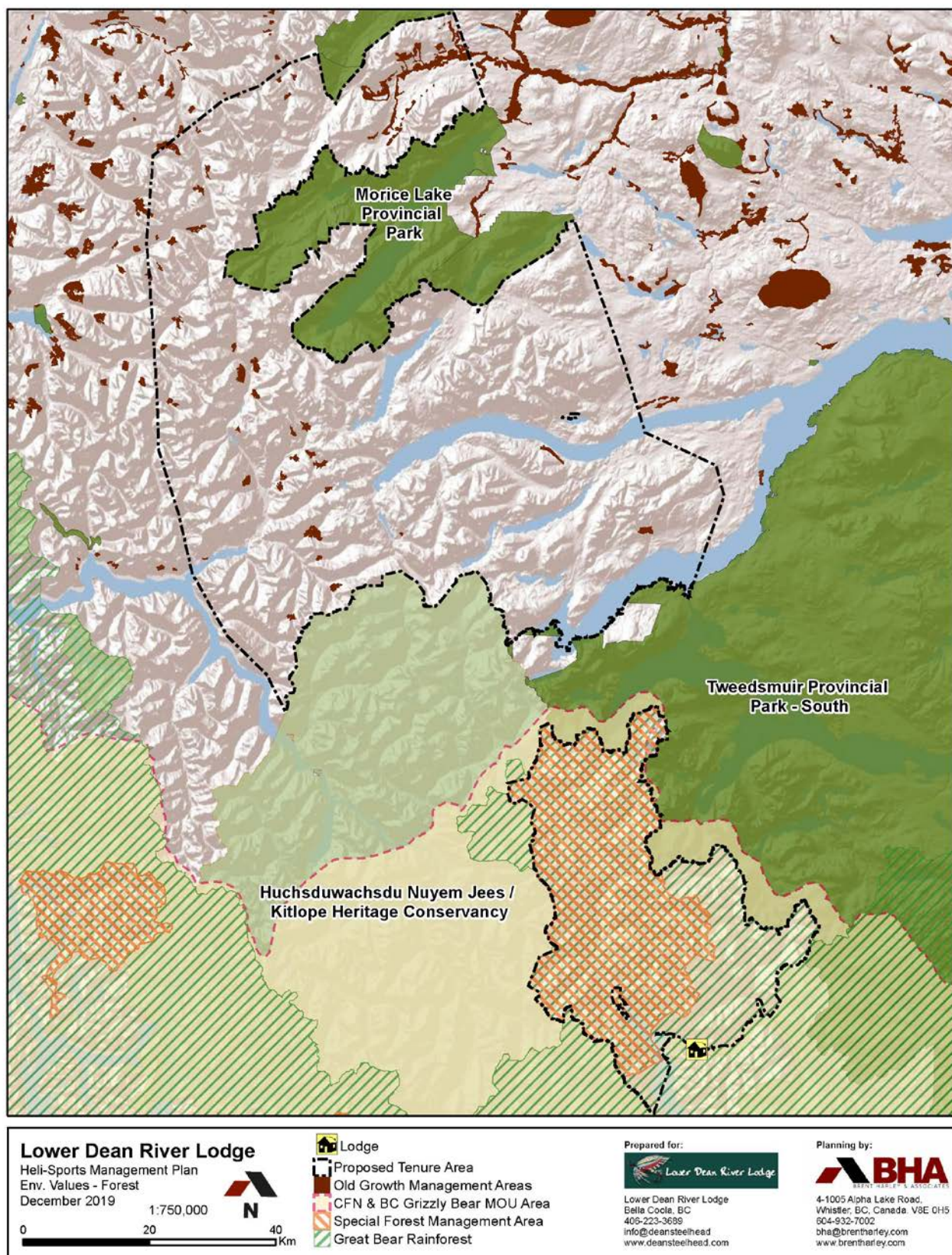


Figure 8. Environmental Values - Wildlife

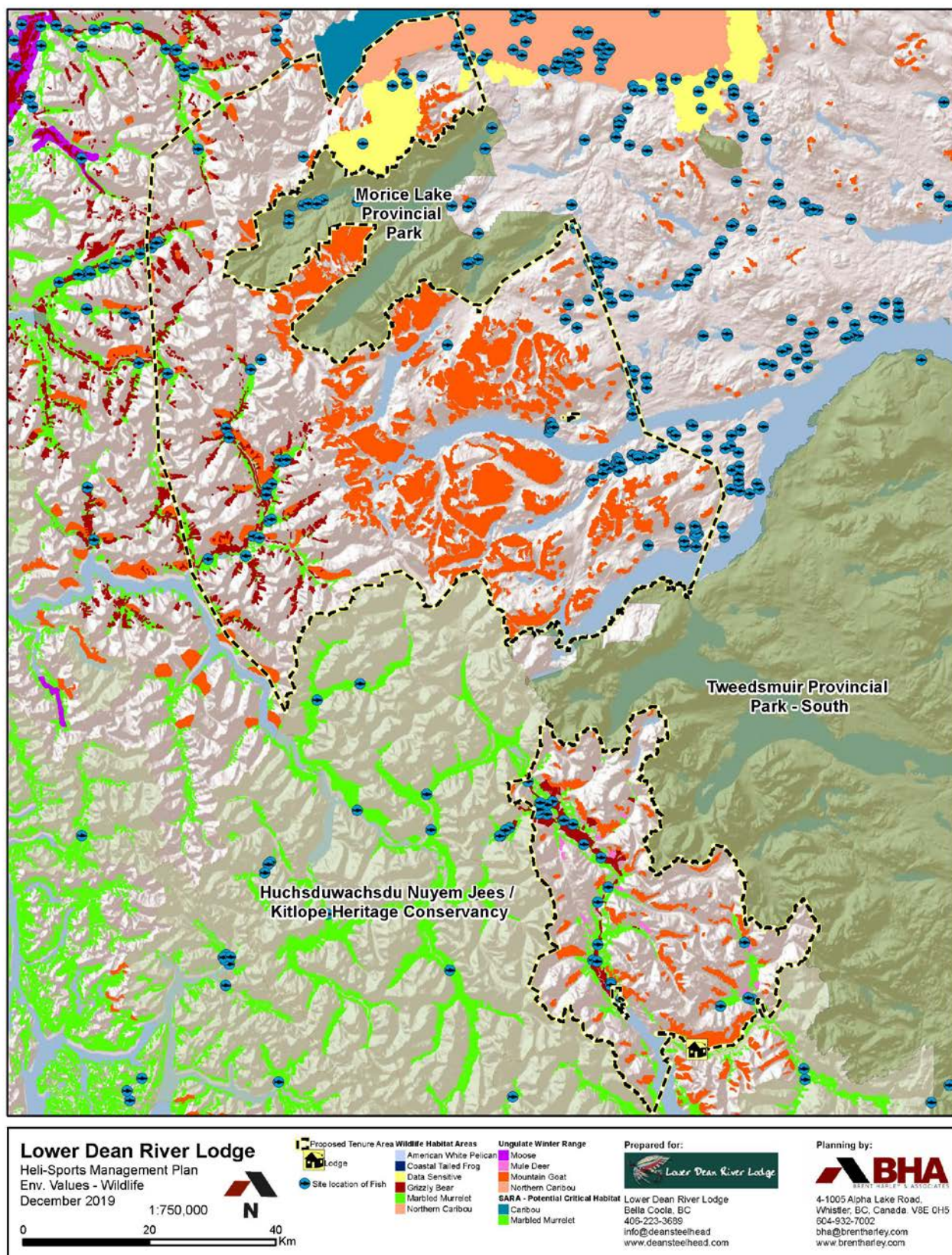


Figure 9. Environmental Values – Ungulate Winter Range and Spatial Buffers

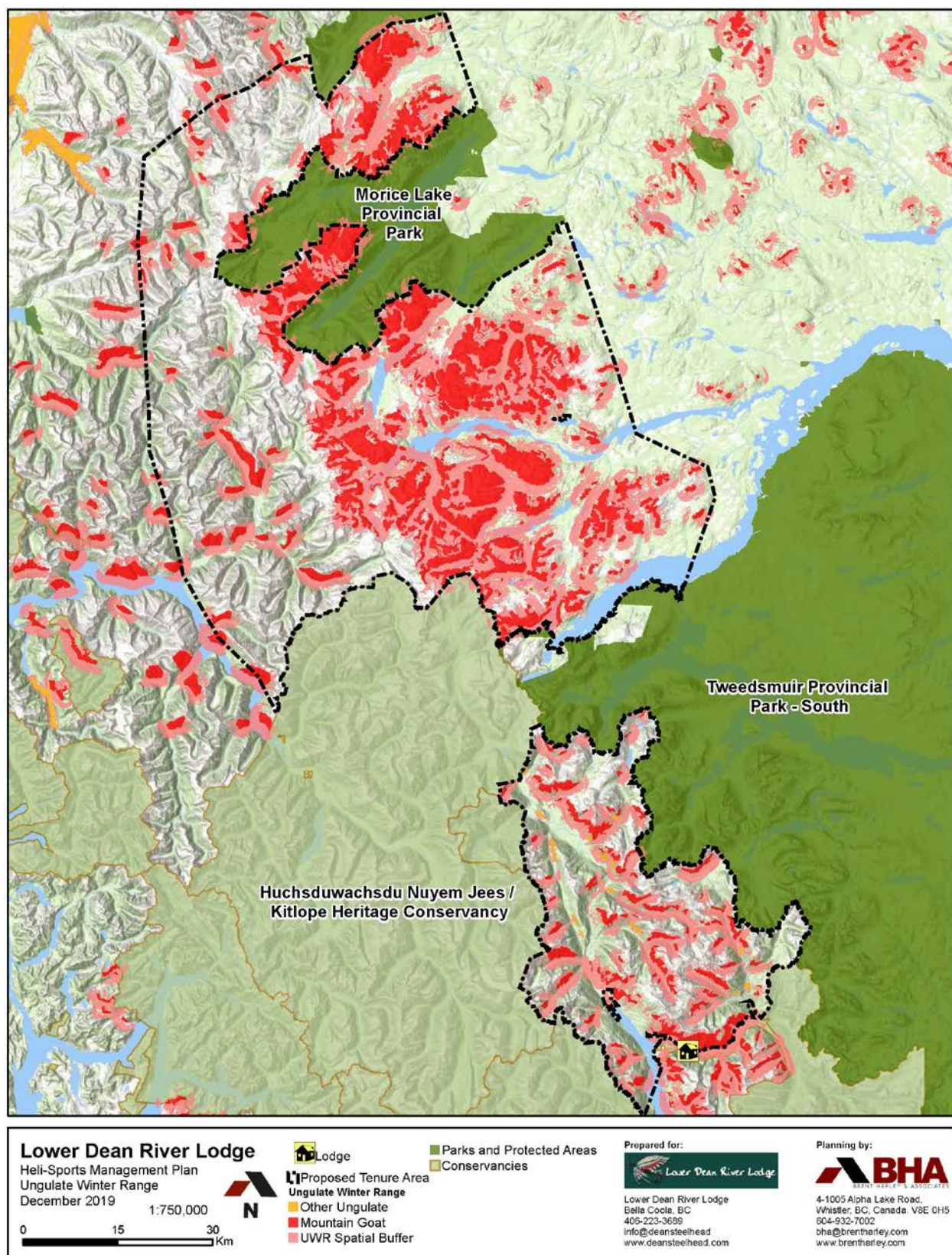


Figure 10. Recreation Values

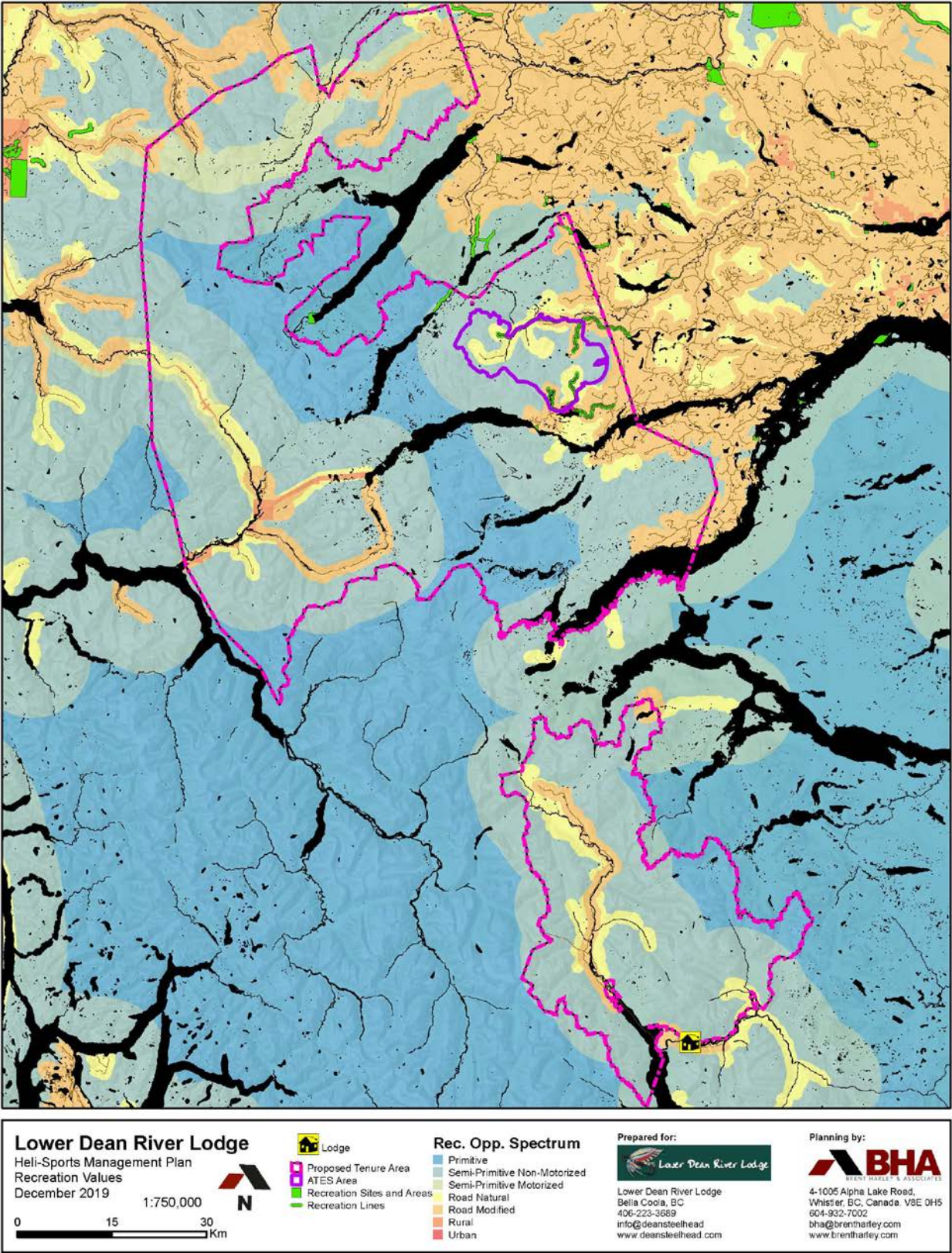


Figure 11. Land Use Plans

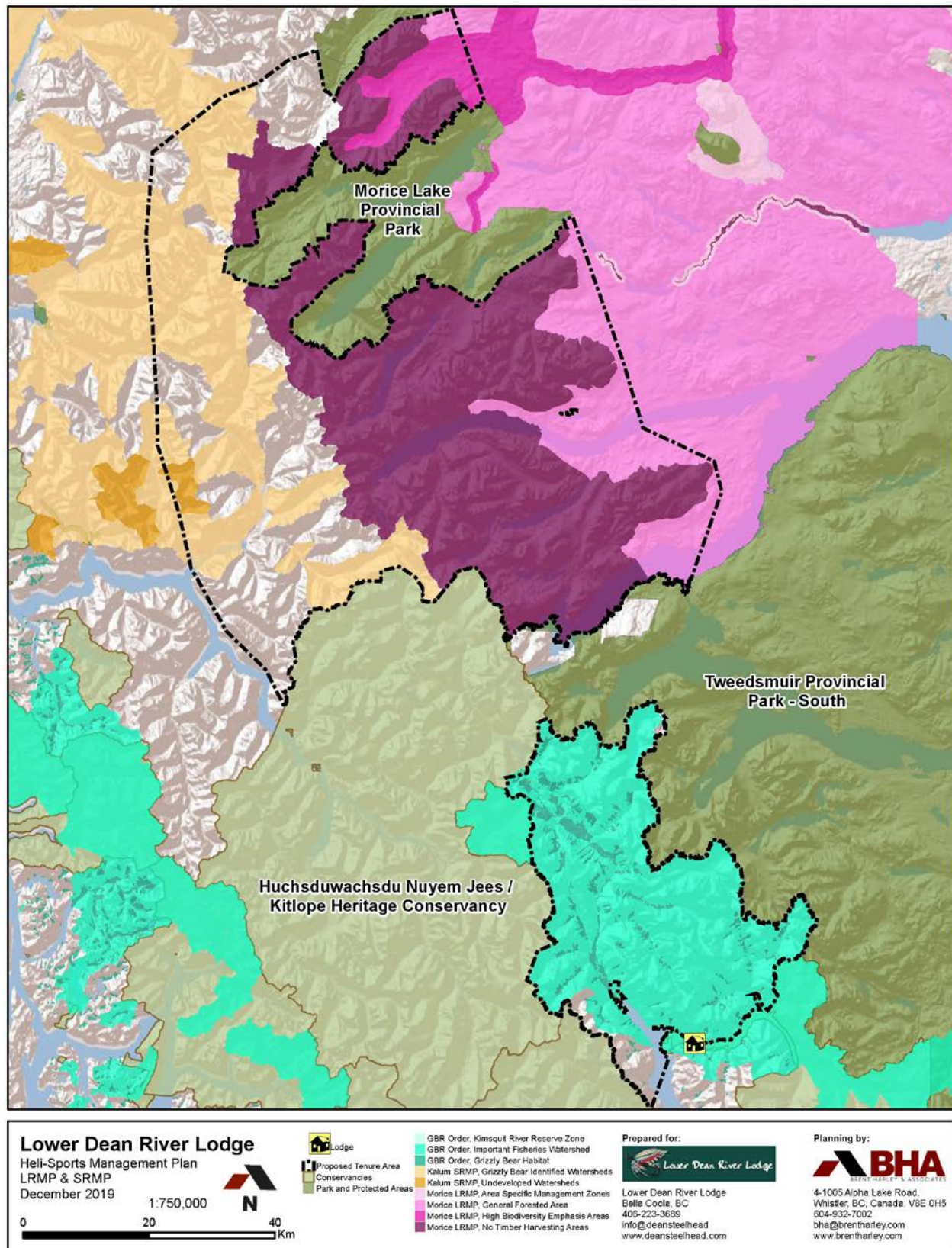


Figure 12. Proposed Summer Activity Zones

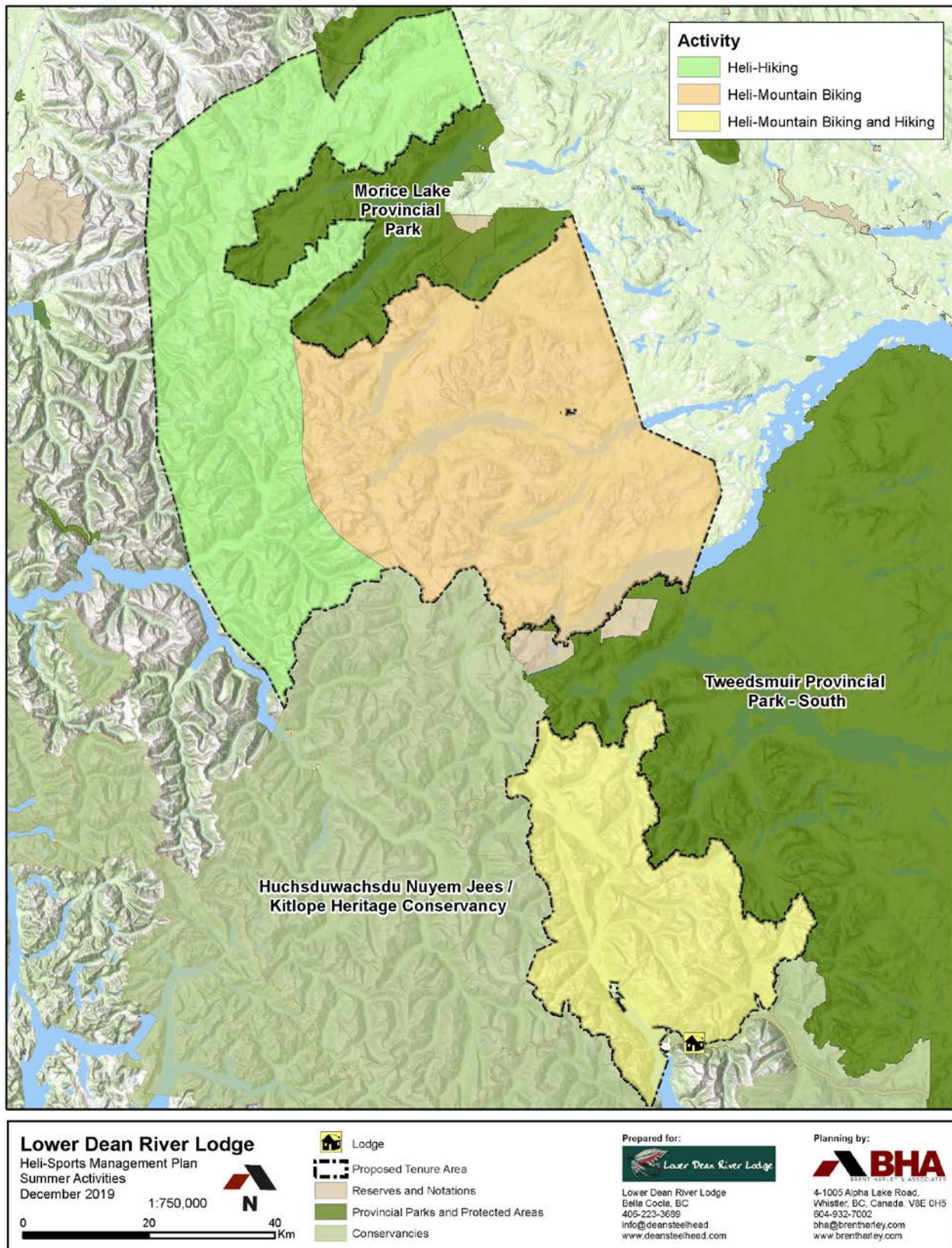


Figure 13. Proposed Winter Activity Zones

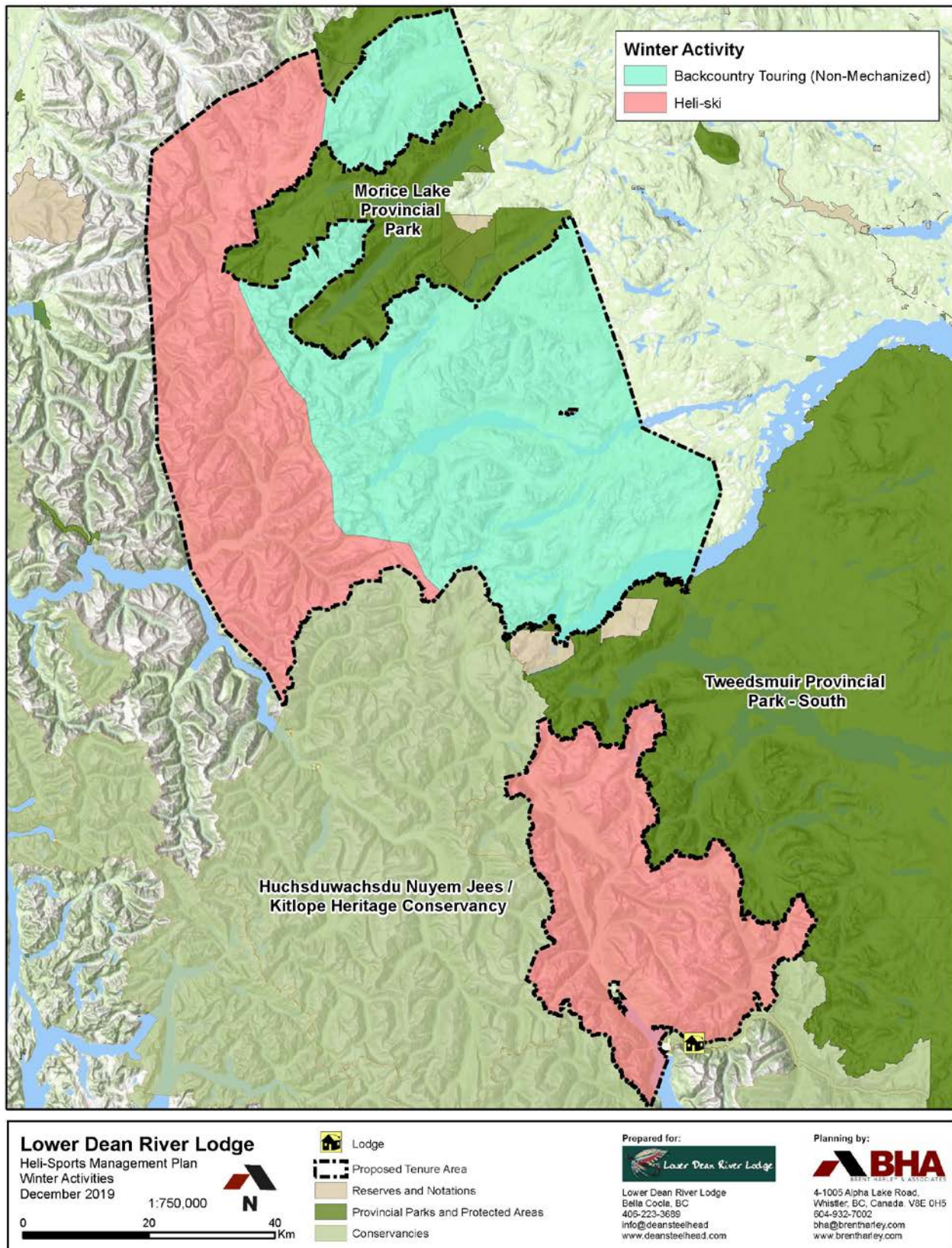


Figure 14. Proposed Flight Paths and Backcountry Huts

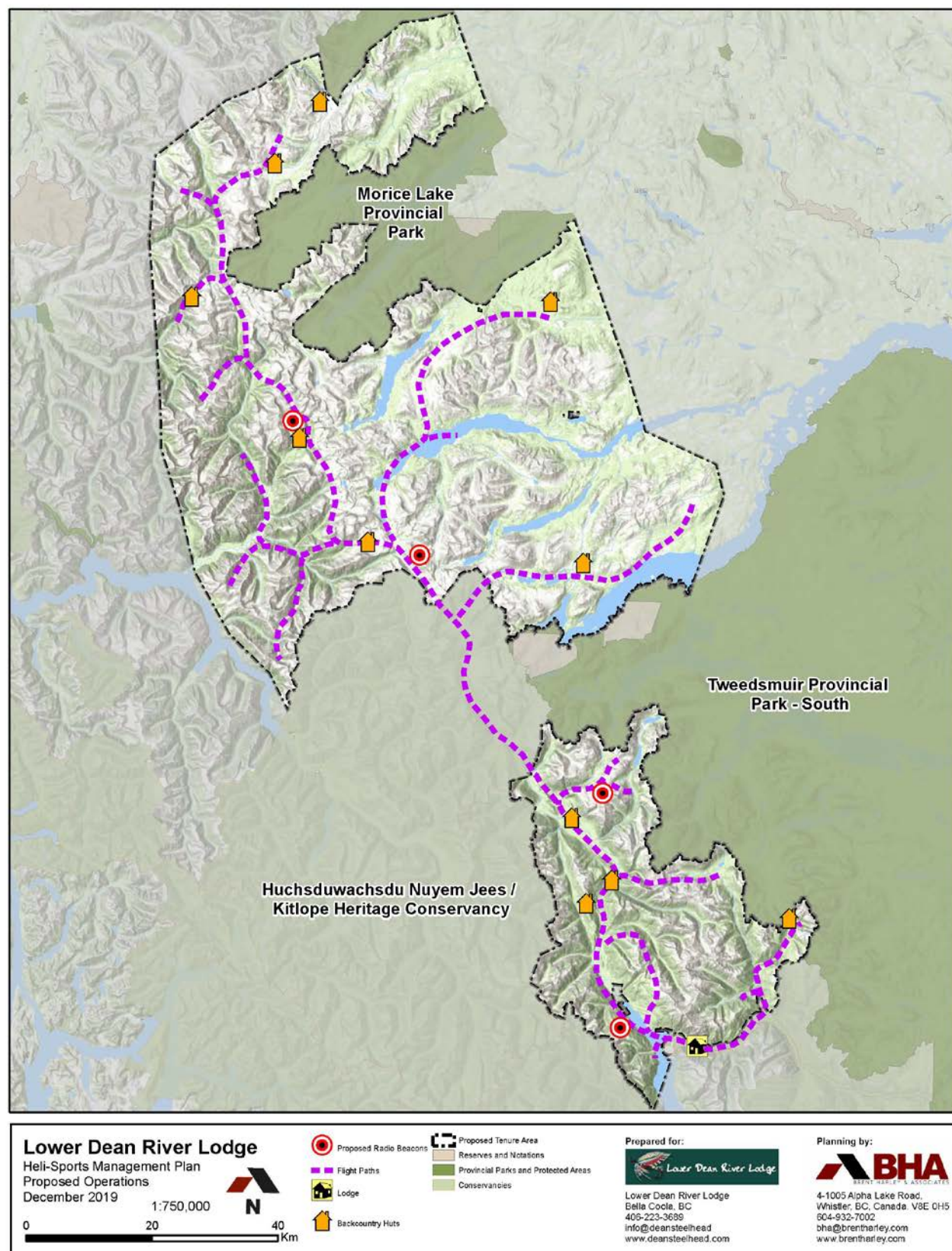
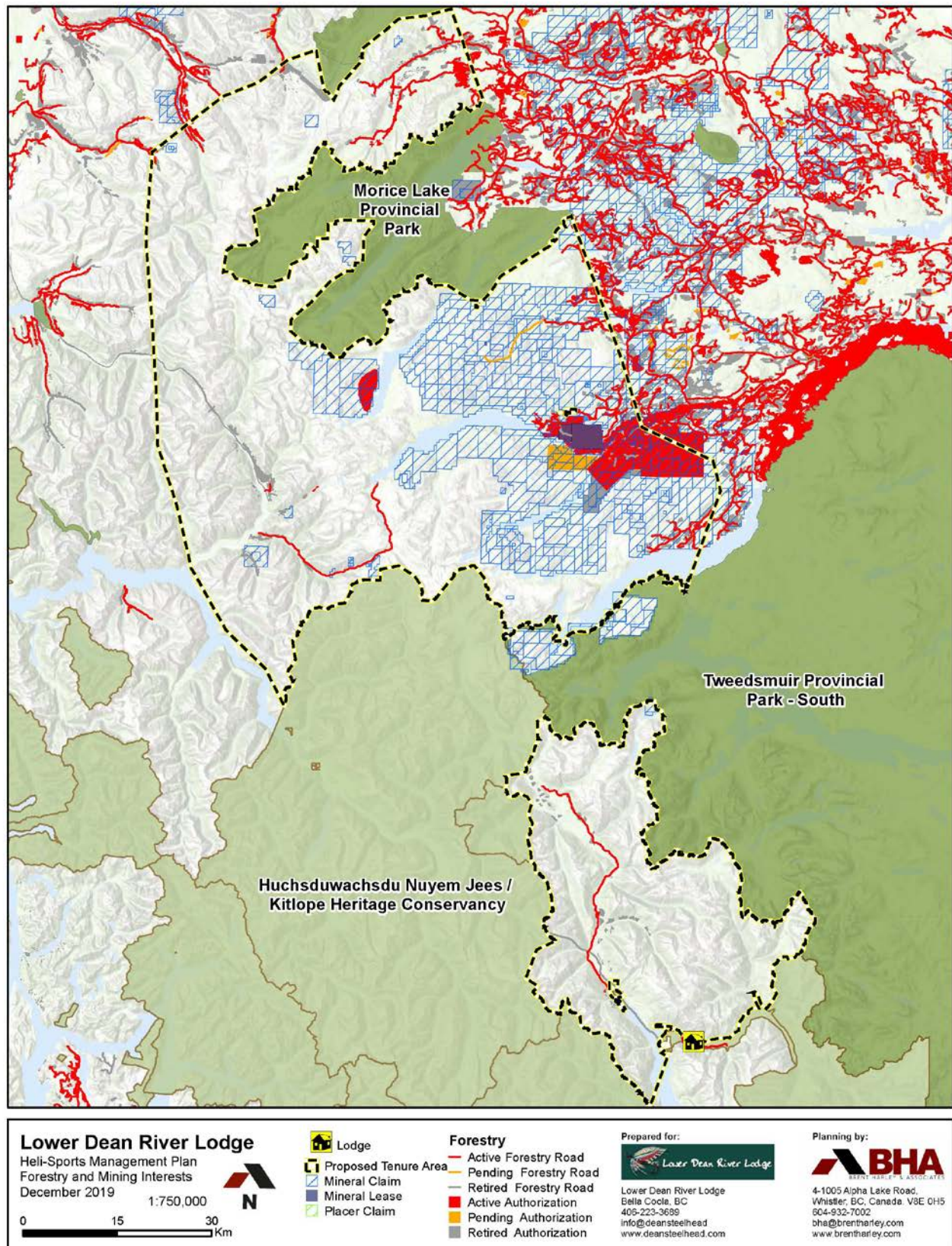


Figure 15. Forestry and Mineral Interests



7.2 Intensive Use Sites

Id	Label	X_Longitude	Y_Latitude
0	Radio Beacon - 1	127° 4' 55.474" W	52° 50' 33.404" N
1	Radio Beacon - 2	127° 7' 57.136" W	53° 10' 33.738" N
2	Radio Beacon - 3	127° 34' 52.363" W	53° 30' 37.594" N
3	Radio Beacon - 4	127° 53' 37.627" W	53° 41' 49.484" N
4	Hut LOC - 1	126° 41' 11.419" W	53° 0' 6.227" N
5	Hut LOC - 2	127° 10' 5.259" W	53° 1' 8.776" N
6	Hut LOC - 3	127° 6' 29.608" W	53° 3' 10.328" N
7	Hut LOC - 4	127° 12' 21.896" W	53° 8' 26.374" N
8	Hut LOC - 5	127° 11' 19.940" W	53° 30' 15.404" N
9	Hut LOC - 6	127° 42' 23.563" W	53° 31' 40.445" N
10	Hut LOC - 7	127° 52' 38.942" W	53° 40' 26.219" N
11	Hut LOC - 8	127° 16' 43.219" W	53° 52' 30.848" N
12	Hut LOC - 9	128° 8' 52.951" W	53° 52' 14.449" N
13	Hut LOC - 10	127° 57' 19.580" W	54° 3' 50.577" N
14	Hut LOC - 11	127° 50' 57.833" W	54° 9' 10.870" N
15	Fuel Cache - 1	127° 42' 22.361" W	53° 31' 38.048" N
16	Fuel Cache - 2	127° 52' 40.895" W	53° 40' 23.949" N
17	Fuel Cache - 3	128° 8' 48.909" W	53° 52' 11.673" N
18	Fuel Cache - 4	127° 11' 24.488" W	53° 30' 17.572" N
19	Fuel Cache - 5	127° 16' 47.592" W	53° 52' 30.586" N
20	Fuel Cache - 6	127° 12' 22.547" W	53° 8' 29.735" N
21	Fuel Cache - 7	127° 10' 10.061" W	53° 1' 8.525" N
22	Fuel Cache - 8	126° 41' 14.886" W	53° 0' 4.066" N
23	Fuel Cache - 9	127° 50' 51.622" W	54° 9' 13.037" N
24	Fuel Cache - 10	127° 57' 16.749" W	54° 3' 48.402" N

7.3 First Nations Engagement

First Nation: Nuxalk					
PROPONENT NAME	Lower Dean River Lodge	PROVINCIAL CONTACT/ CONSULTATION LEAD:			
PROPONENT LEAD	William Blewett	LOCATION (REGION/RESOURCE DISTRICT)	Skeena		
PROPOSED PROJECT ACTIVITY	Commercial Recreation (Heli-Ski)	DATE SUBMITTED TO PROVINCE			
APPLICATION TYPE(S) AND FILE #'s (where available)					
Date	Activity	Proponent Contact	First Nation Contact	Purpose	Notes
06/09/2019	Phone call	William Blewett	Bernie Elkins	To inform of our intent to apply for Heli sports tenure	
13/09/2019	Email	William Blewett	Bernie Elkins	Sent email clarifying what we are looking to do	No reply
08/10/2019	Email	William Blewett	Bernie Elkins	Want to know if he has touched base with Council.	No reply
26/10/2019	Email	William Blewett	Bernie Elkins	Asking if he was available for meeting Nov. 7 or 8	No reply
13/11/2019	Email	William Blewett	Bernie Elkins	Asking for Input	No reply
21/11/2019	In-person	William Blewett	Bernie Elkins	Touched base in passing	Bernie said they will meet in the next month to discuss Nuxalk interest in Heliskiing
21/11/2019	Meeting	William Blewett	Peter Siwallace	Personal visit	Personal visit
05/12/2019	Email	William Blewett	Bernie Elkins	Confirm and update on intentions to submit	No reply
13/01/2020	Phone call	William Blewett	Bernie Elkins	Ask for Feedback	No reply
14/01/2020	Phone call	William Blewett	Bernie Elkins	Asked for feedback	Bernie said he was still unable to get to our proposals in their January meetings. He is hoping to go over our proposal in

					February and will ask the hereditary chiefs if they have any desire to be part of hour heli business in the future
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FIRST NATION: Office of the Wet'suwet'en					
PROPOSER NAME:	Lower Dean River Lodge	PROVINCIAL CONTACT/ CONSULTATION LEAD:			
PROPOSER LEAD:	William Blewett	LOCATION (REGION/ RESOURCE DISTRICT):	Skeena		
PROPOSED PROJECT/ ACTIVITY(IES):	Commercial Recreation (Heli-Ski)	DATE SUBMITTED TO PROVINCE:			
APPLICATION TYPE(S) AND FILE #'s (where available):					
Date	Activity	Proponent Contact	First Nation Contact	Purpose	Notes
22/10/2019	Phoned and left a message	William Blewett	David Dewit	Touch base	
28/10/2019	Email	William Blewett	David Dewit	Emailed map of areas we are interested	David replied asking us to please forward our finished proposal when ready.
05/12/2019	Email	William Blewett	David Dewit	Confirmed LDRL commitment to engage in Wet'suwet'en review process	No reply
17/12/2019	Email	William Blewett	David Belford, John Ridsdale	Asked if they had time to review Proposal	No reply
09/01/2020	Email	William Blewett	David Belford, John Ridsdale	Asked if they had time to review Proposal	No reply

FIRST NATION: Haisla					
PROPONENT NAME:	Lower Dean River Lodge	PROVINCIAL CONTACT/CONSULTATION LEAD:			
PROPONENT LEAD:	Jeff Vermillion	LOCATION (REGION/RESOURCE DISTRICT):	Skeena		
PROPOSED PROJECT/ACTIVITY(IES):	Commercial Recreation (Heli-Ski)	DATE SUBMITTED TO PROVINCE:			
APPLICATION TYPE(S) AND FILE #'s (where available):					
Date	Activity	Proponent Contact	First Nation Contact	Purpose	Notes
29/10/2019	Email	Jeff Vermillion	Tracey Ross	To inform of our intent to apply for Heli sports tenure	No reply
05/12/2019	Email	Jeff Vermillion	Tracey Ross	To reiterate intention to discuss proposed tenure application	No reply



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