

*A Component of British  
Columbia's  
Land Use Strategy*

# Cassiar Iskut-Stikine Land and Resource Management Plan



**BRITISH  
COLUMBIA**

**October 2000**

(Please note that this document has undergone minor formatting since approval and as such page numbering has changed.)



**Cassiar Iskut-Stikine  
Land and Resource Management Plan**

**October 2000**



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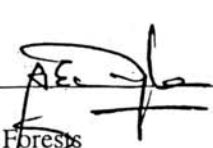
Dear Reader:


Re: Approval and Direction to Implement the  
Cassiar Iskut- Stikine Land and Resource Management Plan

On behalf of Cabinet, we are pleased to confirm final approval of the Cassiar Iskut-Stikine Land and Resource Management Plan (LRMP), and convey it to all participating ministries for implementation.


This document will assist government agencies by providing policy direction on the management of important land and resources in the LRMP area. The Prince Rupert Inter-agency Management Committee is now responsible for ensuring that the Cassiar Iskut-Stikine LRMP is implemented, monitored and reviewed on a regular basis.

We wish to thank members of the LRMP planning table and provincial agency representatives for their considerable dedication and effort in developing this plan for the management of land and resources in the Cassiar Iskut-Stikine LRMP area. The ability of participants to achieve consensus on land and resource management has contributed, in a significant way, to the Provincial Land Use Strategy. We encourage planning table members to continue to participate in plan monitoring and implementation processes, as identified in the Plan.

  
Jim Doyle  
Minister of Forests

  
Dan Miller  
Minister of Energy and Mines

  
Joan Sawicki  
Minister of Environment, Lands and Parks

  
Ian Waddell  
Minister of Small Business, Tourism &  
Culture

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# Executive Summary

The Cassiar Iskut-Stikine Land and Resource Management Plan (LRMP) encompasses 5.2 million hectares in northwestern British Columbia. The plan represents the consensus reached as a result of a three-year interest-based negotiation process that involved approximately 25 public, First Nations, and provincial government representatives. The Cassiar Iskut-Stikine LRMP is consistent with provincial government policy for land use planning, as described in the *Provincial Land Use Charter* (1992) and the policy document *Land and Resource Management Planning, A Statement of Principles and Process* (1993). There are four main sections to the plan: Management Direction, Research and Inventory Priorities, Economic Strategy Priorities, and Implementation and Monitoring.

## 1. Management Direction

The plan creates three categories of management direction for the LRMP area: General Management Direction, Area-Specific Management, and Protected Areas.

The General Management Direction 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 General Management Direction applies in these geographic zones, except where different objectives and strategies were developed for certain resource values or activities.

### A. General Management Direction

General Management Direction applies to all values and resources on provincial Crown land and is a baseline for management. Objectives and strategies in General Management Direction (GMD) apply throughout the LRMP area, outside of Protected Areas.

The following resources and resource values are addressed in the General Management Direction:

Access management	Biodiversity/ Ecosystem health, including:
Botanical forest products	⇒ Aquatic ecosystems and riparian habitat
Cultural heritage	⇒ Endangered plants and animals (species and communities)
Hunting/ Guiding/ Trapping/ Fishing	⇒ Fire management
Mineral and Energy Resources	⇒ Landscape connectivity
Recreation/ Tourism	⇒ Natural disturbance patterns and ecosystem representation
Settlement/ Agriculture/ Range	⇒ Predator-prey systems
Timber	⇒ Special landforms: Plateaus
Visual quality	⇒ Wildlife

## ***B. Area-Specific Management***

The LRMP includes fifteen geographic resource management zones which are distinct with respect to biophysical characteristics and resource issues:

Hottah-Tucho Lakes	Lower Iskut
McBride	Unuk River
Klappan	Lower Stikine-Iskut Coastal Grizzly Salmon
Iskut Lakes	Telegraph Creek Community Watershed
Mount Edziza *	Chutine
Kakkidi/Mowdade/Nuttlude Lakes	Tuya
Todagin	Metsantan
Middle Iskut	

GMD applies in these zones. However, additional objectives and strategies were developed for certain resources or activities to reflect the specific values in each zone.

Area-specific Resource Management Zones comprise 1.6 million hectares or 30.6% of the LRMP area.

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\* This zone was the Mount Edziza Recreation Area prior to the LRMP.

### C. *Protected Areas*

These are areas that have been identified for their natural, cultural heritage and/or recreational values, in accordance with the Provincial Protected Areas Strategy. Logging, mining and hydroelectric development are prohibited in all Protected Areas. A set of general objectives and strategies, including acceptable uses, separate from the General Management Direction has been developed to guide management within new Protected Areas.

In total, there are fourteen new Protected Areas, in addition to previously existing Provincial Parks and Ecological Reserves:

Border Lake	Mess Creek
Choquette Hot Springs	Ningunsaw Extension
Craig Headwaters	Spatsizi Headwaters
Great Glacier	Stikine Grand Canyon
Iskut River Hot Springs	Todagin South Slope
Klastline River	Tuya Mountains
Lava Forks	Upper Stikine Spatsizi Extension

Protected Areas comprise approximately 1,373,000 hectares or 26.2% of the LRMP area. A comparison of protected areas before and after the LRMP is as follows:

	<b>Pre-LRMP</b> Hectares (% of area)	<b>Post-LRMP</b> Hectares (% of area)
Parks, Ecological Reserves	924,000 (17.7)	1,323,000 (25.4)
Recreation Areas	226,000 (4.3)	--
Protected with Access (ELU Act)	--	43,000 (0.8)
<b>Total</b>	<b>1,150,000 (22.0)</b>	<b>1,366,000 (26.2)</b>

The new protected areas include approximately 220,000 hectares (4.2%) which, prior to the LRMP, were partially protected as Recreation Areas. \* The remaining new Protected Areas comprise approximately 229,000 hectares (4.3%).

Two of the new Protected Areas\*\* (43,000 ha) include provisions for access through the protected area to support mineral exploration and development, where no practicable alternative for access exists.

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\* The majority of the Stikine Recreation Area was included in the proposed protected areas for the Stikine Grand Canyon and the Upper Stikine Spatsizi Extension.

\*\* Craig Headwaters and parts of Upper Stikine Spatsizi Extension (Chukachida and Pitman)

## 2. Economic Strategy

As part of its Recommendations, the LRMP Table developed an economic strategy to define priorities for future economic development in the plan area. The following vision statement for the LRMP guided the development of the economic strategy:

***The Cassiar-Iskut-Stikine LRMP will contribute to a healthy, productive and sustainable wilderness environment, a thriving and diverse economy, and strong communities supporting a wide range of local employment and lifestyle opportunities.***

The economic strategy is intended to guide future development that enhances local opportunities and contributes to economic diversification in the area. It contains strategies and recommended actions for the following sectors:

Forestry	Mining
Tourism	Fisheries
Agriculture	Botanical Forest Products/Medicinal Plants
Government	Infrastructure and Capacity Building

In the short term, the following are identified as priorities for implementation:<sup>1</sup>

- Establish a Tahltan/multi-stakeholder economic development round table to oversee implementation of the strategy.
- Develop a regional tourism strategy
- Develop a community-based forestry strategy
- Develop a commercial and recreational fishing strategy
- Develop a Highway 37 North Corridor Strategy
- Develop a strategy for training and skill development.

## 3. Implementation and Monitoring

Implementation of the Cassiar Iskut-Stikine Land and Resource Management Plan is the responsibility of provincial government agencies. An LRMP Monitoring Committee, as well as the public, will be involved in reviewing plan implementation to ensure that the objectives and strategies in the plan are reflected in more detailed plans and operational resource management activities. An annual Monitoring Report will be produced by the Prince Rupert Interagency Management Committee to summarize the status of implementation. A review of the LRMP is to begin eight years after plan approval.

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<sup>1</sup> Note: no specific mining initiatives were identified as priorities for implementation because the factors that determine priorities for activities related to mineral exploration and mine development are primarily influenced by external factors such as world commodity prices.



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# 1. Introduction

This report represents the recommendations of the planning table for the Cassiar Iskut-Stikine Land and Resource Management Plan (LRMP), a sub-regional land use plan covering approximately 5.2 million hectares of northwestern British Columbia. The recommendations have been developed to direct the management of public lands and resources for the entire Canadian portions of the Stikine and Unuk River watersheds.

These recommendations will be submitted for approval to Cabinet. Those that are approved will be incorporated into the Cassiar Iskut-Stikine LRMP, which will become a component of British Columbia's Land Use Strategy and will direct the management of all Crown land in the plan area.

The recommendations in this document represent the consensus agreement reached by the participants of the Cassiar Iskut-Stikine LRMP planning table. They are the result of three years of work by a planning table composed of public stakeholders and government representatives, including representatives of the Tahltan Nation. The negotiating process considered all interests and values identified for provincial Crown land, as presented by stakeholders, interests groups, local government, First Nations, and members of the public, as well as technical information provided by government agencies. The recommendations and the process used to develop them are consistent with provincial government policy for land use planning, as described in the *Provincial Land Use Charter* (1992) and the policy document *Land and Resource Management Planning: A Statement of Principles and Process* (1993).

Parts of the LRMP may be declared a higher level plan under the *Forest Practices Code of British Columbia Act*. Those portions of the plan approved as a higher level plan will provide legally-binding strategic direction to operational plans such as Forest Development Plans and Range Use Plans. This plan will be subject to monitoring and review as it is implemented. A comprehensive public involvement process to review and revise the plan will begin in year 8 of implementation and be completed by year 10.

This report contains:

- A description of the plan area, including social, economic and environmental attributes;
- An overview of the planning process;
- Recommendations for land use zoning and associated resource management objectives and strategies;
- A summary of the economic strategy for the plan area; and
- Recommendations for plan implementation, monitoring and amendment.

A report entitled *Economic Strategy for the Cassiar Iskut-Stikine LRMP* is included in Appendix 1 of this document. The Economic Strategy was developed by table members and outlines a set of economic objectives and action plans for achieving economic and social goals.

## 1.1 The Plan Area

### 1.1.1 Physical Description

The plan area of the Cassiar Iskut-Stikine LRMP (Map 1) comprises the entire watershed of the Stikine River to the border with the United States. Major rivers include the Stikine, Iskut, Tahltan, Spatsizi, Klappan, and Tuya rivers. For administrative reasons, the area also includes the Canadian portion of the Unuk watershed in the southwest.

The physiography of the 5.2 million hectare landbase is complex, with wide variations in climate and topography. Mountainous terrain and heavy precipitation characterize the more coastal areas. The interior is composed of mountains and a number of large plateaus and has a drier climate. The overall area comprises eight ecosections (Southern Boreal Plateau, Boundary Ranges, Stikine Plateau, Northern Skeena Mountains, Eastern Skeena Mountains, Tahltan Highland, Cassiar Ranges, and Tuya Range) and eight biogeoclimatic zones (see Table 1). 40% of the area is in Alpine Tundra.

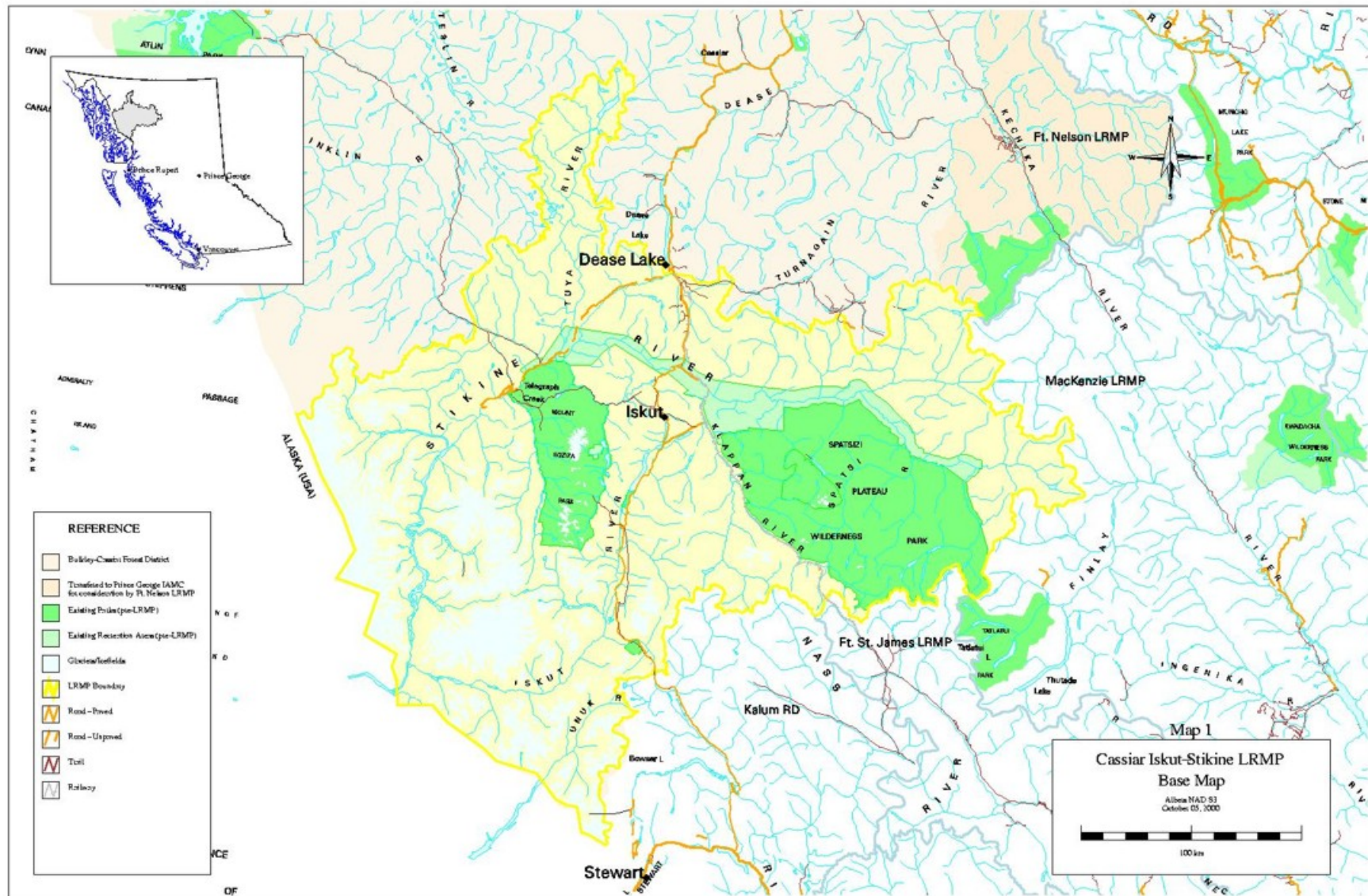
**Table 1: Biogeoclimatic zones in the Cassiar Iskut-Stikine LRMP area**

Biogeoclimatic Zone	% of LRMP area
Coastal Western Hemlock (CWH)	3
Interior Cedar Hemlock (ICH)	2
Mountain Hemlock (MH)	3
Boreal White and Black Spruce (BWBS)	11
Sub-Boreal Spruce (SBS)	2
Spruce Willow-Birch (SWB)	28
Engelmann Spruce Subalpine Fir (ESSF)	11
Alpine Tundra (AT)	40

The LRMP area is richly endowed with natural resources, including large wilderness areas suited to backcountry tourism, a great diversity of wildlife (including several big game species), high mineralization and potential for mineral development, and largely undeveloped timber resources. Seventy-three percent of the area is in a wilderness or semi-wilderness state. There are a number of large contiguous watersheds that support some of British Columbia's largest predator-prey systems. The area also contains habitat for a number of red and blue-listed (endangered and threatened) species and has high biodiversity values.

The lakes, rivers, mountains and alpine country provide spectacular scenery. Mount Edziza Provincial Park is renowned for its distinct geological formations, including volcanic peaks and multi-hued alpine soils. Spatsizi Provincial Park is a remote wilderness area characterized by the relatively gentle terrain of Spatsizi Plateau and the rugged mountains of the Eaglenest Range. The Spatsizi herd of woodland caribou has a stable population of about 2500, representing approximately one quarter of the provincial population.

**Map 1: Cassiar Iskut-Stikine LRMP Base Map**



### **1.1.2 Social and Economic Description**

#### **Historic Land and Resource Use**

The landbase of the Cassiar Iskut-Stikine LRMP is rich in history and pre-history. Aboriginal peoples have lived in the LRMP area for at least 10,000 years. The Tahltan Nation migrated to the area from the Athabasca region thousands of years ago and claim most of the area as their territorial hunting and fishing grounds. The Stikine River was a major trade route for the Tlingit, Tahltan and Kaska peoples and the ancient village of Tahltan was a centre of the aboriginal trading activities. Coastal tribes also came up the Stikine annually to harvest salmon and dry it in the more arid climate of the interior.

Fur traders were the first Europeans into the area in the mid-1800s. In 1840, the Hudson's Bay Company took over a trading post from the Russians at Wrangell. The Company was unsuccessful in its attempt to bypass the Tlingit and establish direct trading relations with the interior First Nations. As a result white settlement did not move up the Stikine until the 1860s, with the discovery of placer gold on the banks of the Stikine near Telegraph Creek and Glenora. Since then the area has experienced a "boom and bust" pattern of population growth and resource activity.

In 1866, when the Western Union Telegraph Company had a plan to connect Europe and North America by cable via the Bering Strait, the wire for the proposed line was deposited at what became known as Telegraph Creek. The plan was aborted when news arrived that a trans-Atlantic cable had been laid.

The Cassiar gold rush from 1874 to 1876 brought a flood of miners up the Stikine River en route to the Dease Lake area. In 1897 the Klondike Gold Rush brought another wave of miners up the Stikine and overland to Dease Lake seeking an alternative route to the gold fields of the Yukon.

By 1928 supplies were being delivered regularly up the Stikine by steamboat and overland into the Interior via Dease Lake. The Stikine, Telegraph Creek and Dease Lake became essential links in transportation between southern British Columbia and the northern interior of the province. In 1941 and 1942 the Stikine was used to transport heavy equipment and supplies during the construction of the Alaska Highway, introducing a brief influx of people.

In the 1970s there was another population boom as homesteaders moved into the Iskut-Stikine area from the south of the province and the United States. Until the 1980s, most native and non-native residents were involved in subsistence activities, relying on hunting, fishing and berry-picking for their primary food supply. These activities continue to be important to the local population.

The traditional territories of clan members of the Iskut Band of the Tahltan Nation include the Spatsizi Plateau and Klappan River area. In the 1800s clan members settled at Caribou Hide Village to trade at the Hudson Bay posts at Fort Graham and Fort Ware. The Caribou Hide Band was re-located three times in the 1900s to: Metsantan in the 1920s, Telegraph Creek in the 1950s, and finally to Iskut in 1962, where they joined resident Tahltan families to form the Iskut Band. Non-aboriginal settlement patterns in the Iskut Valley developed primarily in response to the completion of Highway 37 in 1972.



## Communities

At this time, the LRMP area is relatively isolated and sparsely populated. The main settlements are Iskut, located on Highway 37, and Telegraph Creek, on the banks of the Stikine River, 115 km southwest of Dease Lake. These communities offer basic amenities such as food services, accommodation, a general store and a gas station. Dease Lake lies just outside the LRMP area on Highway 37, but is included in this report because of its strong social and economic ties to the area. Dease Lake has become the service centre for the region. A number of government and other public offices (e.g. school district, highways and health clinic) and a banking service have recently been established in the town. Recreation facilities (community hall, outdoor skating rink and school gym), accommodations, restaurants, service stations, and campground are also located in Dease Lake.

The total population (including Dease Lake) was estimated at 1,230 in 1996. This estimate includes people of aboriginal descent, who account for 62% of the population. B.C. STATS has forecast that, based on current estimates, the total population in the LRMP area will grow to 1,700 after 25 years.

Most of the LRMP is in traditional Tahltan territory. The majority of the Tahltan reside in the communities of Iskut, Telegraph Creek and Dease Lake. The Tahltan Joint Council, comprised of Chief and Council of the Iskut and Tahltan First Nations (Telegraph Creek and Dease Lake), represents these groups on issues of joint concern, such as the LRMP. Other First Nations with traditional territories in the plan area are the Kaska, Nisga'a and Taku River Tlingit.

## Economic profile

### *General Characteristics*

The economy of the LRMP area is based primarily on its natural resources and on public administration. While the area has an abundance of high quality natural resources, economic development is hampered by limited infrastructure, the long distance to markets, long, cold winters, and a small and scattered resident population. The largest overall contributor to the resident labour force is government (including education and administrative services), accounting for about 48% of the labour force. The other main employers are construction, mining, retail and tourism. Forestry, fishing and agriculture also provide employment but on a smaller scale. The unemployment rate for the overall area was about 12% in 1996.

A comprehensive description of the social, economic and environmental attributes in the LRMP area are provided in *Cassiar Iskut-Stikine LRMP Socio-Economic and Environmental Base Case: Final Report (1998)*.

### *First Nations Economic Activity*

The main sources of employment for First Nations in the Iskut-Stikine area are government administration, construction, mining, commercial fishing and tourism (e.g., guide outfitting). Some First Nations also spend part of the year working outside of the area. The Tahltan Nation Development Corporation (TNDC), with a board of directors representing the Iskut and Tahltan First Nations and the Tahltan Tribal Council Society, employs over 50 people on a seasonal basis in road and other construction contracts. The Tahltan Fisheries Program, a co-management project in the Stikine watershed with the Department of Fisheries and Oceans, also employs a

number of people. Traditional activities such as fishing, hunting, trapping and berry-picking continue to be an important part of First Nations economy and culture.

### *Mineral and Energy Resources*

The Iskut-Stikine area is one of the richest and most active for mineral exploration and development in the province. The area has numerous known mineral deposits and widespread mineral claim staking. The Eskay Creek mine is the fifth largest producer of silver in the world and one of the highest grade gold and silver projects. The mine has an expected life of 10 years from 2000. There are also three jade quarries and several sand and gravel pits operating intermittently in the plan area. The Golden Bear mine, just north of the plan area, has several years of expected operation. The Snip mine on the Iskut River began decommissioning activities in 1999 and is now closed.

There are substantial resources of high grade metallurgical coal in the Klappan watershed adjacent to Spatsizi Park, estimated at 640 million tonnes. Lower grade coal deposits have also been identified in the Tuya River area north of Telegraph Creek. There is moderate to high oil and gas potential in the Telegraph Creek and Klappan areas. At this time there is no coal, oil or gas production or related activity in the LRMP area and no major projects are expected in the plan area in the near future.

There is substantial hydro-electric capability in the LRMP area but no major hydro projects are planned at this time.

Total resident and non-resident mining employment in the area (including contract employees) is about 300, including the Golden Bear mine just outside of the plan area.<sup>2</sup> Direct resident employment is estimated at approximately 120, including contractors to the mining companies. Mining represents a large share of the basic income in the area due to the high average wages in the industry.

### *Tourism and Recreation*

Extensive areas of wilderness, remote rivers, striking views and excellent conditions for backcountry recreation support a strong nature-based tourism sector. Recreation activities include hunting and wildlife viewing, river travel, multi-day hiking, river and lake paddling, mountain biking, fly-fishing, and horse trips in the remote backcountry. Approximately 600 recreationists per year visit Mount Edziza Park, Spatsizi Park and the Stikine and Mt Edziza Recreation Areas. The scenery and visual quality along travel corridors is highly valued, including areas along popular trails, roadways, and rivers used by kayakers, rafts, power boats and canoes. Road-based tourism along the Highway 37 corridor attracts a high number of visitors

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<sup>2</sup> Based on following employment figures:

Eskay Creek mine employs 226 people, including Arrow Transportation System which operates as a joint venture with the Tahltan Nation Development Corporation. Of these employees, about 80 are local First Nations and other residents. (M. Murphy, Homestake Canada, 2000)

Golden Bear mine employs 61 people directly on a seasonal basis (June – Sept), of which 30 are local. In addition, a number of contractors operate locally, including Stikine Site Services operated through the Tahltan Nation Development Corporation (D. Bergen, North American Metals Corp, 2000)

from Canada, the United States and overseas. Travellers choose the Cassiar as a destination or are en route to and from Alaska and the Yukon.

Basic resident employment for tourism in the LRMP area is about 85, or about 16% of the total. Tourism accounts for a lower percent of basic income in the area (approx. 6%) because of the seasonal nature of the work and lower average incomes for tourism-based activities.

### *Guide Outfitting*

With its diversity and abundant wildlife species and extensive backcountry areas, the Cassiar area is considered to have some of the best big game hunting in North America. The guide outfitting industry is dependent on maintaining wildlife populations such as sheep and mountain goats, caribou, bear and moose and on the wilderness experience of clients. There are eleven guide outfitters who have a significant portion of their territories in the plan area and two other outfitters with only a minor portion in the area. Outfitters also provide clients with non-consumptive services such as wildlife viewing, photography, and catch-and-release fishing.

### *Forest Industry*

Only a small percentage of the LRMP area is potentially available for timber management. In 1996, forestry accounted for 3% of the total resident labour force, including log hauling and road building. There are currently no forest tenures in the Cassiar Timber Supply Area (TSA) and, to date, all timber has been harvested under short term timber sales. There are several portable mills operating intermittently in Dease Lake, Iskut, and Telegraph Creek.

### *Trapping*

Trapping provides seasonal income for a number of Tahltan and non-Tahltan residents. Marten is the most important animal trapped and populations appeared healthy at the time these recommendations were drafted.

### *Commercial Fishing*

There are about two dozen licenses allocated to the Stikine River commercial fishery. A number of people are seasonally employed in a local fish processing plant and in co-management and enhancement projects between the Tahltan Nation and the Department of Fisheries and Oceans. There are 18 - 20 fishing guides in the area (several of whom are also guide outfitters) offering a range of fishing opportunities.

### *Botanical Forest Products*

There are few data available on collecting botanical forest products in the LRMP area. Wild berry and mushroom picking are important to the Tahltan and other residents. In particular, the picking of pine mushrooms and morels is a growing industry. The Tahltan also use a number of plants for medicinal purposes.

### *Agriculture*

Agricultural activity in the LRMP area is mainly comprised of grazing for guide horses and some mixed farming operations in the Stikine Valley. Agricultural operations are limited due to the short growing season and distance to larger markets. There is some potential for increased agricultural production on the roughly 11,000 ha of Class 2 - 5 soils in the Stikine River Valley and on uncommitted Crown range land.

## 1.2 The Process

### 1.2.1 Process Overview

In November 1995, the Government of B.C. made a public commitment to initiate a land use planning process in the Cassiar. At the time, public interest was high in the area due to its extensive resource values and a recent doubling of the Annual Allowable Cut (AAC) for the Cassiar Timber Supply Area (TSA). Until that time there had been no history of broad scale, public land use planning in the Cassiar.

In 1996 the Interagency Management Committee (IAMC) and the Resource Management Division (RMD) began preparing for a land use plan in the Iskut and Stikine watersheds, the portion of the Cassiar TSA having the highest resource (timber and mineral) values. The IAMC began by forming a Technical Support Team to provide agency support to the planning process. One of the earliest tasks of the Technical Support Team was to update the resource inventories for the plan area, since there was limited technical information available for planning and decision-making. In addition, a Local Knowledge Project was undertaken to gather and map any local information about resources that could augment the technical information prepared by agencies. A list of inventory information used in the planning process is available in Appendix 2.

By February, 1997, the initial preparatory work was complete and a series of public workshops were held to introduce the idea of land use planning to local residents and to develop a terms of reference. At the workshops, participants received an overview of LRMPs and interest-based negotiation and reached agreement on a boundary for the plan area and a Terms of Reference for the process. The Terms of Reference document outlines the public participation process, the expected products, and a timeframe for completion (see Appendix 2). The participants also agreed to a set of ground rules for participation.

In December 1997 the Forest Service agreed to defer harvesting in the most sensitive areas of the LRMP until the process was finished. These included the Stikine River, the Areas of Interest recommended by the Regional Protected Areas Team, forests adjacent to Spatsizi Park, including the Klappan drainage, Kinaskan Lake, a corridor along the Iskut and Ningunsaw Rivers, and any undeveloped drainages.

By August 1998, table members had prepared two “values maps” which described their interests in terms of zoning for land and resource use. One map was more conservation-oriented and the other more development-oriented. The zoning on these maps underwent economic and environmental analyses to estimate the potential implications of any land use alternatives negotiated in the final recommendations. An analysis of the two scenarios is provided in the *Cassiar Iskut-Stikine LRMP Draft Zone Summaries for Scenario Analysis: Socio-Economic and Environmental Assessment* (October 1998).

The values maps provided a starting point from which the final recommendations package could be negotiated. Between August 1998 and March 2000, the planning table negotiated boundaries and acceptable uses for Protected Areas and finalized objectives and strategies for general management direction and area-specific management zones. The negotiations often involved difficult trade-offs to meet the interests of the range of individuals and sectors represented at the

planning table and to balance the economic, environmental and social needs within the planning area, the region, and the province. In March, 2000 the table members agreed to the package of recommendations outlined in this report.

The steps in the planning process are as follows:

**Phase 1: Preparation**

- Assemble Technical Support Team
- Establish a process coordinator
- Identify the preliminary plan boundary
- Contact potential participants
- Begin to gather and organize information

**Phase 2: Agreement on Procedures and Goals**

- Convene public planning workshops
- Provide training in interest-based negotiations
- Develop a Terms of Reference
- Develop Ground Rules for participation
- Develop a Work Plan

**Phase 3: Collection and Analysis of Information**

- Review available information
- Identify and gather additional information needed to support evaluation of land use agreements
- Develop a Base Case report

**Phase 4: Building Agreement**

- Develop Vision and Goals for the future of the plan area
- Review available resource information, including the Base Case, and policy issues
- Identify areas with potentially incompatible land uses
- Develop preliminary scenarios
- Conduct analyses to evaluate impacts of different scenarios
- Seek and incorporate public input
- Develop general management direction for all resource values
- Negotiate package of recommendations, including area-specific direction and Protected Areas
- Seek public input on agreed-to package of recommendations
- Develop implementation strategies
- Submit agreements for approval by Government

### **Phase 5: Approval of Agreements**

- Government agencies review agreements
- Cabinet Ministers approve plan

### **Phase 6: Implement, Monitor, Review**

- Develop and carry out implementation plan
- Monitor implementation
- Resolve issues on plan interpretation
- Periodically review and amend plan

### **Public Participation**

At its inception, the Cassiar Iskut-Stikine LRMP process was open to any interested members of the public who were willing to commit to participating for the duration of the process. This is different to many other LRMPs, where participants were required to have formal affiliations to established interest or stakeholder groups.

Participants at the planning table represented the Tahltan Nation, resource stakeholders, public interest groups, industry, government agencies, and concerned members of the public. A list of individual table members is provided in Appendix 3. The Tahltan Joint Councils had representatives at the table representing each of the three communities plus a technical coordinator (see Section 1.2.2).

After the process had been going six months, new participants were only admitted with the approval of table members. This was to provide continuity to the process and to allow the necessary cohesion to develop between table members.

### **Local Government**

Almost all of the plan area (including the communities of Iskut and Telegraph Creek but excluding the Dease Lake area) is within the Kitimat-Stikine Regional District. The Regional District has jurisdiction for land use planning (zoning by-laws, rural land use plans and community plans) for private lands and property.

Other forms of local government are First Nations Band Councils and the Dease Lake Advisory Planning Commission, which was not active at the time of the LRMP deliberations. The town council of the District of Stewart was also kept informed of the progress of the LRMP and invited to provide input.

#### **1.2.2 First Nations Participation**

The Tahltan were direct participants in the LRMP process, with full participation on the Technical Support Team as well as the planning table. The Tahltan are the predominant First Nations group in the area, as their traditional territory encompasses all of the Stikine watershed and extends from the Dease River drainage to the headwaters of the Nass River.

Other First Nations having a portion of their territories in the plan area are the Taku River Tlingit, Kaska, and Nisga'a Nations. These other First Nations groups were invited to participate at the table, but chose to act as observers to the process.

Tahltan participation in the Cassiar Iskut-Stikine LRMP was formalized through a participation agreement with the Government of B.C., outlining the roles and responsibilities of the Government of B.C. and the Tahltan with respect to Tahltan participation.

It was the underlying principle of the Tahltan Joint Councils and the Tahltan LRMP Group that, in order to be effective participants in the process, the Tahltan must receive recognition and respect as both a First Nation and as a major stakeholder at the planning table. In their decision to participate in the planning process, the Tahltan leadership recognized that it was in the best interests of all parties concerned to work towards building a positive planning process and a balanced plan.

The following general principles are affirmed with regard to Tahltan participation in the LRMP process:

- That Tahltan participation in the LRMP process will in no way compromise or prejudice future Treaty negotiations or settlements;
- That the technical products of the LRMP process will in no way describe, define, create, derogate from or extinguish any rights of the Tahltan Nation, including the justification of infringement of those rights during the implementation of the LRMP recommendations;
- That a government to government relationship exists between First Nations and the government of British Columbia; and
- That both parties signing the Participation Agreement made a firm commitment to a cooperative working relationship based on mutual respect and understanding.

### **1.2.3 Communications**

The Technical Support Team made a special effort to ensure that local residents, as well as stakeholder groups from around the province, were kept informed of the progress of the LRMP deliberations. Table meetings were open to the public, and were held in all three communities to make the process more accessible to interested local people. In addition, updates on the progress of the process were sent out to a mailing list of 150 people from around the province.

The Communications Strategy included circulating regular news updates to all mailboxes in the LRMP area and posting all meeting summaries on the LRMP website. Information was also mailed out to people upon request. Northern Lights College in Dease Lake maintained a local resource centre for the LRMP. The resource centre contained a full selection of reference material, plus access to fax and e-mail if people wanted to provide feedback.

Process support staff met a number of times with local and provincial stakeholder and interest groups to update them on the LRMP and to discuss concerns. A series of open houses was held in the three communities, in September 1998 to gain public feedback on the LRMP Scenarios. Another set of open houses will be held in April, 2000 to inform the public about the LRMP

recommendations package and to seek feedback before the package is submitted to Government for approval.

People on the LRMP mailing list have been notified of the LRMP recommendations package and copies are available upon request. News releases have been provided to local newspapers, including in Smithers and Terrace, and key stakeholders, including First Nations groups, will be consulted.

#### **1.2.4 Interests**

The participants at the LRMP table identified a number of interests that guided their development of objectives and strategies for each of the resource values addressed in the plan. The interests fall into the following categories. A full list of interests of table members is provided in Appendix 4.

- **Access**
- **Agriculture**
- **Botanical forest products**
- **Community**
- **Economic**
- **Ecosystems**
- **First Nations culture and heritage**
- **Fisheries**
- **Forestry**
- **Guide outfitting/ Wilderness guiding**
- **Livestock and grazing**
- **Mining**
- **Pioneer culture/heritage**
- **Protected Areas**
- **Recreation**
- **Tourism**
- **Trapping**
- **Water**
- **Wildlife**



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## 2. Management Direction

The LRMP includes the following management direction to provide greater certainty for local economic development and the maintenance of ecological values. These recommendations were developed with a commitment to balance the economic, environmental and social needs within the planning area, the region, and the province.

The objectives and strategies shown here, when approved by Government, will provide policy direction to all provincial agencies in approving and planning future resource management activities in the LRMP area. The following legal designations may occur as part of LRMP implementation:

- Objectives that pertain to the management of forest resources may be declared a higher level plan under the *Forest Practices Code of British Columbia Act*.
- Protected Areas will be legally designated under the *Park Act*, *Environment and Land Use Act*, or the *Ecological Reserve Act*.
- Hunting prohibitions or access restrictions for the conservation of wildlife may become legally mandated under the *Wildlife Act*.

With the exception of higher level plans under the *Forest Practices Code of B.C. Act*, Protected Areas, and hunting provisions under the *Wildlife Act*, management direction in the LRMP will not be legally designated. However, the objectives and strategies in the plan will provide strong policy direction to government decision-making and approval processes and be incorporated into permits, as appropriate, in keeping with existing legislation.

Map 2 shows the zoning for the Cassiar Iskut-Stikine LRMP. The LRMP includes three categories of management direction, as represented in the resource management zones (RMZs) shown in Map 2. Taken together, these three categories reflect the vision for land and resource management in the Cassiar Iskut-Stikine LRMP area. The categories of management are:

- General Management Direction;
- Area-Specific Management (= Area-specific Resource Management Zones); and
- Protected Areas

Objectives and strategies providing General Management Direction for seventeen resources and resource values have been established that apply throughout the LRMP area, outside of Protected Areas. General Management Direction applies to all values and resources on provincial Crown land and is a baseline for management.

In addition, the LRMP identifies fifteen geographic areas (zones) for Area-Specific Management, which are distinct with respect to biophysical characteristics, resource issues and management direction. Activities within Area-specific Resource Management Zones are guided by objectives and strategies that reflect the specific values in each zone. General Management Direction also applies in Area-specific RMZs, unless otherwise indicated in the direction given for each zone.

A separate set of objectives and strategies has been developed for the fourteen Protected Areas that have been identified for the plan area. There will be no logging, mining or hydroelectric development within Protected Areas; other resource uses may or may not be allowed.

In the hierarchy of planning, the LRMP provides strategic direction to more detailed plans that may, in turn, provide valuable feedback to the LRMP monitoring and amendment process.

The LRMP specifies research and inventory priorities that are considered necessary to effectively implement the management direction in the plan. These are noted throughout the Management Direction and are summarized in Section 3: Research and Inventory Priorities. Planning table members also developed a number of recommendations for issues that are outside of the mandate of the LRMP (e.g., they do not apply to on-the-ground management of land and resources or are not managed under provincial jurisdiction). These recommendations have been included as an Appendix to the LRMP (Appendix 5).

The objectives and strategies in the Management Direction have been carefully worded to allow unambiguous interpretation during implementation. Please refer to the Glossary following Section 6 for clarification of the terms used.

**Note: The management direction presented in this document has been developed based on the current availability of information and understanding of resource management. This direction will be updated as research and inventory provide new information and insights into effective management of land and resources.**

## **2.1 Resource Use and Development Activity in the LRMP area**

The following is affirmed with respect to resource use and development activity in the LRMP area outside of Protected Areas:

### **Mineral and Energy Resources**

- The LRMP supports opportunities for mineral and energy exploration and development, including roaded resource development, in all zones outside of Protected Areas subject to standard regulatory approval processes and conditions and consistent with the management direction in the LRMP.
- Existing mineral tenure rights are upheld by the Cassiar Iskut-Stikine LRMP, with the exception of two tenures within the Chukachida portion of the Upper Stikine Spatsizi Extension Protected Area.
- New mineral tenures can be staked and recorded on all mineral lands outside of Protected Areas according to the *Mineral Tenure Act* and Regulations.

**Timber**

- The LRMP supports opportunities for timber harvesting for commercial and local use, consistent with the objectives and strategies in the LRMP Management Direction.

**Commercial Recreation and Tourism**

- The LRMP supports opportunities for development of facilities and infrastructure for commercial recreation and tourism, consistent with the objectives and strategies in the LRMP Recommended Management Direction.

**Guide Outfitting**

- Land management activities will be carried out to sustain existing guide outfitting opportunities.
- Guide outfitters will be notified about proposed resource developments in a timely manner.
- Industrial proponents and guide outfitters will be encouraged to work cooperatively to accommodate guide outfitting values, resource values and resource development operations.

**Hunting and Fishing**

- Hunting and fishing are recognized activities in the LRMP area, within and outside of Protected Areas.
- Local and resident hunters and fishers will be consulted on planning and management that affects their activities, as per the LRMP Management Direction.

**Trapping**

- Existing trapping tenures are recognized.
- Trapping and the use of trapline areas is recognized as a way of life and of special year-round significance to First Nations people and local residents.
- Trapline holders will be notified about proposed resource development activities in a timely manner.

**Agricultural Resources**

- Grazing is considered an appropriate use of Crown land, subject to the terms and conditions identified in approved grazing tenures and range use plans and consistent with the LRMP Management Direction.

**REFERENCE**

- Existing Protected
- New Protected
- New Protected Area (with Access)
- General Management
- General Management with Area Specific Direction

**RESOURCE MANAGEMENT ZONES**

- A Lower Stikine-Iskut Coastal Grizzly/Salmon
- B Lower Iskut
- C Unalak
- D Middle Iskut
- E Mount Edzsa
- F Kaskadee / Mowdood / Nuttall Lakes
- G Iskut lakes
- H Tugayin
- I Klappan
- J Hottah-Tachoo Lakes
- K McBride
- L Tuya
- M Chutine
- N Telegraph Creek Community Watershed
- O Metsantian

**Map 2**

**Cassiar Iskut-Stikine LRM  
Resource Management  
Zones and Protected Areas**

Alberta NAD 83  
October 04, 2000

100 km

The Iskut-Stikine Corridor and the Iskut-Stikine  
Corridor are the proposed management areas  
that have been designated for protection. The  
Iskut-Stikine Corridor is a proposed management  
area that is being developed for protection. The  
Iskut-Stikine Corridor is a proposed management  
area that is being developed for protection.

The proposed management areas are  
being developed for protection. The  
Iskut-Stikine Corridor is a proposed management  
area that is being developed for protection.

## 2.2 Vision and Goals

The participants in the LRMP process developed the following vision statement and goals for the plan:

### Vision Statement

*The Cassiar-Iskut-Stikine LRMP will contribute to a healthy, productive and sustainable wilderness environment, a thriving and diverse economy, and strong communities supporting a wide range of local employment and lifestyle opportunities.*

### Goals

A healthy environment including:

- sustainable ecosystems
- abundant fish and wildlife populations
- wild places that are valued for themselves

Healthy and sustainable communities which include:

- 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 opportunities
- local benefits from resource development and extraction
- communication and cooperation between native and non-native communities

Sustainable development which includes:

- a diversified economic base
- job opportunities for local people
- healthy, sustainable, well balanced utilization of resources
- development that respects local cultures and lifestyles
- development that provides optimal returns to local communities and the province
- 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 which includes:

- meaningful public participation mechanisms for conflict resolution
- good communication 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

## 2.3 General Management Direction

The objectives and strategies for General Management Direction (GMD) provide a baseline for management of all resource activities on Crown land in the LRMP area. General Management Direction will apply in all zones in the LRMP except Protected Areas. Within Area-Specific Resource Management Zones, objectives and strategies for General Management Direction will apply unless otherwise indicated in the direction given for each zone (see Section 2.4: Area-Specific Management).

The General Management Direction provides direction for management of the following resource values and activities:

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### **Biodiversity/ Ecosystem health:**

- Aquatic ecosystems and riparian habitat
- Endangered plants and animals (species and communities)
- Fire management
- Landscape connectivity
- Natural disturbance patterns and ecosystem representation
- Predator-prey systems
- Special landforms: Plateaus
- Wildlife

### **Access management**

#### **Botanical forest products**

#### **Cultural heritage**

#### **Hunting / Guiding / Trapping / Fishing**

#### **Mineral and Energy Resources**

#### **Recreation / Tourism**

#### **Settlement / Agriculture/ Range**

#### **Timber**

#### **Visual quality**

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### 2.3.1 Access Management

Development of roaded access is allowed throughout the LRMP area outside of Protected Areas. Access management is one of the key issues in the Cassiar Iskut-Stikine LRMP. Much of the landbase is currently unroaded and the LRMP includes a number of strategies to ensure that access development can proceed to provide economic and recreation opportunities, while addressing other important values (e.g., wildlife, cultural-heritage, environmental) in the plan area.

There are objectives and strategies for access management throughout the LRMP document, both in the General Management Direction and under Area-specific Management. The strategies related to access management in the General Management Direction have been taken from throughout the document and compiled in this one section to guide decision-makers in overall planning for access across the landbase outside of Protected Areas. In addition, the LRMP includes objectives and strategies specific to access management.

The Forest Practices Code and the Mineral Exploration Code provide the framework for access development, such as road layout and construction, in consideration of a range of resource values. Flexibility has been incorporated into the LRMP strategies for access in recognition of

the site-specific nature of access development. In most cases, details about the specific measures to implement these strategies are best dealt with at a lower level of planning.

Note that float plane access is allowed on all lakes in the LRMP area outside of Protected Areas. Consistent with Protected Area zoning, float planes may land on lakes within Protected Areas for pick-up and drop-off of recreational users provided a permit is acquired. However, parks policy prohibits these lakes being used as staging areas for development outside the protected area e.g., for logging or mining. Natadasleen Lake, in Kinaskan Provincial Park, is currently designated for non-motorized use.

### Goals/ Desired Future State

- ☐ Access managed to respect ecological and cultural heritage values of the area while providing for the full range of user needs.

Access Management – Land-based		
Objectives	Strategies	Source
1. Keep to a minimum impacts on wildlife habitat and sensitive ecosystems during road construction and use.	1.1 Locate roads and exploration access within areas with high biodiversity values to minimize environmental impacts to riparian habitats, wetlands/wetland complexes, lake outlets and flood plains of rivers. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).	<i>Section 2.3.2.1: Aquatic Ecosystems and Riparian Habitat</i>  <i>Strategies 5.4 and 5.5</i>
	1.2 Where roads, exploration access or other linear infrastructures are needed in or near riparian habitat, include the following measures to minimize disturbance of riparian habitat. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.): <ul style="list-style-type: none"> <li>• Design to leave undisturbed sections of riparian habitat on one side of rivers</li> <li>• Where possible, coordinate construction of all infrastructure to use the same right-of-way.</li> </ul>	
	1.3 Plan the location and timing of resource development activities (e.g., road construction and timber harvesting) to minimize disturbance of nesting and wintering areas for trumpeter swans.	<i>Section 2.3.2.2: Endangered Plants and Animals</i>  <i>Strategies 5.2 and 6.1</i>



Access Management – Land-based		
Objectives	Strategies	Source
	1.4 Avoid locating roads within 500m of known bull trout congregation areas. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).	
	<p>1.5 Where possible, avoid providing easy access to alpine by ATVs in the plateau areas shown in Map 4.</p> <p>1.6 If a road to a plateau is required, undertake measures to minimize impacts on wildlife habitat, in consideration of economic, ecological and safety issues. Measures could include:</p> <ul style="list-style-type: none"> <li>• locating roads away from critical habitats like south-facing slopes</li> <li>• minimizing the number of spur roads</li> <li>• deactivating roads when no longer needed.</li> </ul> <p>1.7 Prohibit use of ATVs (excluding snowmobiles) for recreation and hunting on plateaus identified on Map 4.</p> <p>1.8 For non-recreational activities where ATV use is needed, conduct activities to minimize site degradation and minimize motorized use near critical habitat areas (e.g. south facing slopes).</p>	<p><i>Section 2.3.2.7: Special Landforms: Plateaus</i></p> <p><i>Strategies 1.1 – 1.4</i></p>
	<p>1.9 Locate roads to avoid the following generally site specific identified habitats. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.):</p> <ul style="list-style-type: none"> <li>• Avalanche chutes</li> <li>• Dry, steep, south facing slopes</li> <li>• Flood plains of rivers</li> <li>• Critical riparian habitats e.g., instream upwellings, alluvial fans</li> <li>• Mountain ungulate escape terrain</li> <li>• Rare grass/shrub habitats</li> <li>• Wetlands/wetland complexes</li> </ul>	<p><i>Section 2.3.2.8: Wildlife</i></p> <p><i>Strategies 2.1, 2.2, 3.2, 3.3, 4.1, 5.2, 5.3, 6.1, 6.3, 6.4, 7.2, 7.3, 8.1</i></p>

Access Management – Land-based		
Objectives	Strategies	Source
	<ul style="list-style-type: none"> <li>• Eskers/esker complexes with the following features: <ul style="list-style-type: none"> <li>⇒ Adjacent to streams and wetlands;</li> <li>⇒ High value caribou habitat (see Map 6); and</li> <li>⇒ Denning areas for wolves and bears.</li> </ul> </li> <li>• Lake outlets</li> <li>• Rare, moist, productive sites, and</li> <li>• Unique features (licks, dens).</li> </ul> <p>1.10 If road layout cannot avoid the habitats listed in Strategy 1.9, implement steps to minimize damage. This could include:</p> <ul style="list-style-type: none"> <li>• Visual screening of swamps and openings along highways, secondary roads, and main forestry/mining roads</li> <li>• Access restrictions by road tenure holders (e.g. gates on private/mining roads)</li> <li>• Road layouts to reduce habitat fragmentation</li> <li>• Road deactivation</li> <li>• Temporary roads (e.g. winter logging)</li> <li>• Bridges and culverts appropriate for high value fish habitat.</li> </ul>	
	<p>1.11 Minimize road construction in mapped <b>moose winter range</b>.</p> <p>1.12 If roads are required in <b>moose winter range</b>, implement measures to reduce/avoid impacts on ungulates(displacement, increased predation, habitat degradation, and increased hunting). Examples could include:</p> <ul style="list-style-type: none"> <li>• Locate roads to minimize impacts</li> <li>• Public access restrictions (e.g., seasonal closures, gates)</li> <li>• Access controls (gates, pulling bridges, etc.)</li> <li>• Deactivate roads when projects completed.</li> </ul>	

Access Management – Land-based		
Objectives	Strategies	Source
	<p>1.13 Design and locate roads to minimize impacts to <b>high value caribou habitat</b> (Map 6), particularly in caribou winter range.</p> <p>1.14 Minimize road construction in mapped <b>caribou and mountain ungulate winter range</b>.</p> <p>1.15 If new roads are required in mapped <b>caribou and mountain ungulate winter range</b>, minimize impacts on populations as follows:</p> <ul style="list-style-type: none"> <li>• Design roads to minimize fragmentation of caribou winter range</li> <li>• Consider restrictions on motorized recreational use (e.g., ATVs)</li> <li>• Deactivate forestry and mine roads when projects are complete</li> <li>• Deactivate mineral exploration roads in a timely manner</li> <li>• For forestry and mine development, prepare an access plan to minimize impacts on caribou populations. The access plan should address forest fragmentation and the need for seasonal access restrictions, access controls and public access restrictions.</li> </ul> <p>1.16 Within mapped <b>caribou winter range</b>, strongly encourage air access for mineral exploration and approving roads only for advanced projects. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).</p> <p>1.17 Air access is preferred for early mineral exploration in <b>high value habitat for Stone's sheep and mountain goat</b> (Maps 7 and 8).</p> <p>1.18 Avoid locating roads near <b>natal/critical habitats for Stone's sheep and mountain goat</b> (Map 9). Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).</p>	

Access Management – Land-based		
Objectives	Strategies	Source
	<p>1.19 Where locating roads near <b>natal/critical habitats for Stone's sheep and mountain goat</b> is unavoidable:</p> <ul style="list-style-type: none"> <li>• B.C. Environment will work with the relevant stakeholders to identify strategies to minimize impacts to sheep/goats</li> <li>• Minimize road use during kidding/lambing times (April 15 - June 15)</li> <li>• Deactivate new non-permanent roads after use.</li> </ul> <p>1.20 Avoid <b>critical grizzly bear habitats</b> (avalanche chutes, sedge fens, skunk cabbage, high berry producing sites, spawning areas, etc., etc.) when undertaking activities (including road construction and use) on Crown land in order to reduce bear displacement and habitat loss. If unavoidable then incorporate the following. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc).</p> <ul style="list-style-type: none"> <li>• Limit main stem road development so that the road is on one side of a valley at any one location</li> <li>• Deactivate and rehabilitate roads where they cross avalanche chutes by removing ballast &amp; road bed</li> <li>• Schedule activities (mineral exploration, forestry, and commercial recreation) to avoid displacing bears from critical seasonal habitats.</li> </ul>	
	<p>1.21 Maintain motorized access to lakes in front-country tourism areas except where access restrictions are needed to conserve water quality or fish populations.</p>	<i>Specific to Section 2.3.1: Access Management</i>
2. Manage game populations by controlling hunting and fishing access, where required.	<p>2.1 Unless no practicable option exists, do not create circle routes that connect two or more main road networks.</p>	<i>Specific to Section 2.3.1: Access Management</i>

Access Management – Land-based		
Objectives	Strategies	Source
	2.2 Apply timely hunting and/or access restrictions when there is substantiated evidence that game populations are at risk or declining (this includes verifiable local information and scientific/biological studies).	<i>Section 2.3.5: Hunting, Trapping, Guide Outfitting, Fishing</i> <i>Strategies 1.6, 2.3, 6.1(f), 7.3</i>
	2.3 Hunting and/or access restrictions will only occur when there is substantiated evidence that game populations are at risk or declining (this includes verifiable local information and scientific/biological studies).	
	2.4 Apply timely fishing and/or access restrictions when there is substantiated evidence that fish populations are at risk or declining (this includes verifiable local information and scientific/biological studies).	
	2.5 Fishing and/or access restrictions will occur only when there is substantiated evidence that fish populations are at risk or declining (this includes verifiable local information and scientific/biological studies).	
3. Maintain the aesthetic quality of important views and recreational features while providing opportunities for a range of recreation and tourism activities.	3.1 Design road access to minimize impacts to sensitive lakes identified in Section 2.4: Area-specific Management e.g., Chutine Lake, Hottah Lake, Tucho Lake.	<i>Specific to Section 2.3.1: Access Management</i>
	3.2 Manage road development and other forms of access (e.g., air) near high value recreation features to avoid/reduce impacts on those features. Examples could include: <ul style="list-style-type: none"> <li>• Designing roads to minimize visual impacts</li> <li>• Locating roads (where economically and ecologically feasible and safe) to minimize disturbance (e.g., noise, dust, etc.) to backcountry facilities, trails and activity areas</li> </ul>	<i>Section 2.3.7: Recreation and Tourism</i> <i>Strategies 4.1 and 6.1</i>

Access Management – Land-based		
Objectives	Strategies	Source
	<ul style="list-style-type: none"> <li>Managing public motorized access, and</li> <li>Deactivating roads upon completion of prescribed activities.</li> </ul>	
	3.3 Provide a range of opportunities for public access to rivers, lakes and other key recreation features.	
	3.4 Undertake non-timber related development (roads and trails, lodges, mine infrastructure [e.g., camps, buildings], etc.) in identified scenic areas (Map 13) in a manner that respects the VQO, or, where there are no VQOs, the scenic values for the area. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).	Section 2.3.10: Visual Quality Strategies 2.7 and 3.1
	3.5 Locate roads, camps and infrastructure away from areas of high visual quality where possible (e.g., powerlines).	
4. Conserve archaeological resources and heritage trails; minimize impacts on First Nations' traditional use sites; and maintain the integrity and historic features of identified pioneer heritage sites.	4.1 Avoid developments near heritage trails (including road development). See Map 12. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).	Section 2.3.4: Cultural Heritage Resources Strategies 3.2 – 3.4
	4.2 If development is required near a trail, design to minimize impact on values of trail. This includes assessing archaeological impacts.	
	4.3 Only non-motorized use will be allowed on heritage trails from spring thaw to fall freeze-up (no ATV or other motorized vehicles use). Motorized winter use (i.e. snowmobiles) is acceptable.	
	4.4 Consult with First Nations before introducing access restrictions that might affect traditional hunting activities.	Section 2.3.5: Hunting, Trapping, Guide Outfitting, Fishing Strategies 3.2 and 8.2
	4.5 Consult with First Nations before introducing access restrictions that might affect traditional fishing activities.	

Access Management – Land-based		
Objectives	Strategies	Source
<p>5. Provide access for long-term resource management and economic development needs while minimizing impacts on</p> <ul style="list-style-type: none"> <li>• environmental social, cultural heritage, and wildlife habitat values; and</li> <li>• commercial activities.</li> </ul>	5.1 Consider concerns for safety, the environment and economic viability when determining appropriate access.	<i>Specific to Section 2.3.1: Access Management</i>
	5.2 Consider options for access that minimize impacts on environmental, cultural heritage, wildlife habitat values and commercial activities (commercial recreation ventures, trapping, guide outfitting, etc.) during review and approval processes.	
	5.3 Use manual or mechanical brushing only (no herbicide use) for vegetation management along rights of way for roads, pipelines and hydro lines.	
	5.4 Coordinate access development among the various users, including resource tenure holders and/or industry representatives, to identify opportunities to minimize road density and to coordinate deactivation planning and seasonal restrictions, as required.	
	5.5 Provide opportunities for public and stakeholder input into access management planning in accordance with approval and permitting processes.	
	5.6 Coordinate strategic planning and management for access between Protected Areas and the adjacent landbase.	
	5.7 To the extent possible, coordinate operational time windows for mineral exploration and mine development and associated access needs with the needs of other resource values, such as wildlife habitat and existing commercial activities (e.g., guide outfitting).	<i>Section 2.3.6: Mineral and Energy Resources</i>  <i>Strategies 2.1 – 2.3 and 4.5</i>
	5.8 Consult with mineral and energy tenure holders or industry representatives as well as relevant stakeholder/interest groups during government access management and deactivation planning in accordance with applicable review and referral procedures.	

Access Management – Land-based		
Objectives	Strategies	Source
	<p>5.9 Allow for infrastructure access such as transmission lines and pipelines outside Protected Areas, subject to environmental review processes.</p> <p>5.10 Deactivate roads, where required, according to existing policy and legislative requirements.</p>	
6. Avoid negative impacts to sensitive terrain due to road construction and use	6.1 Design and construct roads to minimize potential for landslides, surface erosion and sediment delivery, particularly in unstable terrain.	<i>Specific to Section 2.3.1: Access Management</i>

Access Management – Water-based		
Objectives	Strategies	Source
7. Maintain the remote quality of identified lakes and rivers by restricting motorized recreational boat use, where required.	<p>7.1 On a periodic basis and where necessary, assess the ecological impacts of motorized boat use on lakes and rivers.</p> <p>7.2 Where ecological impacts are occurring, consider restricting motorized boat use on specific lakes and rivers.</p>	<i>Specific to Section 2.3.1: Access Management</i>



Access Management – Air-based		
Objectives	Strategies	Source
8. Minimize disturbance to wildlife due to aircraft use, particularly during sensitive periods.	8.1 To the extent possible, avoid repeated flights in or near to natal areas for <b>Stone's sheep and mountain goats</b> (Map 9) from April 15 to June 15. This strategy applies to air access for mineral activities, recreation, and sightseeing.	<i>Section 2.3.2.8: Wildlife</i>  <i>Strategies 6.2 and 6.5</i>
	8.2 Inform local pilots of known natal areas for <b>Stone's sheep and mountain goats</b> and provide information on flying practices that minimize disturbance of goat and sheep.	
9. Minimize disturbance to remote land- and water-based recreation and tourism activities due to aircraft use.	9.1 Review levels of helicopter and plane use and take steps to address conflicts with remote recreation and tourism activities as they arise. Examples might include: <ul style="list-style-type: none"> <li>• Setting limits on the number of allowable flights for commercial recreation users in sensitive high use areas or areas with low carrying capacity, and</li> <li>• Providing information to other air craft users (local pilots, exploration companies, etc.) about areas of concern and encouraging them to avoid those areas where possible.</li> </ul>	<i>Specific to Section 2.3.1: Access Management</i>

## 2.3.2 Biodiversity/ Ecosystem Health

Biodiversity is the term used to describe the diversity of plants, animals and other living organisms in all their forms and levels of organization (including genes, species and ecosystems) and the evolutionary and functional processes that link them. The LRMP area has very high biodiversity values, supporting healthy populations of many species, some of which are threatened or endangered in other parts of the province. One of the most significant features is the size and viability of the area's large mammal predator-prey systems, particularly in the area of the Klappan, Upper Stikine, Spatsizi, Pitman and Chukachida rivers. Other key features are the Coastal grizzly-salmon ecosystems in the Lower Stikine, Iskut and Unuk River valleys. Ensuring the continued health of all ecosystems is one of the fundamental goals of the LRMP.

There are three key components which need to be considered for developing an approach to conserve biodiversity:

- creating functional areas of representative ecosystems
- ensuring a full range of ecosystems over time across the plan area (at all scales)

- addressing site-specific critical habitat needs (for example, for rare and endangered species or ungulate winter range)

The protected area system for the LRMP area will also contribute to these components.

#### Goals/ Desired Future State

- ☐ A land-base (including air & water) that contains the indigenous diversity of plants, animals and other living organisms in all their forms and levels of organization throughout the Cassiar Iskut-Stikine LRMP area. This includes the diversity of genes, species and ecosystems, as well as the evolutionary and functional processes that link them.

#### 2.3.2.1 Aquatic Ecosystems and Riparian Habitat

#### Goals/ Desired Future State

- ☐ Healthy aquatic and riparian ecosystems and the species that they support within their natural range of populations and habitats.

Aquatic Ecosystems and Riparian Habitat		
Objectives	Strategies	
1. Improve and update information on aquatic and riparian biota and habitat requirements.	1.1	Compile existing aquatic and riparian habitat data.
	1.2	Assess aquatic and riparian habitat before approving new developments (e.g. baseline monitoring for major projects, identify fish streams for forestry, agency referrals for commercial recreation, etc.).
	1.3	Maintain and update aquatic and riparian habitat data bases; this includes incorporating data collected by project proponents and other agencies.
2. Promote awareness and involvement of the public and First Nations in the management of aquatic and riparian habitat.	2.1	Develop public awareness programs.
	2.2	Develop community involvement through local enhancement projects and co-operative habitat management and enforcement.
	2.3	Support the development of co-management agreements with First Nations.
3. Maintain naturally occurring aquatic biota.	3.1	Do not transplant salmon into waters free of infectious haemopoetic necrosis (IHN).
	3.2	Prevent the introduction of new exotic aquatic biota.
	3.3	Manage exotic fish species to minimize damage to native aquatic biota and their ecosystems.

Aquatic Ecosystems and Riparian Habitat	
Objectives	Strategies
4. Manage activities so that there is no net loss of fish habitat.	4.1 Avoid harmful alteration, disruption, or destruction of fish habitat whenever possible. Where unavoidable, apply principles of fish habitat mitigation or compensation (as per DFO Habitat Management Policy) to those activities that may directly impact fish habitat.
	4.2 Stringently enforce all relevant aquatic habitat protection legislation, regulations, and apply all best management practices.
	4.3 Assess cumulative effects on aquatic resources when approving new developments that could have a significant cumulative impact. The appropriate project review committee will determine the need for cumulative effects assessment on a project-by-project basis.
	4.4 Minimize impacts of in-stream work by: <ul style="list-style-type: none"> <li>• Applying principles of fish habitat mitigation or compensation (as per DFO Habitat Management Policy) to those activities that may directly impact fish habitat</li> <li>• Applying all relevant guidelines and regulations for water quality and safety during in-stream work</li> <li>• Referring all in-stream work proposals for agency comment</li> <li>• Determining and applying best timing windows for in-stream work to minimize impacts on fish species present.</li> </ul>
	4.5 Monitor effectiveness of habitat protection measures and enforcement.
5. Conserve riparian habitat by minimizing disturbance to the structural and functional features of riparian habitat, including critical habitat features.	5.1 Conduct riparian habitat management practices consistent with principles of ecosystem management, existing policy and best management practices outlined in the <i>Forest Practices Code Riparian Area Management Guidebook (1995)</i> in all riparian areas, including fish-bearing streams and active flood plains.
	5.2 On a site-specific basis and where ecologically appropriate, increase the riparian reserve or management areas described in Strategy 5.1 to maintain the structure and function of riparian habitat, including: <ul style="list-style-type: none"> <li>• riparian vegetation and microclimate</li> <li>• stream temperature</li> <li>• adequate canopy closure to provide shading and leaf litter input to the stream</li> <li>• natural channel morphology and stream bank stability</li> <li>• sources of large woody debris in streams, and</li> <li>• important habitat attributes such as wildlife trees, coarse woody debris, and nesting sites.</li> </ul>

Aquatic Ecosystems and Riparian Habitat	
Objectives	Strategies
	<p>Other examples where riparian management might be increased over Strategy 5.1 include:</p> <ul style="list-style-type: none"> <li>• areas of sensitive fish habitat such as streams, including S4, at lake inlets and outlets and spawning and rearing areas</li> <li>• to provide connectivity within wetland complexes in the boreal forest</li> <li>• in or directly adjacent to highly sensitive habitat areas such as ungulate winter range and major stream confluences, and</li> <li>• habitat for terrestrial rare and endangered species e.g., fisher.</li> </ul> <p>5.3 Incorporate local information from the public and First Nations when identifying sensitive aquatic and riparian habitats.</p> <p>5.4 Locate roads and exploration access to minimize environmental impacts to areas with high biodiversity values, including riparian habitats, wetlands/wetland complexes, lake outlets and flood plains of rivers. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).</p> <p>5.5 Where roads, exploration access or other linear infrastructures are needed in or near riparian habitat, measures to minimize disturbance of riparian habitat could include the following:</p> <ul style="list-style-type: none"> <li>• Design to leave undisturbed sections of riparian habitat on one side of rivers</li> <li>• Where possible, coordinate construction of all infrastructure to use the same right-of-way.</li> </ul> <p>5.6 Avoid gravel extraction from riparian habitat and floodplains unless no other sources of suitable gravel are readily available. If gravel removal is required, apply principle of no net loss of aquatic habitat and assess potential cumulative impacts. Also, full reclamation of riparian habitat should occur when operations end.</p>
6. Maintain the integrity of watersheds with high fisheries values and domestic water use (licensed and unlicensed).	<p>6.1 Conduct watershed assessments where water quality and quantity is significantly at risk.</p> <p>6.2 Manage activities to maintain water quality for domestic use.</p>

<b>Aquatic Ecosystems and Riparian Habitat</b>		
<b>Objectives</b>	<b>Strategies</b>	
7. Identify and rehabilitate or enhance fish populations and fish habitat.	7.1	Identify opportunities for rehabilitation or enhancement.
	7.2	Prioritize sites and implement rehabilitation or enhancement plans. Enhancement plans should also consider potential negative effects on wild stocks.
8. Maintain water quality and quantity for naturally occurring aquatic biota within the natural range of variability.	8.1	Harmonize the various forms of regulatory procedures (provincial and federal) when undertaking projects, including road development, that may impact fish through changes in water quality/quantity.
	8.2	Conduct terrain stability assessments as required under existing regulations.
	8.3	Apply all relevant pollution prevention regulations and guidelines to application of any industrial chemicals (i.e. mineral ore leaching, pesticides, herbicides, fungicides, and fertilizers), fuel-handling, and discharge of sewage.
	8.4	Continue to prohibit the placement of dams on the mainstem of the Stikine River.
	8.5	Meet water quantity and quality requirements for aquatic biota when making water allocation decisions.
	8.6	Continue to prohibit bulk export of water and large-scale inter-basin diversions.

In addition to the objectives and strategies for aquatic ecosystems and riparian habitat listed above, there are numerous other objectives and strategies for aquatic and riparian habitat located throughout the General Management Direction. These are listed in the following table. There are also area-specific strategies for riparian areas in specific zones in Section 2.4: Area-Specific Management.

<b>Additional Management Direction for Aquatic Ecosystems and Riparian Habitat</b>	<b>Where addressed in the GMD</b>
Avoid impacts to sensitive terrain during road construction and use.	Obj 6, S 6.1: Access Management
Assess ecological impacts of motorized boat use on and, where necessary, restrict use on specific lakes and rivers.	S 7.1 and 7.2: Access Management
Various strategies throughout the document (listed in the Connectivity section) to provide connectivity or linkages of mature and old forest cover.	GMD: Connectivity

<b>Additional Management Direction for Aquatic Ecosystems and Riparian Habitat</b>	<b>Where addressed in the GMD</b>
Strategies for species requiring aquatic or riparian habitat, such as bull trout, fisher and trumpeter swan.	Obj 5 and 6, S 3.1, 5.2, 5.3, 6.1: Endangered Plants and Animals
Maintain seral stages and natural disturbance patterns in alluvial ecosystems within the BWBS.	S 1.3 and 1.4: Natural Disturbance Patterns
Provide for structure in riparian management areas	S 2.3 : Natural Disturbance Patterns
Avoid critical habitat features, including floodplains of rivers, critical riparian habitats, wetlands/wetland complexes, and lake outlets during road layout.	S 2.1: Wildlife
Provide visual screening of swamps along roads. Provide bridges and culverts appropriate for high value fish habitat.	S 2.2: Wildlife
Provide visual screening of swamps along roads in moose winter range.	S 3.1: Wildlife, (Moose winter range)
Maintain connectivity of forest cover linking habitat areas (moose, caribou, Stone's sheep, mountain goat, grizzly).	S 3.4, 4.2, 6.6, and 8.3: Wildlife
Use selection harvesting in BWBS wetland complexes to provide high retention and structure.	S 5.1: Wildlife, (Caribou)
Undertake activities to avoid critical grizzly habitats, including riparian habitats such as spawning areas.	S 8.1: Wildlife, (Grizzly)
Retain cover for escape, bedding, thermal and visual cover requirements etc. adjacent to riparian areas.	S 8.2 : Wildlife, (Grizzly)
Provide for large areas of mature and old forest with forest interior conditions.	S 13.1: Wildlife, (Marten)
Maintain viable wild fish stocks.	Obj 6, S 6.1 and 6.2: Hunting/Trapping/ Guide Outfitting/ Fishing
Apply access restrictions where fish populations are at risk or declining.	S 6.1: Hunting/Trapping/ Guide Outfitting/ Fishing
Design and locate backcountry facilities to avoid disturbance to sensitive aquatic and terrestrial ecosystems.	S 3.3: Recreation and Tourism,
Minimize disturbance of stream, wetland and lake riparian areas due to grazing.	Obj 8, S 8.1 and 8.2: Settlement/ Agriculture/ Range

### 2.3.2.2 Endangered Plants and Animals (Species and Communities)

The provincial Conservation Data Centre has identified rare, threatened and endangered animals and plant communities for the province. A number of these “red” and “blue” listed species occur, and in some cases are abundant, in the LRMP area (see Appendix 6). Many depend on site-specific habitat requirements for their survival. As such, species-specific management guidelines are needed. This is an example of “fine filter ecosystem management.”

Some of the rare and endangered species may have broader habitat needs, in addition to site-specific requirements. Strategies to meet the habitat needs of fisher, raptors, trumpeter swans and bull trout are described in this section. Strategies for grizzly bear are presented in GMD for Biodiversity: Wildlife (Section 2.3.2.8) and under Area-Specific Management. Appendix 7 summarizes integrated management for grizzly bears in the overall LRMP area.

#### Goals/ Desired Future State

- ☐ Viable populations of rare, threatened, and endangered animals, plants, and plant communities.

Endangered Plants and Animals	
Objectives	Strategies
1. Maintain habitats of rare, threatened, and endangered animals, plants and plant communities as described in the BC Conservation Data Centre lists (see Appendix 6 for the 1998/1999 lists).	1.1 Conduct ongoing inventory and mapping habitats of rare, threatened, and endangered animals, plants and plant communities within the LRMP plan area (See Section 3: Research and Inventory Priorities).
	1.2 Undertake all resource activities to avoid adverse impacts to critical habitats of rare, threatened, and endangered animals, plants and plant communities.
	1.3 Where impacts on critical habitat can not be avoided, implement steps to minimize or mitigate damage, or restore habitat. This could include: <ul style="list-style-type: none"><li>• adjusting the timing of activities to minimize disturbance</li><li>• relocating animal/plants to other suitable area</li><li>• habitat enhancement elsewhere</li><li>• reclamation.</li></ul>
	1.4 Take conservation measures if new endangered species/ plant communities, or critical habitats are identified in the future.
2. Implement conservation measures when trapping, hunting, or fishing blue listed species.	2.1 Continue research on <b>wolverine</b> ecology to better understand impacts of trapping practices. See Strategies below for fisher and bull trout.

<b>Endangered Plants and Animals</b>	
<b>Objectives</b>	<b>Strategies</b>
<b>Fisher</b>  3. Maintain habitat for fisher where populations are known to exist.	3.1 Where fishers are identified in the plan area, address habitat needs during more detailed planning with an emphasis on maintaining stand structure and connectivity of mature and old forest cover, particularly along riparian systems.  3.2 Apply recommended management practices for fisher as outlined in the BC Trapping Regulations to reduce the impacts of trapping on fisher.
<b>Raptors</b>  4. Maintain nesting and foraging habitat for nest sites of raptors, particularly rare and endangered species, including: <ul style="list-style-type: none"> <li>• Northern Goshawk</li> <li>• Short-eared Owl</li> <li>• Gyrfalcon</li> <li>• Peregrine Falcon.</li> </ul>	4.1 Note presence of raptors and nest sites (active, inactive and alternate) during baseline monitoring for applicable projects and processes. Forward nest site locations to B.C. Environment.  4.2 Avoid nest sites (active, inactive and alternate) when locating roads and development activities to minimize disturbance of nesting raptors and to discourage disturbance/egg removal.  4.3 Do not remove or destroy nest sites (even if inactive) and avoid development activities that could disrupt raptors (e.g., blasting, road construction or modification) during sensitive periods (in particular, courtship and nest establishment). Sensitive periods will vary by species, site and year. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).  4.4 Where ecologically appropriate and operationally feasible, retain forested buffers around nest sites. Measures to achieve this strategy could include locating nest sites within wildlife tree patches or locating cutblocks to avoid nesting areas.  4.5 Where nests are identified for forest-dependent raptors, plan timber harvesting at the landscape scale to provide contiguous canopy closure appropriate to raptor habitat requirements and consistent with GMD: Natural Disturbance Patterns, Strategies 1.1 – 1.4.
<b>Trumpeter Swans</b>  5. Minimize disturbance of critical habitat areas for trumpeter swans (e.g., nesting and over-wintering areas, including early spring migration stops).	5.1 Undertake inventories of critical habitats for trumpeter swans in the Stikine and Iskut watersheds (see Section 3: Research and Inventory Priorities).  5.2 Based on inventory and all available information on trumpeter swans in the plan area, develop detailed and site appropriate strategies to minimize disturbance of critical habitats. Measures could include the following: <ul style="list-style-type: none"> <li>• Retain the structural integrity of emergent vegetation in and around nesting areas to provide cover and nesting habitat</li> </ul>



<b>Endangered Plants and Animals</b>	
<b>Objectives</b>	<b>Strategies</b>
	<ul style="list-style-type: none"> <li>• Maintain a visual buffer around wetlands with nesting and over-wintering sites, where applicable, and</li> <li>• Plan the location and timing of resource development activities (e.g., road construction and timber harvesting) to minimize disturbance of nesting and wintering areas.</li> </ul> <p>5.3 Assess and address impacts to swans from water-based activities.</p>
<p><b>Bull Trout</b></p> <p>6. Maintain the natural range of habitat conditions (channel morphology, substrate composition, forest cover and water temperature) and minimize opportunities for overfishing in streams that contain bull trout.</p>	<p>6.1 In streams that contain bull trout, take measures to minimize potential for overfishing of bull trout stocks. These could include the following:</p> <ul style="list-style-type: none"> <li>• Avoid locating roads within 500m of known bull trout congregation areas. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc)</li> <li>• Locate recreational sites and facilities away from known bull trout congregation areas</li> <li>• Establish fisheries closures or catch limits where bull trout populations are at risk, and</li> <li>• Increase awareness among sport fishers on the identification of bull trout and promote responsible catch and release practices.</li> </ul> <p>Also, see strategies to maintain the viability of wild fish stocks in Section 2.3.2.1: Aquatic Ecosystems and Riparian Habitat.</p>

### 2.3.2.3 Fire Management

Fire is the dominant agent of natural disturbance in the LRMP. The occurrence of fire influences patterns of forest growth, such as stand age and the types of vegetation occurring on the landscape. Fire dynamics also influence the maintenance of grassland ecosystems. In coastal and transitional ecosystems, fire is less frequent and insects and windthrow are more common disturbance events.

The LRMP directs that, within the timber harvesting land base, forestry activities be planned to emulate the natural disturbance patterns (as outlined in Section 2.3.2.6: Natural Disturbance Patterns). Approaches to fire suppression and prescribed burning will also have an important influence on natural patterns on the landscape. The recommended approach to fire management in the LRMP area is to identify areas for limited suppression where fires will be allowed to burn unless they threaten existing facilities or key resource values. The LRMP also identifies Initial Attack Zones where any fires will be immediately suppressed.

## Goals/ Desired Future State

- ☐ Natural patterns of fire disturbance across the LRMP area.

Fire Management	
Objectives	Strategies
1. Manage fire to minimize damage to people and property while allowing natural disturbance processes to occur.	<p>1.1 Endeavour to extinguish fires within the “Initial Attack Zone” (Map 3).</p> <p>1.2 Outside of the “Initial Attack Zone,” monitor and manage fires to prevent damage to existing facilities and key resource values.</p> <p>1.3 Reclaim fire roads and cat trails built for fire fighting.</p>
2. Enhance habitat consistent with natural disturbance patterns through prescribed burning.	<p>2.1 Prepare a prescribed fire plan in consultation with the Northwest Fire Centre of the Ministry of Forests to identify and monitor prescribed fire areas. The plan will:</p> <ul style="list-style-type: none"><li>• Identify areas of high wildlife/low timber conflicts</li><li>• Monitor old burns and schedule burning when appropriate</li><li>• Identify and schedule new burns when necessary, and</li><li>• Consider the cumulative effects of fire management on the landscape.</li></ul>

### 2.3.2.4 Landscape Connectivity

The term connectivity describes linkages between habitats, species, communities, and ecological processes.\* In forested landscapes, connectivity often refers to continuous areas of mature and old forest cover that provide wildlife the opportunity to move between patches of habitat. The theory is that, as landscapes become increasingly fragmented by timber harvesting, settlement, and roads, it becomes increasingly difficult for animals to move between habitat areas, thereby isolating sub-populations and increasing the risk of localized extirpation.

In the Cassiar Iskut-Stikine plan area, the small timber harvesting landbase limits the potential for large-scale fragmentation to occur. However, steep topography in much of the LRMP also means that opportunities for movement of wildlife are limited and there is potential to negatively effect movement corridors and seasonal habitats through new road access and resource development activities.

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\* The following description is given for “connectivity” in the Biodiversity Guidebook. Connectivity is a qualitative term describing the degree to which late successional ecosystems are linked to one another to form an interconnected network. The degree of interconnectedness and the characteristics of the linkages vary in natural landscapes based on topography and natural disturbance regime.

There are several objectives and strategies addressing connectivity throughout the LRMP Recommendations document. Rather than reiterate the objectives and strategies already in the plan, this section cites those parts of the General Management Direction where connectivity is addressed. Objectives and strategies for connectivity are also included under strategies for Area-Specific Management.

Connectivity is considered at a variety of scales, as reflected in the strategies in GMD and for area-specific zones. At the sub-regional scale (e.g. between plateaus and mountain ranges) low road density may not be an obstruction to connectivity for most large mammal species. At the landscape or operational scale, roads are more of a consideration.

#### Goals/ Desired Future State

- ☐ Contiguous areas of functional habitat creating an interconnected network of ecosystems and key wildlife habitats.

Management Direction for Connectivity	Where addressed
Manage riparian habitat consistent with the principles of ecosystem management.	S 5.1 and 5.2: Aquatic Ecosystems and Riparian Habitat
Minimize impacts to areas with high biodiversity values, including riparian habitats, wetlands, lake outlets, and floodplains.	S 5.4: Aquatic Ecosystems and Riparian Habitat
Measures to minimize impacts to riparian areas could include locating roads and linear infrastructures to leave undisturbed sections of riparian habitat on one side of rivers.	S 5.5: Aquatic Ecosystems and Riparian Habitat
Provide connectivity, where needed, for specified rare and endangered species e.g., fisher, raptors.	S 3.1 and 4.5: Endangered Plants and Animals
Plan timber harvesting to maintain natural disturbance patterns.	S 1.1, 1.2, 1.3, 1.4: Natural Disturbance Patterns
Distribute wildlife tree patches to provide connectivity within cutblocks.	S2.4: Natural Disturbance Patterns
Maintain connectivity for wildlife between adjacent plateaus and mountain ranges.	Obj 2: Plateaus
Coordinate strategic planning and management for wildlife between protected areas and the adjacent landbase.	S 2.4: Wildlife, S 6.2: Protected Areas
Spatially and temporally distribute harvesting to maintain connectivity between areas of moose winter range.	S3.4: Wildlife
Provide linkages between areas of high value caribou habitat.	S4.2: Wildlife

<b>Management Direction for Connectivity</b>	<b>Where addressed</b>
Provide connectivity between mountain ranges for mountain goats and Stone's sheep.	S6.6: Wildlife
Provide linkages between areas of high value grizzly habitat.	S8.3: Wildlife
Provide for large areas of mature and old forest with forest interior conditions in high value marten habitat.	S13.1: Wildlife
Avoid proliferation of trails and where possible concentrate access along a single trail.	S3.4: Recreation and Tourism
Manage forestry activities to emulate natural disturbance processes.	O2, S2.1: Timber

#### **2.3.2.5 Natural Disturbance Patterns and Ecosystem Representation**

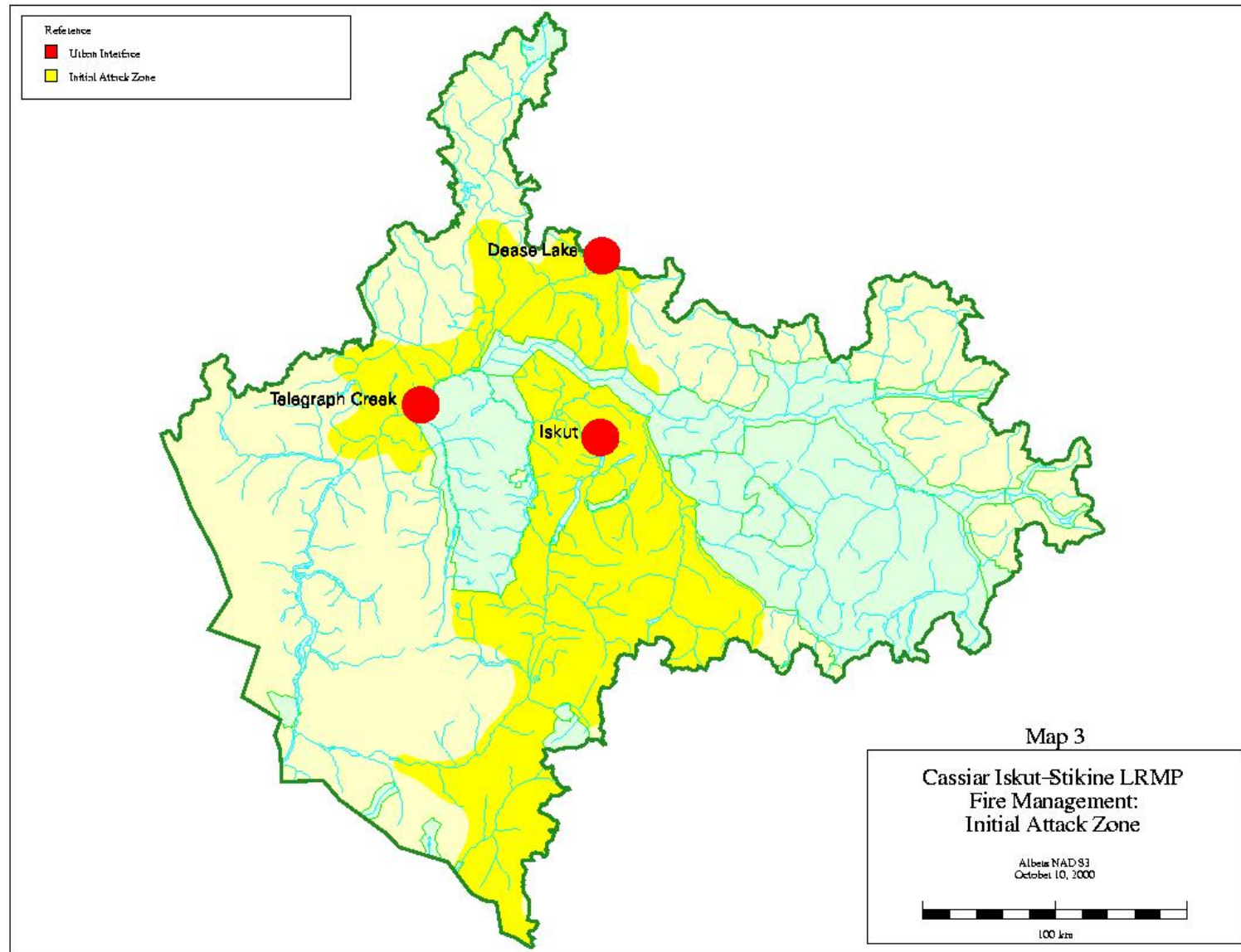
Natural disturbance is a key concept in ecosystem management. The term refers to events such as wildfires, windstorms, insects and landslides that alter the patterns of vegetation on the landscape. Because species have evolved to adjust to the natural processes and disturbances in an area, it is assumed that the risk to biodiversity is significantly reduced when management activities are made to emulate natural disturbance processes as much as possible.

Protected Areas will allow natural processes to continue undisturbed in parts of the plan area. However, in most cases, Protected Areas are not sufficient to maintain natural disturbance patterns across the landscape. This section of the plan provides direction on managing to maintain natural disturbance patterns across entire landscapes and at the stand level.

#### **Goals/ Desired Future State**

- ☐ A landbase that contains functional habitats and representative ecosystems across the landscape and at the stand level over time.

**Map 3: Cassiar Iskut-Stikine LRMP – Fire Management: Initial Attack Zone**



<b>Natural Disturbance Patterns/ Ecosystem Representation</b>	
<b>Objectives</b>	<b>Strategies</b>
<b>Landscape Level Objectives</b>  1. Maintain seral and patch size distributions of forests consistent with natural disturbance types.	1.1 Maintain seral stages in each landscape unit by biogeoclimatic variant and Natural Disturbance Type (NDT) as indicated in Tables 1 ,2, 4 , 5, 7 and 8 in Appendix 8.  1.2 Within the timber harvesting land base, plan openings/cut blocks in each landscape unit to be consistent with natural disturbance patterns by biogeoclimatic variant and NDT as indicated in Tables 3, 6, and 9 in Appendix 8.  1.3 Maintain seral stages for alluvial ecosystems within each landscape unit in the Boreal White and Black Spruce (BWBS) biogeoclimatic zone as indicated in Table 8 in Appendix 8.  1.4 Provide for a mix of openings appropriate for alluvial ecosystems within each landscape unit in the BWBS as indicated in Table 10 in Appendix 8.  1.5 Improve accuracy of biogeoclimatic mapping in LRMP area by further fieldwork and mapping.
<b>Stand Level Objectives</b>  2. During forestry activities, retain natural characteristics at the stand level for the following: <ul style="list-style-type: none"> <li>• Coarse woody debris</li> <li>• Wildlife tree patches</li> <li>• Species composition</li> <li>• Stand density.</li> </ul>	2.1 Retain Coarse Woody Debris (CWD) where ecologically appropriate and operationally feasible.  2.2 Retain Wildlife Tree Patches (WTPs) in each cutblock for the full rotation. Wildlife tree patches are to comprise the following % by area of harvest block: <ul style="list-style-type: none"> <li>• For cutblocks up to 60 ha: WTPs to be consistent with Table 11, Appendix 8</li> <li>• For cutblocks between 60 ha and 250 ha: 10% - 30% retention</li> <li>• For cutblocks greater than 250 ha: a range of 15 – 30% retention by landscape unit. Revisit the targets in this strategy as new information becomes available on fire behaviour in northern boreal ecosystems.</li> </ul> 2.3 Where possible, include the following in WTPs: <ul style="list-style-type: none"> <li>• A mixture of deciduous and coniferous trees</li> <li>• Standing dead trees, CWD, and root wads</li> <li>• Stand structural characteristics (horizontal and vertical)</li> </ul>

Natural Disturbance Patterns/ Ecosystem Representation	
Objectives	Strategies
	<ul style="list-style-type: none"> <li>• Large old trees</li> <li>• Structure in riparian management areas.</li> </ul>
	2.4 Locate WTPs to provide for connectivity within cut blocks and to minimize potential for windthrow.
	2.5 Reforest openings/cut blocks with coniferous species that would occur naturally on the site.
	2.6 Provide a mix of stocking standards and planting/spacing densities where ecologically appropriate and operationally feasible.
	2.7 Identify and do not harvest rare forest stand types.*

### 2.3.2.6 Predator-Prey Systems

One of the distinct features of the Cassiar area is the existence of large, functional predator-prey systems. A large portion of the plan area supports predator-prey systems that are distinctive to northern British Columbia, including Spatsizi Park, the Klappan, Stikine, Pitman, and Chukachida watersheds, and the coastal grizzly-salmon systems in the Lower Stikine, Iskut and Unuk watersheds.

There are a number of objectives for predator-prey systems throughout the Recommendations document. These include objectives and strategies to maintain habitat for specific predator and prey species, as well as guidelines for population management and objectives and strategies to maintain connectivity and natural disturbance patterns.

#### Goals/ Desired Future State

- ☐ Viable natural predator-prey systems
- ☐ Large areas of contiguous habitats at the landscape, sub-regional, and regional scales for large mammal predator-prey systems

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\* Rare forest stand types are defined as:

1. Plant communities listed as red or blue by the B.C. Conservation Data Centre: and
2. Any ecosystems identified as rare or significant by the designated official from the Ministry of Forests or Ministry of Environment, Lands and Parks, and based on advice by the regional ecologist or regional rare and endangered species specialist.

<b>Management Direction for Predator-Prey Systems</b>	<b>Where addressed</b>
<ul style="list-style-type: none"> <li>Strategies for access management to minimize fragmentation and disturbance to wildlife and to manage hunting levels, where needed.</li> </ul>	Obj 1, S1.1 and 1.2, and 1.5 – 1.17: Access Management
<ul style="list-style-type: none"> <li>Various strategies throughout the document (listed in the Connectivity section) to provide connectivity or linkages of mature and old forest cover.</li> </ul>	GMD: Connectivity
<ul style="list-style-type: none"> <li>Implement conservation measures for blue-listed predator species e.g., wolverine, grizzly.</li> </ul>	Obj 2, S 2.1: Endangered Plant and Animal Species, Obj 8 – 11 and associated strategies: Wildlife
<ul style="list-style-type: none"> <li>Plan timber harvesting to maintain natural disturbance patterns.</li> </ul>	S 1.1, 1.2, 1.3, 1.4: Natural Disturbance Patterns
<ul style="list-style-type: none"> <li>Strategies for access management on plateaus.</li> </ul>	Obj 1, S 1.1 – 1.4: Special Landforms: Plateaus
<ul style="list-style-type: none"> <li>Maintain the functional integrity of moose winter range.</li> </ul>	Obj 3 and associated strategies: Wildlife
<ul style="list-style-type: none"> <li>Maintain the functional integrity of high value caribou habitat, including winter range.</li> </ul>	Obj 4 and 5 and associated strategies: Wildlife
<ul style="list-style-type: none"> <li>Maintain the functional integrity of high value Stone's sheep and mountain goat habitat, including natal areas and winter range.</li> </ul>	Obj 6 and 7 and associated strategies: Wildlife
<ul style="list-style-type: none"> <li>Maintain the functional integrity of high value grizzly habitat.</li> </ul>	Obj 8 and associated strategies: Wildlife
<ul style="list-style-type: none"> <li>Minimize bear/human conflicts and disruption of bear habitat use.</li> </ul>	Obj 9 and 11 and associated strategies: Wildlife
<ul style="list-style-type: none"> <li>Manage hunting and other activities affecting grizzly bear mortality within established limits.</li> </ul>	Obj 10 and associated strategies: Wildlife
<ul style="list-style-type: none"> <li>Manage game populations as a sustainable, renewable resource.</li> </ul>	Objs 1 - 4 and associated strategies: Hunting, Trapping, Guide Outfitting, and Fishing
<ul style="list-style-type: none"> <li>Minimize impacts to ungulates due to range use.</li> </ul>	S 5.1: Settlement/Agriculture/Range
<ul style="list-style-type: none"> <li>Avoid spread of disease from domestic livestock to wildlife.</li> </ul>	Obj 6 and associated strategies: Settlement/ Agriculture/Range
<ul style="list-style-type: none"> <li>Coordinate strategic planning and management for wildlife between protected areas and the adjacent landbase.</li> </ul>	S 2.4: Wildlife, S 6.2: Protected Areas



### 2.3.2.7 Special Landforms: Plateaus

The LRMP area has a number of large alpine plateaus (Klastline, Todagin, Level Mountain, Kawdy) that are characterized by fragile alpine vegetation and rolling terrain that provides important habitat for Stone's sheep and caribou. In addition to their high wildlife values, these areas also provide excellent recreational opportunities, including backpacking, hunting, and wildlife viewing. Because of the gentle rolling terrain, entire plateau areas become accessible to ATVs once they are access by road or trail. The LRMP table members indicated that they do not approve of unauthorized or unplanned trails to plateaus, because ATV use has the potential to degrade sensitive vegetation, and to threaten wildlife populations.

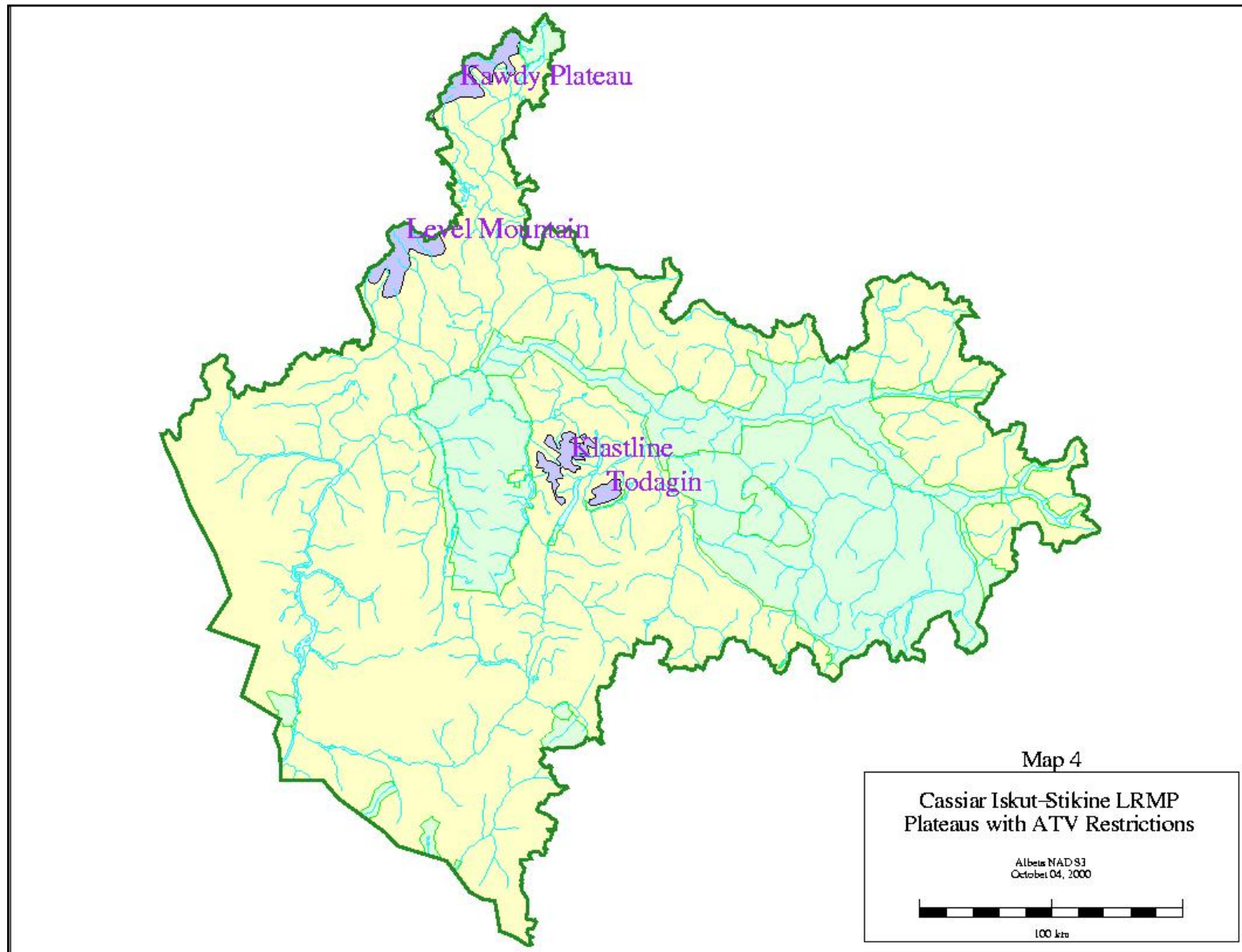
Connectivity between plateaus is also an issue. The long-term viability of caribou and sheep populations is dependent on maintaining opportunities for movement between adjacent plateaus and mountains.

#### Goals/ Desired Future State

- ☐ Long term ecological integrity of identified plateaus across the LRMP area

Special Landforms: Plateaus	
Objectives	Strategies
1. In the LRMP area, minimize impacts of motorized activities on plateaus and their habitats (Map 4).	<div>1.1 Where possible, avoid providing easy access to alpine by ATVs.</div> <div>1.2 If a road to a plateau is required, undertake measures to minimize impacts on wildlife habitat, in consideration of economic, ecological and safety issues. Measures could include:<ul style="list-style-type: none"><li>• locating roads away from critical habitats like south-facing slopes</li><li>• minimizing the number of spur roads</li><li>• deactivating roads when no longer needed.</li></ul></div> <div>1.3 Prohibit use of ATVs (excluding snowmobiles) for recreation and hunting on plateaus identified on Map 4 (Klastline, Todagin, Level Mountain, and Kawdy).</div> <div>1.4 For non-recreational activities where ATV use is needed, conduct activities to minimize site degradation and minimize motorized use near critical habitat areas (e.g. south facing slopes).</div>
2. Maintain connectivity for wildlife between plateaus and adjacent plateaus and mountain ranges.	<div>2.1 Provide areas of continuous mature and old forest cover linking adjacent plateaus and mountain ranges.</div>

**Map 4: Cassiar Iskut-Stikine LRMP – Plateaus with ATV Restrictions**



### 2.3.2.8 Wildlife

The management of wildlife occurs primarily through habitat management. In the LRMP, the term “wildlife” refers to all species and not just big game species. This section provides direction for habitat management across the LRMP area, and provides specific guidelines for the management of habitat for the six species (grizzly, caribou, moose, marten, mountain goat, and Stone’s sheep). The habitat values of all of these species have been mapped for the LRMP. Areas of moderate to high and high habitat value are the focus of habitat management. Population management for wildlife has been incorporated into the General Management Direction for Hunting, Trapping, Guide Outfitting, and Fishing.

Availability of winter range is recognized under the Forest Practices Code as a critical factor for sustaining ungulate populations. Ungulate Winter Range is defined as an area that provides the habitat features necessary for the survival of an ungulate species in the winter months (e.g., thermal and snow interception cover, forage, visual screening). The ungulate species addressed in the Wildlife section include moose, caribou, mountain goat and Stone’s sheep. Detailed mapping of ungulate winter range for each of these species will be completed and recommended for designation as Ungulate Winter Range under the Forest Practices Code by December, 2001.

#### Goals/ Desired Future State

- ☐ Functional ecosystems across the landbase that provide good quality habitat and support viable wildlife populations.

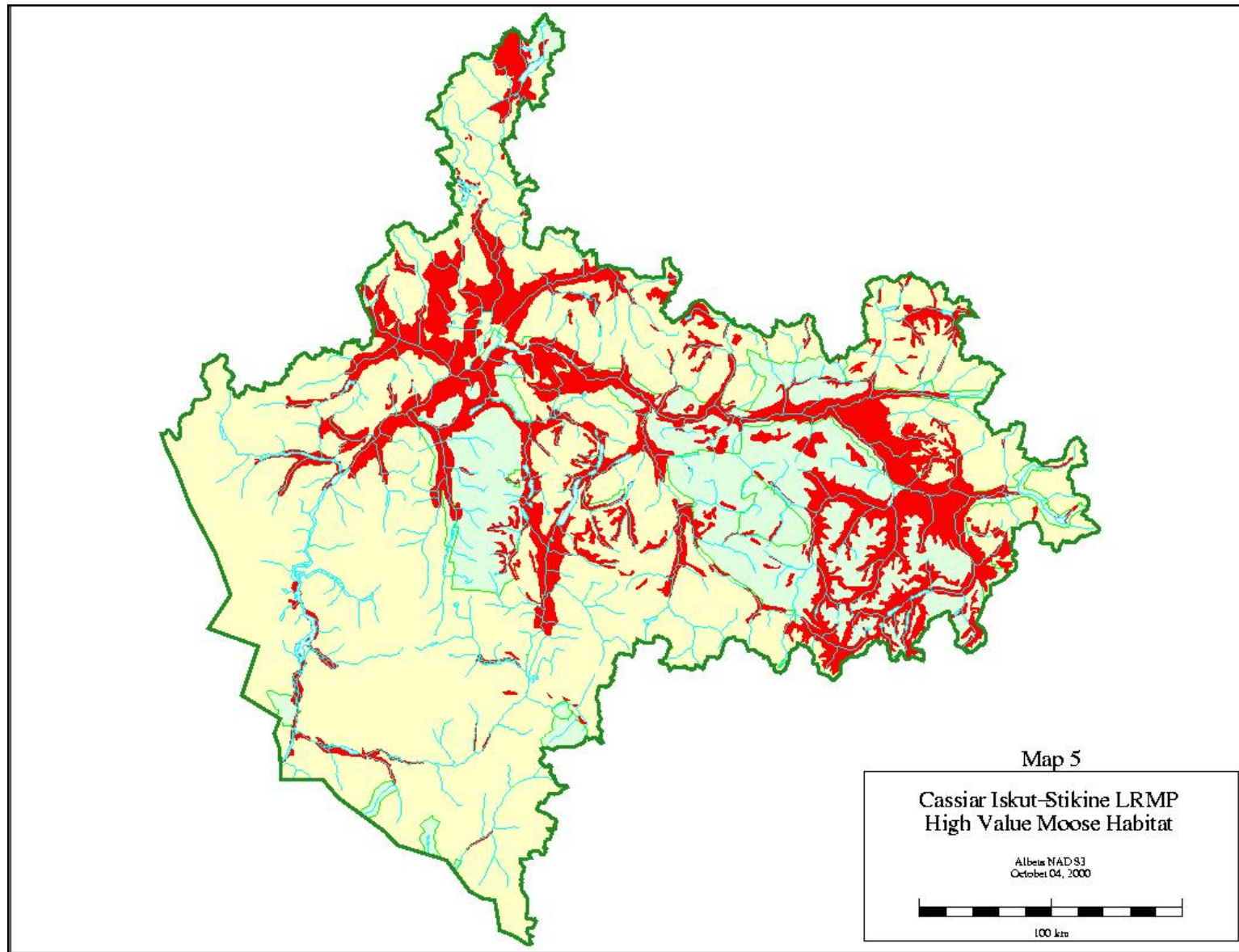
Wildlife	
Objectives	Strategies
1. Maintain habitat to support healthy wildlife populations.	1.1 At the appropriate scale, map habitats and forest attributes critical for wildlife movement, reproduction, forage, and cover and apply this information in Forest Development Plans, Environmental Assessment Projects, and North West Mine Development Review Committee Projects.
	1.2 Continue to monitor and update information on habitat retention, population trends (where applicable), access and hunting.
2. Manage development and access to conserve important habitat features and wildlife populations.	2.1 Locate roads to avoid the following generally site specific identified habitats. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.): <ul style="list-style-type: none"><li>• Avalanche chutes</li><li>• Dry, steep, south facing slopes</li><li>• Flood plains of rivers</li><li>• Critical riparian habitats e.g., instream upwellings, alluvial fans</li><li>• Mountain ungulate escape terrain</li></ul>

Wildlife	
Objectives	Strategies
	<ul style="list-style-type: none"> <li>• Rare grass/shrub habitats</li> <li>• Wetlands/wetland complexes</li> <li>• Eskers/esker complexes with the following features: <ul style="list-style-type: none"> <li>⇒ Adjacent to streams and wetlands</li> <li>⇒ High value caribou habitat (Map 6), and</li> <li>⇒ Denning areas for wolves and bears.</li> </ul> </li> <li>• Lake outlets;</li> <li>• Rare, moist, productive sites; and</li> <li>• Unique features (licks, dens)</li> </ul> <p>2.2 If road layout cannot avoid the habitats listed in Strategy 2.1, implement steps to minimize damage. This could include:</p> <ul style="list-style-type: none"> <li>• Visual screening of swamps and openings along highways, secondary roads, and main forestry/mining roads</li> <li>• Access restrictions by road tenure holders (e.g. gates on private/mining roads)</li> <li>• Road layouts to reduce habitat fragmentation</li> <li>• Road deactivation</li> <li>• Temporary roads (e.g. winter logging)</li> </ul> <p>2.3 Avoid disturbance of known large mammal dens (including wolves and bears) while they are in use.</p> <p>2.4 Coordinate strategic planning and management for wildlife habitat, including critical seasonal ranges, between Protected Areas and the adjacent landbase.</p>
<p><b>Moose winter range</b></p> <p>3. Maintain the functional integrity of mapped moose winter range by:</p> <ul style="list-style-type: none"> <li>• maintaining critical habitat features such as thermal and snow interception cover, winter forage opportunities, and visual screening; and</li> </ul>	<p>In the short term, moose winter range will be based on Map 5: high value moose habitat. More detailed mapping of moose winter range, based on the broad mapping in Map 5 will be completed and recommended for designation as Ungulate Winter Range under the Forest Practices Code by December, 2001.</p> <p>3.1 Use forest practices that minimize habitat impacts within mapped moose winter range:</p> <ul style="list-style-type: none"> <li>• Plan harvesting activities to provide adequate thermal, visual and snow interception cover adjacent to openings</li> <li>• Provide visual screening of swamps, south facing slopes, rivers, or openings along highways, secondary roads, and main forestry/mining roads</li> <li>• Maintain or enhance the production of native forage during forestry activities or land reclamation</li> </ul>

<b>Wildlife</b>	
<b>Objectives</b>	<b>Strategies</b>
<ul style="list-style-type: none"> <li>managing harvesting activities to minimize impact to winter habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Use mixed forest management to achieve similar species distribution to natural stands (including deciduous species).</li> </ul> <p>3.2 Minimize road construction in mapped moose winter range.</p> <p>3.3 If roads are required in moose winter range, implement measures to reduce/avoid impacts on ungulates (displacement, increased predation, habitat degradation, and increased hunting). Examples could include:</p> <ul style="list-style-type: none"> <li>Locate roads to minimize impacts</li> <li>Public access restrictions (e.g., seasonal closures, gates)</li> <li>Access controls (gates, pulling bridges, etc.)</li> <li>Deactivate roads when projects completed.</li> </ul> <p>3.4 As a general principle, within a landscape unit, spatially and temporally distribute harvesting to maintain continuous mature and old forest cover connecting areas of mapped moose winter range in keeping with natural disturbance patterns.</p>
<p><b>Caribou</b></p> <p>4. Maintain large areas of high value caribou habitat (see Map 6), including spring, summer and winter habitat, by maintaining the integrity of important habitat characteristics such as forests with lichen, areas of contiguous mature and old forest, and wetland complexes.</p>	<p>4.1 Design and locate roads to minimize impacts to high value caribou habitat, particularly in caribou winter range (see S 5.3: Wildlife ).</p> <p>4.2 As a general principle, design and locate cutblocks to provide connectivity of appropriate seral stages linking caribou habitats and seasonal ranges at the landscape, subregional and regional scales, in keeping with natural disturbance patterns.</p>
<p>5. Maintain the functional integrity of mapped caribou winter range, with particular reference to the Three Sisters, Kehlechoa River and the Stikine.</p>	<p>In the short term, caribou winter range will be based on Map 6: high value caribou habitat. More detailed mapping of caribou winter range, based on the broad mapping in Map 6 will be completed and recommended for designation as Ungulate Winter Range under the Forest Practices Code by December, 2001.</p> <p>5.1 Manage fires and forestry activities to maintain adequate old and lichen producing forests. This could include:</p>

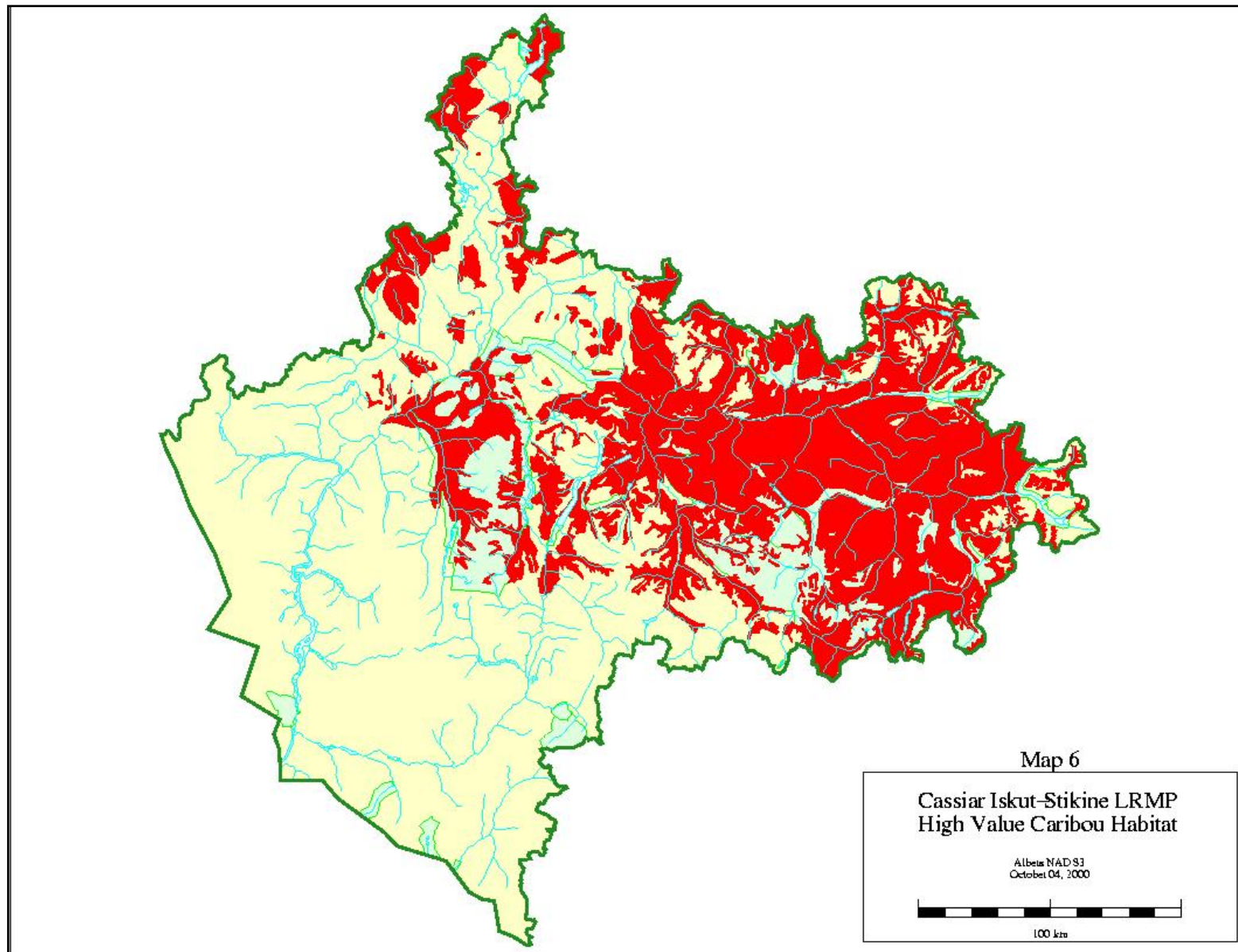
Wildlife	
Objectives	Strategies
<p>Range north and east of Spatsizi Park, by:</p> <ul style="list-style-type: none"> <li>maintaining winter forage opportunities and snow interception cover, and</li> <li>managing access and harvesting activities to minimize impact to winter habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Prescribed burning to promote lichen growth and to stimulate new growth</li> <li>Active fire control on critical winter range when old seral stage threshold is threatened</li> <li>Use a mixture of silviculture systems appropriate to emulate natural disturbance in caribou habitats. For example, pine stands should be harvested using an aggregated block system with retention. White and black spruce-wetland complexes should use silvicultural systems that result in high levels of retention and structure.</li> </ul> <p>5.2 Minimize road construction in caribou winter range.</p> <p>5.3 If new roads are required within caribou winter range, minimize impacts on caribou populations as follows:</p> <ul style="list-style-type: none"> <li>Strongly encourage air access for mineral exploration and approving roads only for advanced projects. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).</li> <li>Design roads to minimize fragmentation of caribou winter range.</li> <li>Consider restrictions on motorized recreational use (e.g., ATVs).</li> <li>Deactivate forestry and mine roads when projects are complete.</li> <li>Deactivate mineral exploration roads in a timely manner.</li> <li>For forestry and mine development, prepare an access plan to minimize impacts on caribou populations. The access plan should address forest fragmentation and the need for seasonal access restrictions, access controls and public access restrictions.</li> </ul>

**Map 5: Cassiar Iskut-Stikine LRMP – High Value Moose Habitat**





**Map 6: Cassiar Iskut-Stikine LRMP – High Value Caribou Habitat**





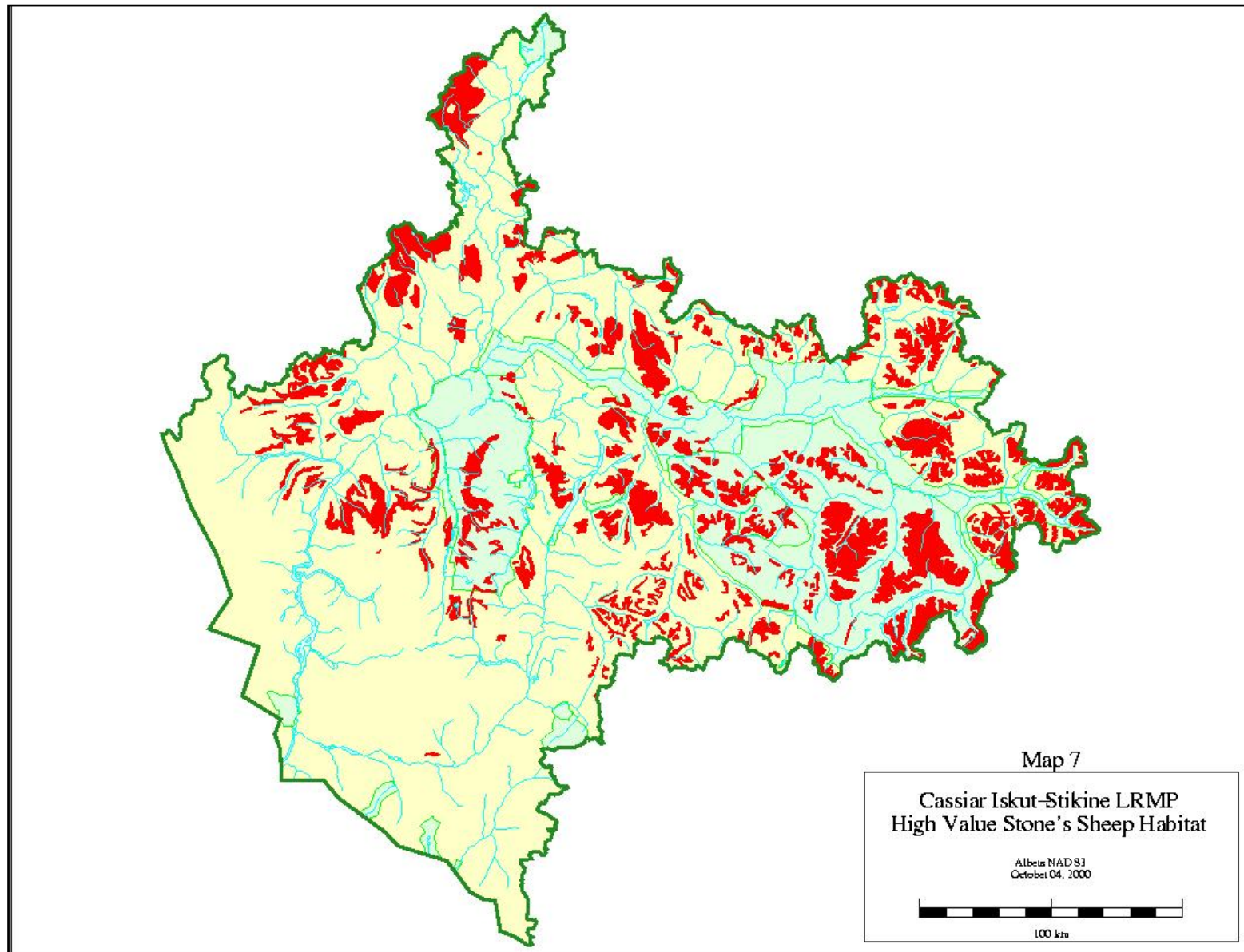
Wildlife	
Objectives	Strategies
<p><b>Stone's sheep and mountain goat</b></p> <p>6. Maintain large areas of high value Stone's sheep habitat (Map 7) and mountain goat habitat (Map 8) and avoid disturbing animals during kidding and lambing (Map 9).</p>	<p>6.1 Air access is preferred for early mineral exploration.</p> <p>6.2 To the extent possible, and with the exception of operating mines, avoid government approved activities in or near to natal areas for Stone's sheep and mountain goats (Map 9) from April 15 to June 15. This strategy applies to activities for which permits are issued such as mineral activities, recreation, and sightseeing.</p> <p>6.3 To the extent possible, avoid repeated flights in or near to natal areas for Stone's sheep and mountain goats (Map 9) from April 15 to June 15. This strategy applies to air access for mineral activities, recreation, and sightseeing.</p> <p>6.4 Avoid locating roads near natal/critical habitats for Stone's sheep and mountain goat (Map 9). Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).</p> <p>6.5 Where locating roads near natal/critical habitats is unavoidable:</p> <ul style="list-style-type: none"> <li>• B.C. Environment will work with the relevant stakeholders to identify strategies to minimize impacts to sheep/goats</li> <li>• Minimize road use during kidding/lambing times (April 15 - June 15)</li> <li>• Deactivate new non-permanent roads after use.</li> </ul> <p>6.6 Inform local pilots of known natal areas and provide information on flying practices that minimize disturbance of goat and sheep.</p> <p>6.7 As a general principle, maintain movement corridors linking habitat features such as escape terrain, summer foraging sites, winter forest cover, and natal areas, in keeping with natural disturbance patterns.</p>
<p>7. Maintain the functional integrity of mapped winter range for mountain ungulates (Stone's sheep and mountain goats) by:</p> <ul style="list-style-type: none"> <li>• maintaining critical habitat features such as thermal and</li> </ul>	<p>In the short term, mountain ungulate winter range will be based on Maps 7 and 8: high value Stone's sheep and mountain goat habitat. More detailed mapping of mountain ungulate winter range, based on the broad mapping in Maps 7 and 8, will be completed and recommended for designation as Ungulate Winter Range under the Forest Practices Code by December, 2001.</p> <p>7.1 Plan harvesting activities in mapped mountain ungulate winter range to provide adequate thermal and snow interception cover adjacent to openings and along movement corridors (e.g., to winter supplies of open water).</p>

<b>Wildlife</b>	
<b>Objectives</b>	<b>Strategies</b>
<p>snow interception cover and winter forage opportunities, and</p> <ul style="list-style-type: none"> <li>managing access to minimize impact to winter habitat.</li> </ul>	<p>7.2 Minimize road construction in mountain ungulate winter range.</p> <p>7.3 If roads are required within mapped mountain ungulate winter range, minimize impacts on mountain ungulate populations as follows:</p> <ul style="list-style-type: none"> <li>Design roads to minimize fragmentation of mountain ungulate habitat</li> <li>Consider restrictions on motorized recreational use (e.g., ATVs)</li> <li>Deactivate roads when projects are complete</li> <li>Deactivate forestry and mine roads when projects are complete.</li> <li>Deactivate mineral exploration roads in a timely manner</li> <li>For forestry and mine development, prepare an access plan to minimize impacts on mountain ungulate populations. The access plan should address forest fragmentation and the need for seasonal access restrictions, access controls and public access restrictions.</li> </ul>
<p><b>Grizzly Bear</b></p> <p>8. Maintain large areas of high value grizzly habitat (see Map 10) by maintaining areas of well-distributed, seasonally important habitats for grizzly across the landscape and through time.</p>	<p>Within areas of high value grizzly habitat (Map 10):</p> <p>8.1 Avoid critical grizzly bear habitats (avalanche chutes, sedge fens, skunk cabbage, high berry producing sites, spawning areas, etc., etc.) when undertaking activities on Crown land in order to reduce bear displacement and habitat loss. If unavoidable then incorporate the following measures.</p> <ul style="list-style-type: none"> <li>Limit main stem road development so that the road is on one side of a valley at any one location</li> <li>Deactivate and rehabilitate roads that cross avalanche chutes by removing ballast &amp; road bed</li> <li>Schedule activities (mineral exploration, forestry, and commercial recreation) to avoid displacing bears from critical seasonal habitats.</li> </ul> <p>Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).</p> <p>8.2 Manage fires and forestry activities to maintain adequate old forests and fire-related habitat mosaics. This will include the following measures:</p> <ul style="list-style-type: none"> <li>Prescribed burning, where appropriate</li> <li>Use of a mixture of silviculture systems appropriate to emulate natural disturbance patterns in high value grizzly habitat. Measures could include the following:</li> </ul>

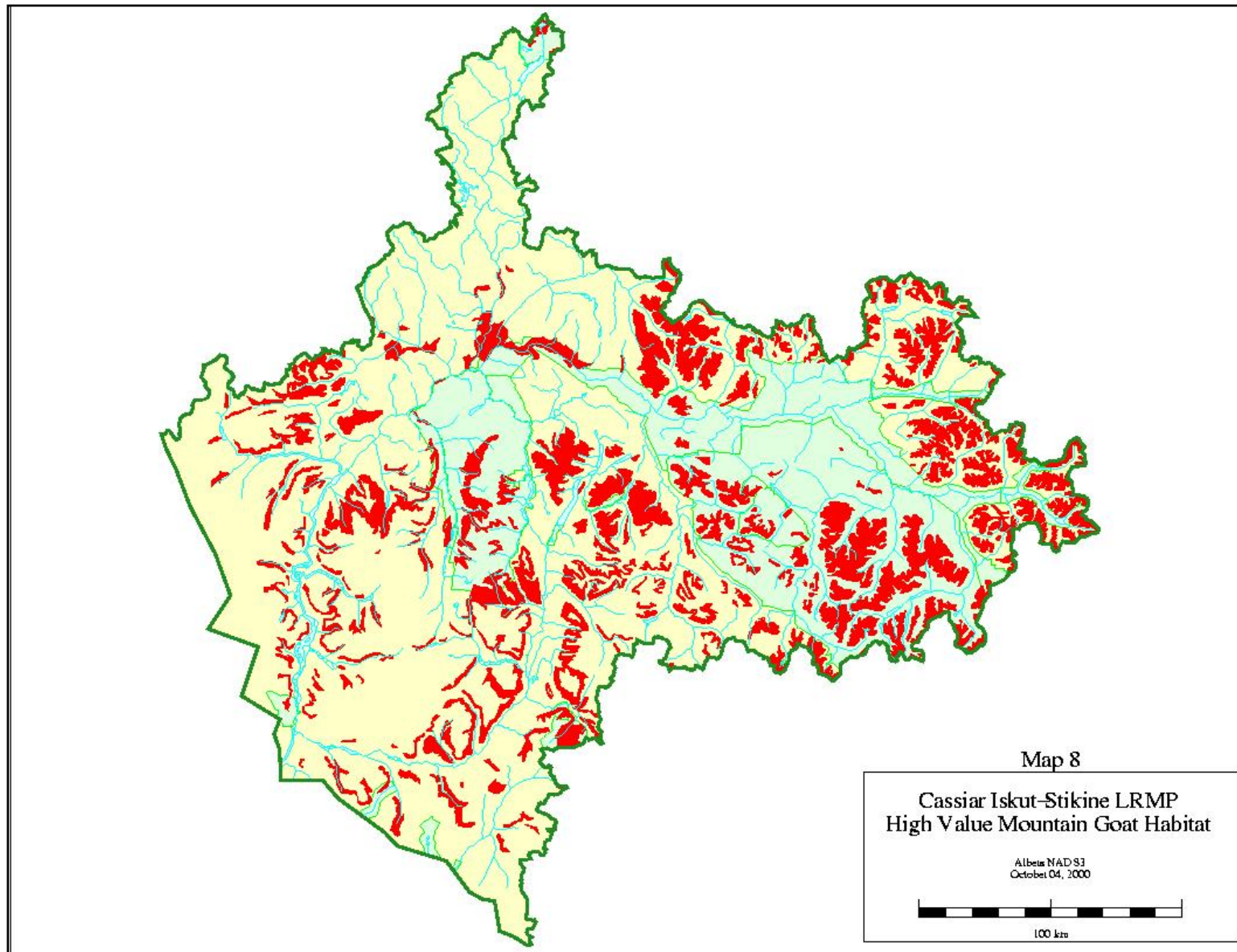
Wildlife	
Objectives	Strategies
	<p>⇒ Locate wildlife tree patches within blocks and not at the edge of the cutblock. WTPs should incorporate the adequate structure and vegetation to provide visual screening and escape cover. Where it is consistent with the targets for % retention specified in Strategy 2.2: Natural Disturbance Patterns, concentrate WTPs so that they are at least 1 ha in size</p> <p>⇒ Retain pure hardwood stands or mixed stands throughout the rotation to maintain forage production by landscape unit with high, and moderate to high grizzly bear habitat values (Map 10)</p> <p>⇒ Provide a mix of stocking standards and planting/spacing densities to provide openings for forage and berry production, where ecologically appropriate and operationally feasible</p> <p>⇒ Retain escape, bedding, and thermal cover and visual screening near roads, riparian areas, and open forage areas</p> <p>⇒ In NDTs 1-3, retain the largest pieces of downed coarse woody debris in decay classes 1-2 to provide an insect food source for grizzly.</p> <p>8.3 As a general principle, design and locate cutblocks to provide connectivity of appropriate seral forest linking grizzly habitats at the landscape, subregional and regional scales, in keeping with natural disturbance patterns.</p>
9. Reduce human-bear interactions.	<p>9.1 Use bear deterrents for industrial activities and commercial recreation facilities. Examples include:</p> <ul style="list-style-type: none"> <li>• Bear spray</li> <li>• Electronic fencing strongly recommended for camps of greater than 1 week's duration at any one site</li> <li>• Proper food storage and garbage management to reduce attractants for bears</li> <li>• Designate trained safety officers to deal with problem bears in medium to large camps</li> <li>• Provide training to staff on bear awareness and deterrents.</li> </ul> <p>9.2 Seed road rights of way with plant species that are non-invasive and, where compatible with erosion and sedimentation requirements, unpalatable for grizzlies.</p> <p>9.3 Manage recreation and tourism to reduce human-bear interactions by:</p>

Wildlife	
Objectives	Strategies
	<ul style="list-style-type: none"> <li>• Locating recreation sites and trails to avoid critical habitats in high grizzly bear habitats</li> <li>• Considering impacts to grizzly bears when approving permits for commercial recreation operations</li> <li>• Provide training or education on bear awareness and deterrents.</li> </ul> <p>9.4 Minimize conflicts with domestic livestock grazing by avoiding high value grizzly bear habitat where possible when issuing new grazing permits. Manage grazing to avoid conflicts using the following techniques:</p> <ul style="list-style-type: none"> <li>• salt placement</li> <li>• alternative water development</li> <li>• drift fencing</li> <li>• herding</li> <li>• altering periods of livestock use.</li> </ul>
<p>10. Manage hunting and other activities to limit bear mortality from all human causes to less than 4% of the estimated population, and so that:</p> <ul style="list-style-type: none"> <li>• the harvest of females does not exceed 30% of the annual allowable harvest, and</li> <li>• the total kill is not area-concentrated.</li> </ul>	<p>10.1 Monitor grizzly bear mortality and adjust legal mortality levels accordingly. Examples of indicators of grizzly mortality could include:</p> <ul style="list-style-type: none"> <li>• Field inventory of populations and habitats</li> <li>• Consistent numbers of young of the year being sighted annually at the landscape level</li> <li>• No increases in estimates of illegal kills.</li> </ul> <p>10.2 Apply hunting and/or access restrictions only when there is substantiated evidence that grizzly populations are at risk or declining (this includes verifiable local information and scientific/biological studies).</p>

**Map 7: Cassiar Iskut-Stikine LRMP – High Value Stone's Sheep Habitat**

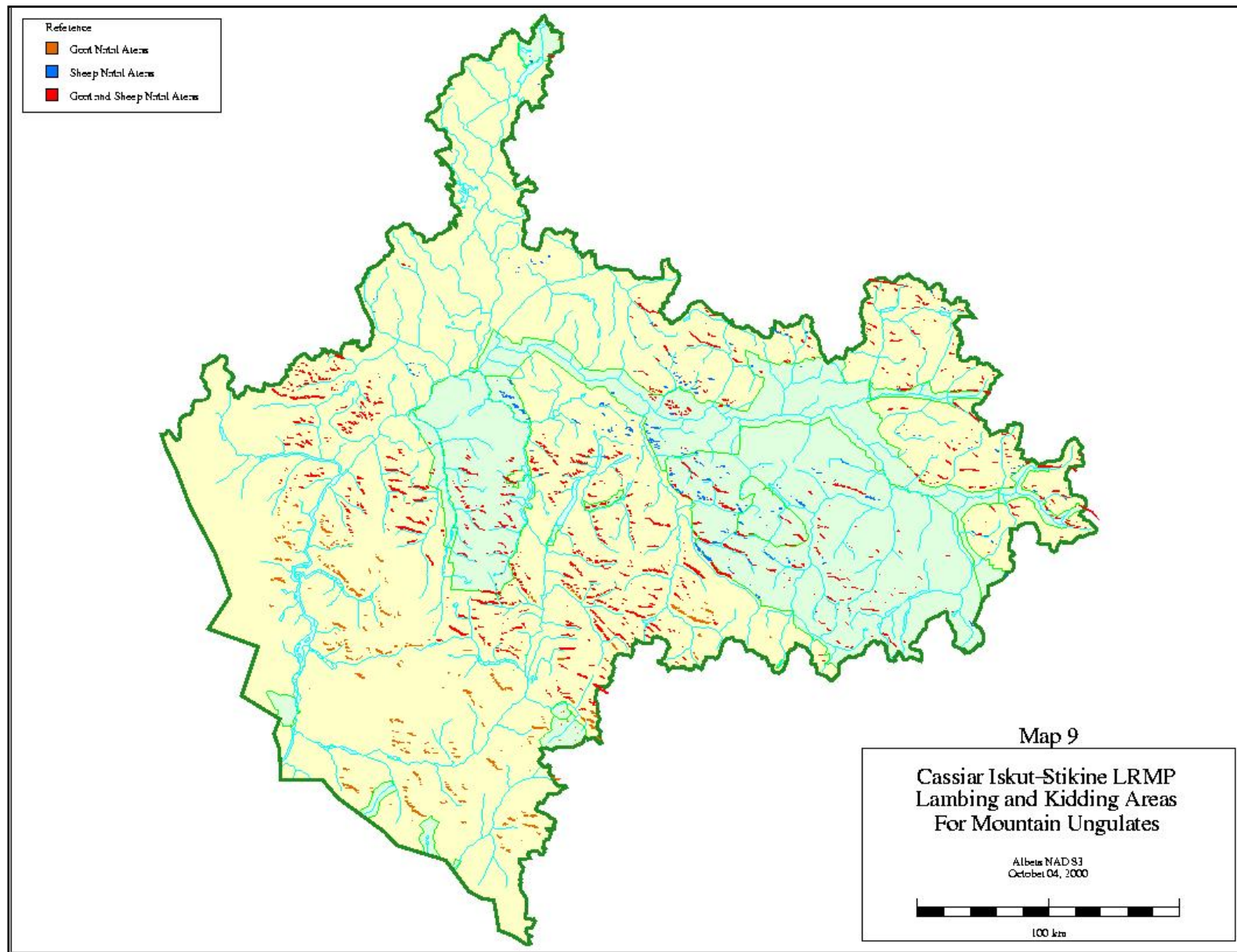


**Map 8: Cassiar Iskut-Stikine LRMP – High Value Mountain Goat Habitat**





**Map 9: Cassiar Iskut-Stikine LRMP – Lambing and Kidding Areas for Mountain Ungulates**



<b>Wildlife</b>	
<b>Objectives</b>	<b>Strategies</b>
11. Minimize bear/human conflicts and disruption of bear habitat use.	<p>11.1 Monitor human-bear encounters/ mortalities on an annual basis by grizzly bear population unit and take measures to reduce bear encounters where there are repeated incidents or high mortality rates over a 2 year period. Measures could include:</p> <ul style="list-style-type: none"> <li>• Increasing the use of bear deterrents</li> <li>• Closing problem sites to recreational use</li> <li>• Modifying waste disposal practices</li> <li>• Moving recreation activities for which permits are issued to areas with lower encounter rates</li> <li>• Seasonal restrictions of recreational activities around high seasonal habitat areas, and</li> <li>• Adjusting hunting regulations.</li> </ul> <p>11.2 Locate permanent facilities, including wildlife viewing areas, to minimize bear/human conflicts and disruption of bear habitat use.</p> <p>11.3 Provide public education with regard to bear safety and measures to minimize human-bear encounters.</p>
12. Monitor the overall effectiveness of habitat management for grizzly bear.	<p>12.1 Conduct studies of grizzly bear population and habitat ecology in the Lower Stikine/Iskut area and Hottah/Tucho/Pitman area as outlined in Section 3: Research and Inventory Priorities. The purpose of this research will be to study population ecology and habitat (including grizzly/salmon interaction), to provide information and data to discussions of population and habitat management for grizzly e.g., through other processes or the provincial grizzly conservation strategy.</p> <p>12.2 Based on inventory and evaluation results, apply an adaptive management approach and adjust strategies for grizzly habitat management.</p> <p>12.3 Review the effectiveness of grizzly bear conservation at the 10 year review of the LRMP.</p>
<b>Marten</b> 13. Maintain large areas of high value marten habitat (Map 11) by maintaining important habitat characteristics, such as forest structural attributes, and	<p>13.1 Use a mixture of silviculture systems appropriate to emulate natural disturbance in marten habitats such as the following:</p> <ul style="list-style-type: none"> <li>• Use forestry techniques to enhance berry production, small mammal forage, and provide structure for subnivean access e.g., WTP (see Section 2.3.2.5: Natural Disturbance Patterns)</li> <li>• Spatially and temporally distribute harvesting to provide forest interior conditions in areas of high value marten habitat, in keeping with natural disturbance patterns</li> </ul>



Wildlife	
Objectives	Strategies
mature and old forest providing interior forest conditions.	<ul style="list-style-type: none"> <li>• Conduct prescribed burning (old &amp; new burns) in some areas of the boreal forest to provide berries for small mammals.</li> </ul> <p>13.2 Leave debris and CWD on blocks as habitat for small mammals (i.e. do not burn slash piles or windrows). Where ecologically appropriate and operationally feasible, locate piles near cover or WTP.</p>

### 2.3.3 Botanical Forest Products and Medicinal Plants

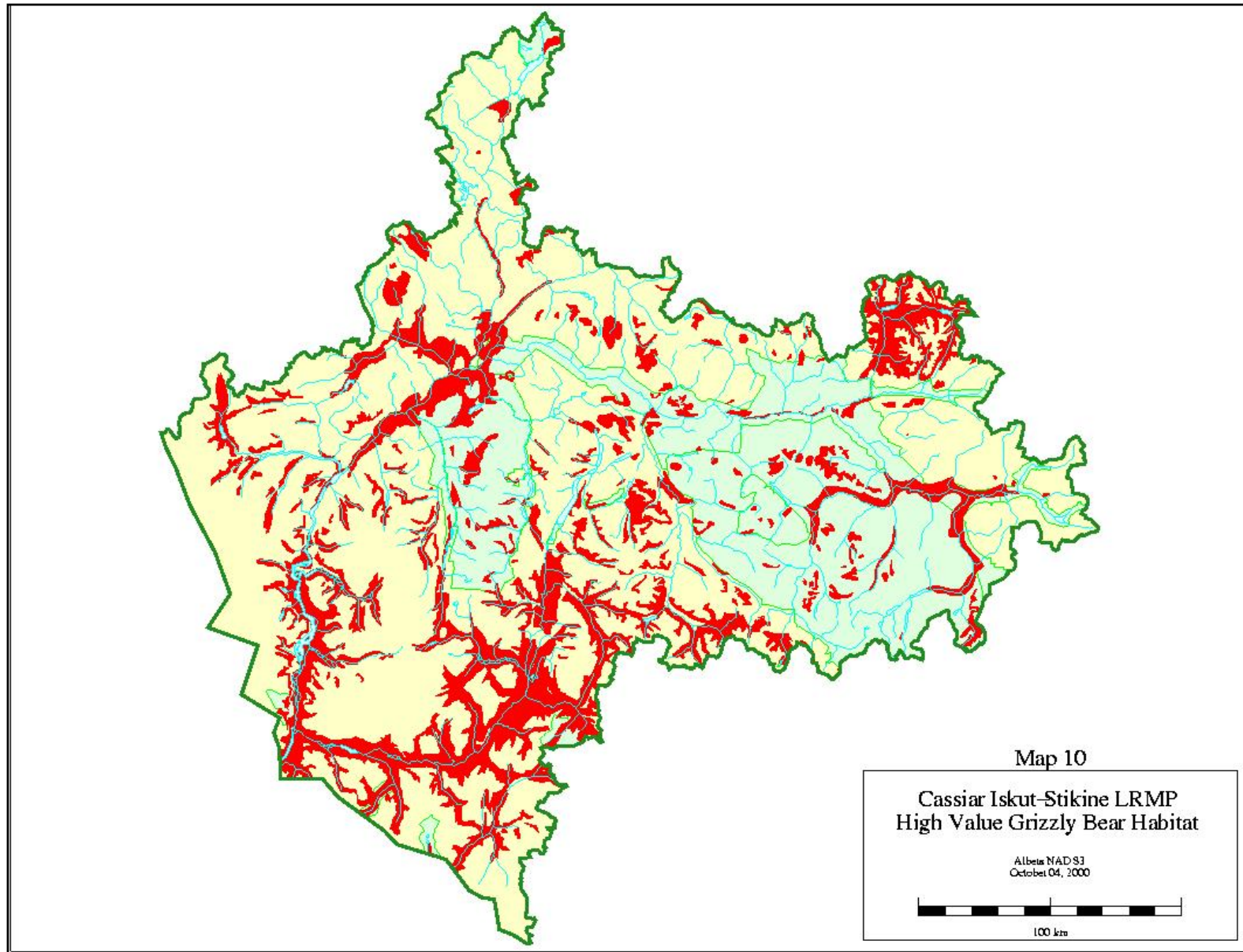
There are a variety of botanical forest products that provide opportunities for commercial and sustenance use. These include pine and other mushroom species, wild berries, and medicinal plants. The primary interest is to ensure the continued availability and long term sustainability of these products, particularly with reference to resource development activities (e.g., timber harvesting) and potential future commercial harvesting.

#### Goals/ Desired Future State

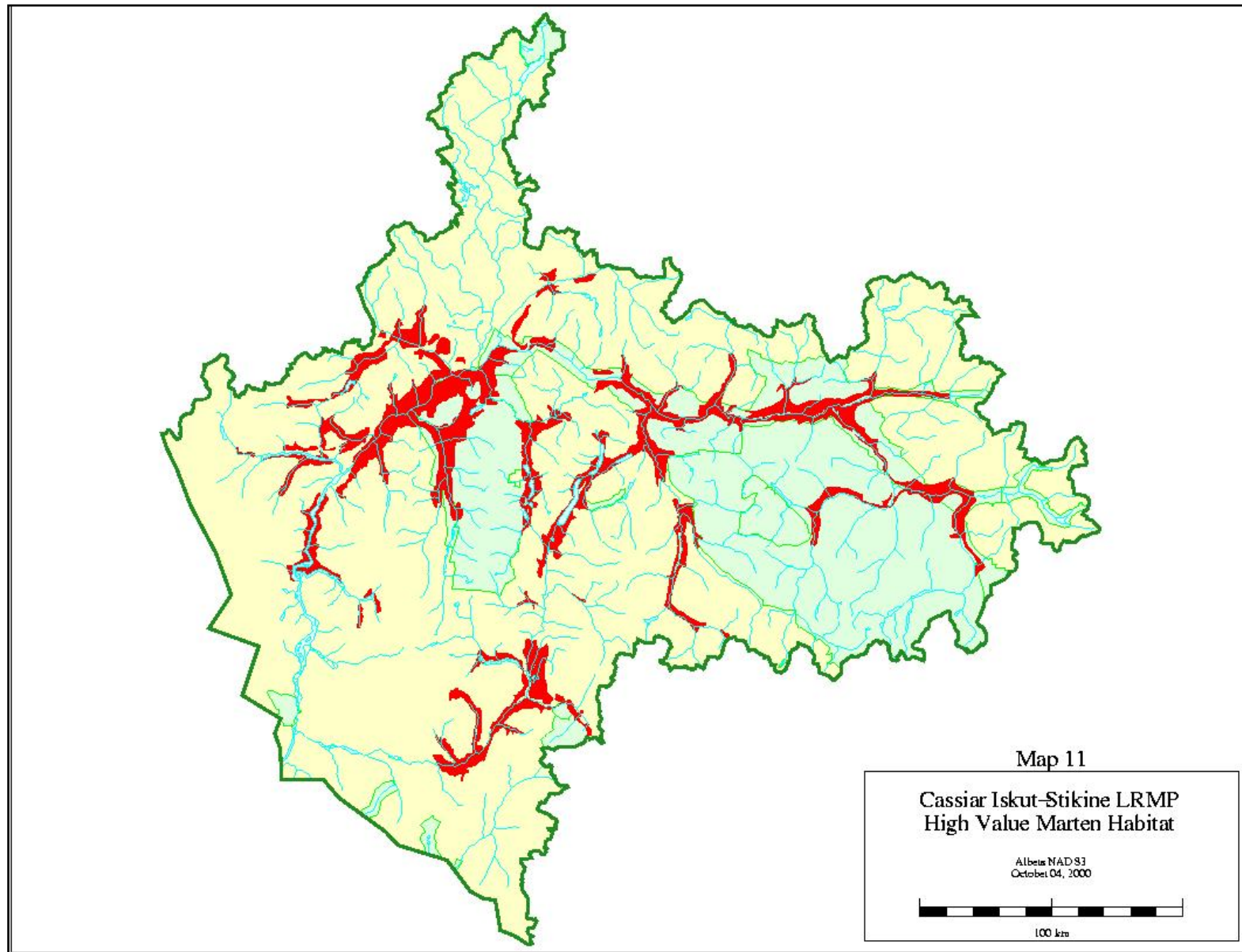
- ☐ A sustainable supply of botanical forest products (mushrooms, berries, and medicinal plants).

Botanical Forest Products	
Objectives	Strategies
1. Maintain pine mushroom growing sites by integrating forest management activities with growing requirements for mushrooms.	<p>1.1 In known high value Pine Mushroom areas, extend the timber harvest rotation age beyond 150 years i.e., the productive pine mushroom growing period.</p> <p>1.2 Schedule logging of known high value Pine Mushroom areas in the last pass (third pass in a three pass system).</p> <p>1.3 When logging in known high value Pine Mushroom areas</p> <ul style="list-style-type: none"> <li>• reduce forest floor disturbance and soil compacting through the use of low impact silviculture and harvesting systems (i.e. winter harvesting, selection harvesting, low ground pressure machinery, cable harvesting), and</li> <li>• use silviculture systems that maximize long term pine mushroom productivity. Examples, to be applied where ecologically appropriate, include group selection, single tree selection, and small patch openings (up to 600 - 900 m<sup>2</sup> in size).</li> </ul>

**Map 10: Cassiar Iskut-Stikine LRMP – High Value Grizzly Bear Habitat**



**Map 11: Cassiar Iskut-Stikine LRMP – High Value Marten Habitat**



<b>Botanical Forest Products</b>	
<b>Objectives</b>	<b>Strategies</b>
2. Maintain opportunities for sustainable harvesting of other species of mushroom.	2.1 Undertake measures to ensure that supplies of harvestable mushrooms are both available and sustainable over time.
3. Maintain accessible berry producing areas across the landscape through time.	<p>3.1. Assess existing berry producing areas that are accessible to determine whether berry production is declining as the opening converts to forest, or is stable or increasing. If necessary, bring other areas into berry production. Options for treatment include:</p> <ul style="list-style-type: none"> <li>• letting natural succession proceed (if other accessible areas are beginning to produce berries), and</li> <li>• using prescribed fire or other methods to rejuvenate the potential of the area.</li> </ul> <p>3.2 Other areas may be brought into berry production through timber harvesting, wildfire or prescribed fire.</p>
4. Maintain opportunities for the sustainable harvesting of medicinal plants.	<p>4.1 Maintain local availability of commercially valuable species of medicinal plants by:</p> <ul style="list-style-type: none"> <li>• Maintaining opportunities for access to areas of medicinal plants, and</li> <li>• Providing continued opportunities for harvesting for local needs when allocating tenures to harvest medicinal plants.</li> </ul> <p>4.2 Minimize impacts to medicinal plants (e.g., as referenced in the Tahltan traditional use study) during timber harvesting and silvicultural practices. Measures could include:</p> <ul style="list-style-type: none"> <li>• In a landscape unit, spatially arranging timber harvest blocks to avoid areas with high localized concentrations of medicinal plants in the first pass</li> <li>• Placing wildlife tree patches (and other reserves) in areas with high concentrations of medicinal plants</li> <li>• Use of low ground disturbance logging and silviculture methods in areas with high concentrations of medicinal plants when these areas are to be harvested. Examples could include: <ul style="list-style-type: none"> <li>⇒ Winter only logging</li> <li>⇒ Use of low ground pressure machinery, horses, cable harvesting systems, etc.</li> <li>⇒ Use of group selection silviculture systems to create small canopy gaps (600-900 m<sup>2</sup>) where ecologically appropriate, and</li> </ul> </li> </ul>

Botanical Forest Products	
Objectives	Strategies
	⇒ No slashburning or high ground disturbance site prep such as mounding, scarification, trenching, etc.
5. Maintain opportunities for sustainable harvesting of other botanical forest products.	5.1 Undertake measures to ensure that supplies of botanical forest products are both available and sustainable over time.

### 2.3.4 Cultural Heritage Resources

The LRMP area has a rich heritage reflecting past and present uses by aboriginal people and non-aboriginal people. There are three types of heritage resources recognized in the objectives and strategies for cultural heritage resources:

#### 1) *Archaeological sites*

These are sites which have physical remains of past human activity. Examples include old grave sites, rock art, old village sites, lithic scatters (rock chips – often obsidian – from making stone tools, etc.)

#### 2) *First Nations Traditional Use Sites*

These are sites with cultural importance to First Nations – the sites are not necessarily associated with past physical remains and may or may not be used to this day by local First Nations communities. Examples include fishing sites, hunting camps, traditional trails, berry picking areas, legend/sacred sites, etc. Although traditional use sites are not formally protected, government has a legal obligation to work closely with First Nations to ensure traditional use sites are respected and not unduly interfered with. This obligation was confirmed in a series of court cases on constitutionally protected aboriginal rights over the past ten years.

#### 3) *Historic Sites*

These are usually sites with historic significance associated with non-aboriginal heritage. Examples include locations of old pioneer settlements, historic buildings, pioneer trails, etc. Some examples include historic buildings in Telegraph Creek, Glenora, the Telegraph Trail, etc.

Some heritage resources automatically receive formal protection under the *Heritage Conservation Act*. These include:

- all pre-1846 archaeological sites and artifacts
- all aboriginal rock art
- any burial places with historical or archaeological value.

When these heritage resources are encountered during development activities, there is a legal requirement to report the discovery and to cease activities until the significance of the resources can be assessed.

### Goals/ Desired Future State

- ☐ Recognize and respect the heritage and cultural values of archaeological sites, First Nations traditional use sites and pioneer heritage sites in planning and management of all resource development activities.

Cultural Heritage Resources	
Objectives	Strategies
1. Conserve archaeological resources.	<p>1.1 Reference the Archaeological Overview Assessment (AOA) in areas targeted for commercial timber harvesting, road building or mine development before approving activities.</p> <p>1.2 For timber harvesting, road building and proposed mines, conduct an archaeological impact assessment (AIA) in areas with high archaeological potential as identified by an Archaeological Overview Assessment.</p> <p>1.3 For other activities approved on Crown Land, determine the need for an AIA on a case-by-case before undertaking activities with significant potential to disturb archaeological sites.</p> <p>1.4 If impacts are identified through the AIA, take steps to mitigate impacts as outlined in the <i>Heritage Conservation Act</i>.</p>
2. Minimize impact of development on First Nations' traditional use sites.	<p>2.1 Encourage completion and updating of traditional use studies in LRMP area.</p> <p>2.2 Consistent with current policy, consult with First Nations before approving activities on Crown land to determine whether there may be an impact on traditional use sites. Where impacts are identified, work cooperatively with the First Nations to minimize impacts.</p>
3. Conserve the following heritage trails in the LRMP Area (see Map 12): <ul style="list-style-type: none"> <li>• Klastline Trail</li> <li>• Telegraph Trail.</li> </ul>	<p>3.1 Do not harvest timber within 100 metres on either side of heritage trails (Map 12).</p> <p>3.2 Avoid developments near heritage trails (including road development). Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).</p>

<b>Cultural Heritage Resources</b>	
<b>Objectives</b>	<b>Strategies</b>
	<p>3.3 If development is required near a trail, design activities to minimize impact on values of trail. This includes assessing archaeological impacts.</p> <p>3.4 Only non-motorized use will be allowed on heritage trails from spring thaw to fall freeze-up (no ATV or other motorized vehicles use). Motorized winter use (i.e. snowmobiles) is acceptable.</p>
4. Maintain the integrity and historic features of pioneer heritage sites.	<p>4.1 Encourage local government (regional district) to carry out planning of pioneer heritage resources (including pursuing formal heritage designations) in consultation with local First Nations and non-aboriginal residents.</p> <p>4.2 Maintain the physical integrity of historic features as well as associated aesthetic values (i.e. visual quality, lack of debris, etc.), when undertaking any activities on or adjacent to known pioneer heritage sites.</p>

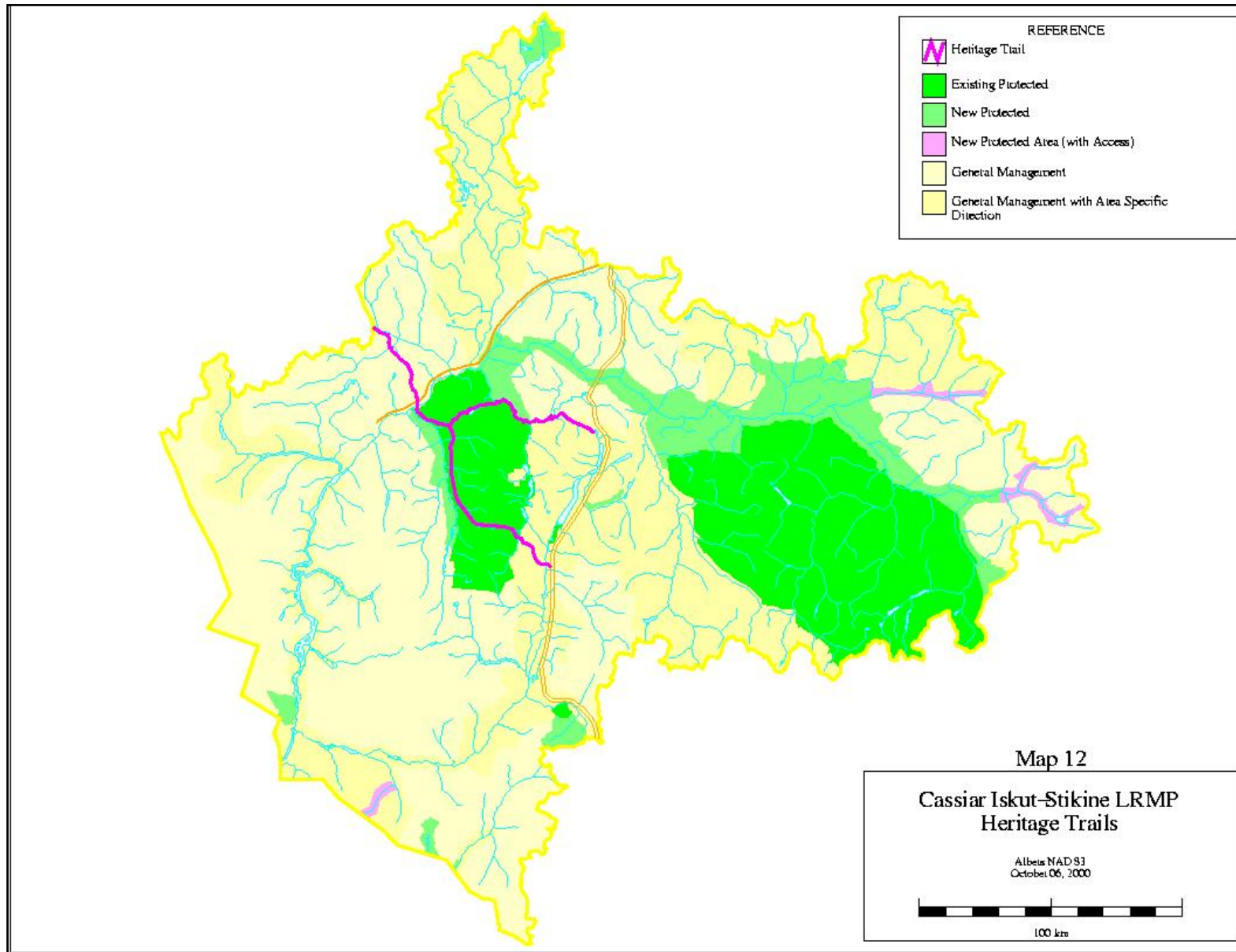
### **2.3.5 Hunting, Trapping, Guide Outfitting, Fishing**

Hunting, trapping, and fishing are important activities for sustenance, recreation and the economy in the LRMP area. Country food harvests, including hunting, trapping, and fishing, are an integral component of the economic, social, and cultural life of First Nations and non-aboriginal residents. Opportunities to hunt, trap and fish are also important for people from outside of the area. Guiding is an integral economic component of the LRMP area, providing both local and regional economic and employment benefits.

Ministry of Environment, Lands, and Parks manage fish and wildlife to maintain viable, sustainable populations with conservation as the first priority. After conservation needs have been met, the harvestable surplus is made available to aboriginal hunters (pursuant to aboriginal rights), BC resident, licensed hunters, and non-resident (guided) licensed hunters. The LRMP objectives and strategies endorse this approach to management, to achieve the long-term goal of maintaining viable fish, game and furbearer populations.



**Map 12: Cassiar Iskut-Stikine LRMP – Heritage Trails**





## Goals/ Desired Future State

- ☐ Viable fish, game and furbearer populations that continue to support the sustenance, cultural, economic, and recreational needs of First Nations and local residents.

Hunting, Trapping, Guide-Outfitting, Fishing	
Objectives	Strategies
1. Manage game wildlife populations to be a sustainable renewable resource.	<p>1.1 Survey and monitor game populations to ensure that sex ratios and population numbers reflect natural population structures. Examples of criteria currently used include the following:</p> <ul style="list-style-type: none"> <li>• Moose and Caribou <ul style="list-style-type: none"> <li>⇒ Moose bull:cow ratio of at least 50 bulls:100 cows</li> <li>⇒ Caribou bull:cow ratio of at least 30 bulls:100 cows</li> <li>⇒ Late winter calf: cow ratio of at least 30 calves:100 cows (moose and caribou).</li> </ul> </li> <li>• Mountain Goat <ul style="list-style-type: none"> <li>⇒ Harvest level does not exceed 3 % of the total population and that the harvest of females does not exceed 30% of the annual allowable harvest</li> <li>⇒ A natural herd structure is maintained with regard to age, distribution and sex.</li> </ul> </li> <li>• Stone's sheep <ul style="list-style-type: none"> <li>⇒ Minimum curl for harvesting is full curl</li> <li>⇒ A natural herd structure is maintained.</li> </ul> </li> <li>• Grizzly Bear <ul style="list-style-type: none"> <li>⇒ Mortality (hunting and problem bears) is less than 4% of the total population and that the harvest of females does not exceed 30% of the annual allowable harvest.</li> </ul> </li> </ul> <p>1.2 Predator management may occur when scientific evidence indicates that ungulate populations are at risk or declining from high predator populations. Poisoning or aerial wolf kills are not acceptable methods of predator management. The following are examples of currently acceptable wolf population control techniques:</p> <ul style="list-style-type: none"> <li>• Contraception/sterilization</li> <li>• Transplanting predators to formerly inhabited areas</li> <li>• Encouraging communities/trappers to increase harvest.</li> </ul> <p>1.3 Manage small game and migratory waterfowl using the following measures:</p> <ul style="list-style-type: none"> <li>• Annual review of wildlife regulations that pertain to the LRMP area</li> </ul>

<b>Hunting, Trapping, Guide-Outfitting, Fishing</b>	
<b>Objectives</b>	<b>Strategies</b>
	<ul style="list-style-type: none"> <li>Continued coordination of information and studies between federal, provincial jurisdictions as well as international and non-governmental organizations</li> <li>Continued monitoring of waterfowl and small game harvest through hunter surveys.</li> </ul>
	<p>1.4 Monitor harvest levels of game species by the following:</p> <ul style="list-style-type: none"> <li>First Nations harvest surveys (voluntary compliance to report all season harvest)</li> <li>Resident hunter surveys and guide outfitter harvest declarations.</li> </ul>
	<p>1.5 Promote effective wildlife management with the following measures:</p> <p>a) Support the establishment of an advisory wildlife management board/committee consisting of First Nations, local residents, non-government groups (residents, BC Wildlife Federation, Guide Outfitters' Association of BC, naturalist clubs, etc.) to review and provide input for the following:</p> <ul style="list-style-type: none"> <li>Monitoring and management of game species; and</li> <li>Annual review of wildlife regulations that pertain to the LRMP area.</li> </ul> <p>b) Amend hunting regulations, as required.</p> <p>c) Improve consultation, management, and co-operation with First Nations and the acceptance of traditional knowledge in setting of wildlife regulations, and in monitoring and management of game species.</p> <p>d) Co-ordinate management between regions and jurisdictions.</p> <p>e) Monitor compliance and enforcement of the regulations.</p> <p>f) Undertake timely population surveys.</p>
	<p>1.6 Apply timely hunting and/or access restrictions when there is substantiated evidence that game populations are at risk or declining (this includes verifiable local information and scientific/biological studies).</p>
	<p>1.7 Coordinate strategic planning and management for wildlife and fish populations between Protected Areas and the adjacent landbase.</p>

<b>Hunting, Trapping, Guide-Outfitting, Fishing</b>	
<b>Objectives</b>	<b>Strategies</b>
2. Maintain opportunities for local, resident and non-resident hunting.	<p>2.1 Recognize the importance of the country food harvest for local residents.</p> <p>2.2 Provide opportunities for resident (B.C.) and non-resident hunters.</p> <p>2.3 Hunting and/or access restrictions will only occur when there is substantiated evidence that game populations are at risk or declining (this includes verifiable local information and scientific/biological studies).</p>
3. Maintain opportunities for First Nations subsistence and traditional use hunting.	<p>3.1 Respect traditional hunting practices when allocating hunting opportunities.</p> <p>3.2 Consult with First Nations before introducing access restrictions that might affect traditional hunting activities.</p>
4. Manage furbearer populations to be a sustainable renewable resource.	<p>4.1 Encourage trapline license holders and First Nations trappers to incorporate the following best management practices for trapping marten:</p> <ul style="list-style-type: none"> <li>• Use the refuge system where 30% of marten habitat is extensively trapped</li> <li>• Space traplines at least 10 km apart with refuge areas between traplines</li> <li>• Keep accurate records of habitat conditions (logging, burns, etc., etc.), snowshoe hare cycles, trapping pressure and success</li> <li>• Monitor harvest level of juvenile and female marten to ensure population is not over harvested.</li> </ul> <p>4.2 Encourage trapline license holders and First Nations trappers to incorporate the following best management practices for trapping lynx:</p> <ul style="list-style-type: none"> <li>• Monitor snowshoe hare/lynx cycle and do not trap during the low part of the cycle</li> <li>• Trap before January to minimize impacts to lynx populations.</li> <li>• Keep accurate records of habitat conditions (logging, burns, etc., etc.), snowshoe hare cycles, trapping pressure and success</li> <li>• Monitor harvest level of kittens, if 1 in 10 lynx is a kitten, then stop trapping to ensure population is not over harvested</li> <li>• Consider releasing unhurt adult females</li> <li>• Use sets, such as baited cubbies, that take young, and inexperienced lynx.</li> </ul>

<b>Hunting, Trapping, Guide-Outfitting, Fishing</b>	
<b>Objectives</b>	<b>Strategies</b>
	<p>4.3 Encourage trapline license holders and First Nations trappers to incorporate the following best management practices for muskrat and beaver:</p> <ul style="list-style-type: none"> <li>• Trappers should monitor and record beaver and muskrat populations on their traplines</li> <li>• Trappers should continue to harvest both species to reduce potential for habitat degradation, disease, and overpopulation.</li> </ul> <p>4.4 Encourage use of humane trapping techniques as appropriate to the species and periodically update information.</p> <p>4.5 Tenure holders should consult trapline license holders and First Nations trappers before commencing development that could impact trapping activities (e.g., forest development plans, mine development, and, where possible, mineral exploration).</p>
5. Provide and maintain commercial opportunities for hunting, fishing and trapping.	<p>5.1 Maintain the rights of existing tenure holders and provide new opportunities where appropriate.</p> <p>5.2 Maintain and manage grazing activities associated with guide outfitting.</p> <p>5.3 Consult commercial tenure holders before commencing development (forest development plans, mine development, and, where possible, mineral exploration).</p>
6. Manage wild and enhanced salmon and other wild fish stocks (anadromous and freshwater) to be a sustainable, renewable resource.	<p>6.1 Promote effective fisheries management by the following measures:</p> <ul style="list-style-type: none"> <li>a) Co-ordinate management between regions and jurisdictions.</li> <li>b) Improve consultation, management, and cooperation with First Nations and the acceptance of traditional knowledge in setting of fish regulations and monitoring and management of fish species.</li> <li>c) Encourage increased consultation with non-government groups and continue to involve current participants in reviewing fish regulations.</li> <li>d) Encourage the involvement of non-government groups (residents, Stikine Commercial Fishers, etc., etc.) in monitoring and management of fish species.</li> <li>e) Monitor compliance and enforce the regulations.</li> <li>f) Apply timely fishing and/or access restrictions when there is substantiated evidence that fish populations are at risk or declining (this includes verifiable local information and scientific/biological studies).</li> </ul>

<b>Hunting, Trapping, Guide-Outfitting, Fishing</b>	
<b>Objectives</b>	<b>Strategies</b>
	<p>g) Encourage anglers to adopt conservation oriented fishing practices including use of barbless hooks in catch and release, etc.</p> <p>6.2 Encourage Department of Fisheries and Oceans to continue population monitoring of anadromous fish species in the Stikine Drainage by continued support for the Tahltan Fisheries Program and use of the following methods:</p> <ul style="list-style-type: none"> <li>• Historical and current harvest and escapement surveys</li> <li>• Mark and recapture surveys</li> <li>• Radio tag surveys</li> <li>• Fish fence counts.</li> </ul>
7. Maintain opportunities for local, resident and non-resident fishing.	<p>7.1 Recognize the importance of the country food harvest to local residents.</p> <p>7.2 Provide opportunities for resident (B.C.) and non-resident fishers.</p> <p>7.3 Fishing and/or access restrictions will occur only when there is substantiated evidence that fish populations are at risk or declining (this includes verifiable local information and scientific/biological studies).</p>
8. Maintain opportunities for First Nations subsistence and traditional use fishing.	<p>8.1 Respect traditional fishing practices.</p> <p>8.2 Consult with First Nations before introducing access restrictions that might affect traditional fishing activities.</p>

### **2.3.6 Mineral and Energy Resources**

The Cassiar-Iskut-Stikine LRMP area is endowed with provincially to globally significant mineralization and rich energy values. The area has one operating mine, several past producers, over 30 developed prospects with proven geological reserves, and additional prospective geological units. These factors make this area one of the most attractive for mineral exploration and development in BC, as can be seen by extensive areas of mineral claims and areas of past exploration activity.

The LRMP area also contains important undeveloped energy resources. It includes portions of the Whitehorse Trough and the Bowser Basin, two relatively unexplored sedimentary basins with significant potential for natural gas and petroleum. In addition, coals contained within these two basins are expected to contain coal-bed methane. This area also has high and moderate potential

for geothermal resources. The Mount Edziza volcanic complex is a potential high-temperature resource area.

The LRMP confirms the importance of the economic potential of the area's mineral and energy resources by ensuring that substantial portions of the landbase are available for exploration and development.

Exploration and development for minerals and energy, including development of roaded access, are acceptable activities throughout the plan area outside of Protected Areas. These activities will be undertaken in consideration of other resource values such as wildlife habitat, aquatic ecosystems, recreation, visual quality, and biodiversity. Outside of Protected Areas, existing tenure rights are not diminished and new mineral tenures for mineral and energy resources may be staked and recorded on all Crown lands. LRMP objectives and strategies include some flexibility to accommodate the hidden and site-specific nature of mineral and energy resources. These will be addressed in approval and planning processes for exploration and development activities.

Exploration and development activities are subject to comprehensive review processes as stipulated in numerous Acts, including the *Mineral Tenure Act*, *Mines Act*, *Mineral Exploration Code*, *Coal Act*, *Environmental Assessment Act*, *Petroleum and Natural Gas Act*, *Pipeline Act* and *Geothermal Resources Act*. Exploration activities are administered by a comprehensive referral process among government agencies, First Nations and regional districts. Development activities are administered by comprehensive review and approval processes that ensure all technical, social and environmental aspects are completely assessed, including consistency with the management direction in the LRMP.

The LRMP reduces land use uncertainty for industry and contributes to a more positive investment climate for exploration and development. This will also translate to economic benefits like increased local employment opportunities and mining related local business ventures in the plan area.

#### **Goals/ Desired Future State**

- ☐ A world class mining and energy industry based on the area's globally significant mineral and energy resources, supported by well-designed infrastructure
- ☐ An economically and environmentally sound mining industry that provides long term benefits to the local community
- ☐ Certainty of access to support a viable exploration industry
- ☐ Responsible mineral and energy projects approved in an efficient and timely manner and carried out with high standards of environmental management, including mine reclamation

<b>Mineral and Energy Resources</b>	
<b>Objectives</b>	<b>Strategies</b>
1. Provide a secure landbase to support the exploration and development of mineral and energy resources.	<p>1.1 At all levels of planning, provide management direction that is clear, practical and economically feasible.</p> <p>1.2 Periodically review lands closed to mineral tenures (no-staking reserves) and note the reasons for the reserve and, where appropriate, request the reserve be lifted or amended.</p>
2. Provide opportunities for appropriate access for exploration and development.	<p>2.1 To the extent possible, coordinate operational time windows for mineral and energy exploration and mine development and associated access needs with the needs of other resource values, such as wildlife habitat and existing commercial activities (e.g., guide outfitting).</p> <p>2.2 Consult with mineral and energy tenure holders or industry representatives as well as relevant stakeholder/interest groups during government access management and deactivation planning in accordance with applicable review and referral procedures.</p> <p>2.3 Allow for infrastructure access such as transmission lines and pipelines outside Protected Areas, subject to environmental review processes.</p> <p>2.4 Consider concerns for safety, the environment, and economic viability in the determination of appropriate access.</p>
3. Ensure security of mineral and energy resource tenures.	All mineral and energy tenures outside of Protected Areas are secure providing holder complies with applicable Acts and Regulations.
4. Minimize impacts to the land base and meet environmental regulatory standards.	<p>4.1 Conduct mineral exploration activities involving mechanical disturbance in accordance with existing policy and best management practices as outlined in the Mineral Exploration Code (on claims) and the Forest Practices Code (1995) (off claim).</p> <p>4.2 Conduct energy exploration and development activities/initiatives consistent with existing legislation and regulations and with the policies and guidelines of the Oil and Gas Commission policy and best management practices as outlined in the Oil and Gas Handbook and Guidelines.</p>

Mineral and Energy Resources	
Objectives	Strategies
	<p>4.3 Mining and energy proposals (including reclamation and closure) will follow the procedures for environmental assessment applicable to the size and types of project (e.g., <i>Environmental Assessment Act</i>, Northwest Mine Development Review).</p> <p>4.4 Reclaim “orphaned” sites in cases of environmental hazard or threat to public safety (See Appendix 5: Policy Recommendations. This strategy would be the responsibility of government).</p> <p>4.5 Deactivate roads, where required, according to existing policy and legislative requirements.</p> <p>4.6 Monitor exploration sites for compliance with environmental standards for activities on site e.g., regarding siltation of streams, fuel storage, waste handling, etc.</p>
5. Improve the understanding of geological resources to support the discovery and development of mineral and energy resources and for informed resource management decision-making.	<p>5.1 Maintain and upgrade the provincial geoscience databases for assisting mineral and energy exploration and for land planning decision-making.</p> <p>5.2 Encourage studies (e.g., scientific research, geological mapping, geochemical and geophysical programs, extraction and reclamation technological advances, technical workshops and prospector training) to support opportunities for geological resource discovery and development and for informed resource management decision making.</p>
6. Increase public awareness, knowledge and enjoyment, of geological and energy resources.	<p>6.1 Provide local access to information about mineral and energy resources as well as exploration and development in the area (potentially through the government agent’s office).</p> <p>6.2 Encourage rock and mineral collecting, fossil viewing, recreational gold-panning, and hot spring use by providing public information in the form of maps, brochures and by opportunities to access public lands.</p>



<b>Mineral and Energy Resources</b>	
<b>Objectives</b>	<b>Strategies</b>
7. Promote mineral- and energy-related local business and services as well as job opportunities that have economic and employment benefits that include future generations.	7.1 Encourage the processing of resources within the region, in so far as it may be economically feasible and environmentally and socially appropriate.
	7.2 Encourage additional employment and training opportunities for local residents.
	7.3 Increase the capacity for local business development and employment related to the exploration and development industries.
	7.4 Encourage additional community services such as infrastructure and facilities which come from industry directly or through channeling of the taxation dollars paid by industry.

### 2.3.7 Recreation and Tourism

The Cassiar Iskut-Stikine area has an abundance of natural resources that provide world-class tourism opportunities. These include:

- Extensive backcountry areas;
- Spectacular scenery and interesting geological features;
- Wild rivers;
- Excellent fishing in lakes and rivers; and
- Abundant wildlife offering some of the best wildlife viewing and big game hunting in North America.

These features provide the basis of a strong nature-based tourism industry. LRMP objectives and strategies for other resource values (e.g., visual quality, terrestrial habitat, aquatic ecosystems and riparian habitat) will contribute to maintenance of recreation and tourism values. In addition, this section provides direction specific to the development of the tourism resource, such as

- identifying and providing opportunities for tourism development;
- managing levels and types of recreational use to minimize impacts and maintain the aesthetic quality of frontcountry and backcountry experiences; and
- providing opportunities for local recreational use.

The term “frontcountry” describes areas accessible by paved road or within 1 km of a paved road and influenced by the access it provides. “Mid-country” areas are those accessible by gravel roads. The term “backcountry” is applied to areas more than 1 km from any road. Backcountry areas are remote and have little to no visible evidence of human activity or development. Within the plan area, frontcountry areas are primarily found along the Highway 37 corridor, the road to Telegraph Creek, and around the towns. Most of the plan area is considered backcountry.

### Goals/ Desired Future State

- ☐ A world class tourism destination based on the area's globally significant natural features, supported by well-designed tourism/recreation infrastructure
- ☐ A viable local tourism industry
- ☐ Sustainable recreation and tourism activities sensitive to environmental and cultural values
- ☐ Resource planning and management compatible with tourism needs
- ☐ Opportunities for a wide range of recreation activities
- ☐ Certainty of landbase for recreation and tourism activities

Recreation and Tourism	
Objectives	Strategies
1. Identify opportunities for tourism and recreation development.	1.1 Continue to update Ministry of Forests recreation inventory. 1.2 Update and continue to develop tourism resource inventories for a range of front and back country tourism activities. 1.3 Recognize the need for facilities to support tourism (front-country and back-country), where appropriate. 1.4 Provide opportunities for backcountry recreation and tourism development.
2. Provide a secure land base to support environmentally and culturally sensitive tourism/recreation development.	2.1 Make Crown land available to support development of commercial recreation. 2.2 Identify opportunities for appropriate tourism/recreation use in provincial parks (see Section 2.5: Protected Areas for details).
3. Manage natural, cultural and recreation resources in frontcountry and backcountry areas to support world class wilderness tourism opportunities.	3.1 Design and locate tourism/recreation facilities and activities to minimize impacts on sensitive ecosystems, cultural/heritage sites and recreation features 3.2 Manage levels of commercial recreation use in areas with potential carrying capacity limitations e.g., Todagin, Chutine 3.3 Design and locate facilities (frontcountry and backcountry) to respect scenic/aesthetic qualities, ecological values and public use. Specific examples include: <ul style="list-style-type: none"> <li>• Locating facilities to avoid displacement of public use;</li> <li>• Designing facilities to be aesthetically compatible with the surrounding area, and</li> </ul>

Recreation and Tourism	
Objectives	Strategies
	<ul style="list-style-type: none"> <li>• Avoiding disturbance to sensitive aquatic and terrestrial ecosystems (see Sections in GMD – Biodiversity: Aquatic Ecosystems/Riparian Habitat, Wildlife, Endangered Plant and Animal Species).</li> </ul> <p>3.4 Avoid proliferation of trails and, where possible, concentrate access along a single trail.</p> <p>3.5 Integrate tourism/recreation values and inventories into other resource planning and approval processes (e.g. landscape unit planning, environmental assessment, timber supply reviews, forest development plans, etc.).</p> <p>3.6 Promote environmentally and culturally sensitive tourism and recreation through:</p> <ul style="list-style-type: none"> <li>• Public consultation in the awarding of commercial recreation tenures</li> <li>• Voluntary compliance initiatives with operators (e.g. codes of conduct)</li> <li>• Making information available on low impact camping/trekking practices.</li> </ul> <p>3.7 Monitor recreational activities, including wildlife viewing activities and, where necessary, take appropriate actions to prevent seasonal or chronic harassment of wildlife.</p> <p>3.8 Coordinate strategic planning and management for recreation and tourism between Protected Areas and the adjacent landbase.</p>
4. Retain the natural character of high value recreation features during access design and management.	<p>4.1 Manage road development and other forms of access (e.g., air) near high value recreation features to avoid/reduce impacts on those features. Examples could include:</p> <ul style="list-style-type: none"> <li>• Designing roads to minimize visual impacts</li> <li>• Locating roads (where economically and ecologically feasible and safe) to minimize disturbance (e.g., noise, dust, etc.) to backcountry facilities, trails and activity areas</li> <li>• Managing public motorized access, and</li> <li>• Deactivating roads upon completion of prescribed activities.</li> </ul>

<b>Recreation and Tourism</b>	
<b>Objectives</b>	<b>Strategies</b>
5. Promote development of locally based, viable tourism opportunities consistent with long term tourism goals for the area.	<p>5.1 Incorporate local knowledge into tourism/ recreation inventories, opportunity studies, etc.</p> <p>5.2 Emphasize local employment and business creation as criteria for awarding commercial recreation tenures.</p> <p>5.3 Plan and promote development of front country attractions and infrastructure (e.g., heritage and cultural attractions, trails, wildlife viewing sites, interpretive sites, signs, access routes, etc.).</p>
6. Maintain or increase opportunities for local recreation use.	<p>6.1 Develop, manage and maintain new and existing recreation sites, facilities, trails, etc.</p> <p>6.2 Provide a range of opportunities for public access to rivers, lakes and other key recreation features.</p> <p>6.3 Consider local recreation use areas during planning. Examples of local recreation use areas include Gnat Pass (hiking and skiing), the Klappan rail grade, and the Stikine River between Telegraph Creek and the Chutine River.</p> <p>6.4 Identify resources and develop mechanisms for managing public recreation sites and facilities (e.g. volunteer groups, user fees, public/private partnerships, etc.).</p>
7. Promote mining based recreation and tourism activities.	<p>7.1 Encourage mining companies to provide tours of local operations to local residents and tourists.</p> <p>7.2 Make information available for tourists on the area's geological and mineral resources and mining history. Examples could include interpretive displays, brochures and information packages for tourism operators.</p> <p>See also Strategy 7.2: Mineral and Energy Resources.</p>

### 2.3.8 Settlement/ Agriculture/ Range

The LRMP area is relatively isolated and sparsely populated. There are three settlement areas: Telegraph Creek, Iskut, and Bob Quinn. The settlement area for Dease Lake also extends into the LRMP area. Each of these settlement areas has an existing community plan in place that identifies lands suitable for settlement and commercial use. Crown Land Plans were prepared in 1984 for Telegraph Creek and Iskut and a Rural Land Use By-law (1992) is in place for Bob Quinn. A community plan map was also prepared by the Advisory Planning Committee for Dease Lake. The LRMP endorses the areas identified in these plans for community expansion.

There are localized areas in the LRMP with good capability for agricultural production. Most of the suitable agricultural lands are located on fluvial terraces in the Stikine valley between the

Tuya and the Chutine. The land is most suited to small scale farm production, with parcels of suitable land ranging from 5 to 50 hectares.

The primary use of range in the LRMP area is for horse grazing for guide outfitting. Few cattle are currently being grazed and level of use is not an issue at this time. However, the potential exists for problems if cattle numbers are increased. Domestic sheep and goats could pose a serious threat of disease transfer to wild stocks and the LRMP specifies that there be no grazing of these animals on Crown lands. At this time, there is no demand for grazing opportunities on Crown land for domestic sheep and goats.

#### Goals/ Desired Future State

- ☐ Communities that provide the quality of life valued by their residents, including the ability to enjoy traditional and historic lifestyles, diverse opportunities for employment for existing and future generations, and access to and enjoyment of surrounding Crown lands
- ☐ Opportunities for food production and a viable sustainable agriculture sector on lands with suitable soil/climate combinations for cultivated crops
- ☐ Opportunities for livestock grazing integrated with management for other resource values such as rare and endangered plant communities and ungulate winter range

Settlement, Agriculture, Range	
Objectives	Strategies
<b>Settlement</b> 1. Provide Crown lands for residential, commercial and industrial development within the settlement areas identified in existing community plans, rural land use by-laws, etc.	1.1 Plan community expansion to occur within settlement areas specified in existing community plans, rural land use by-laws, etc.
2. Maintain visual quality from the communities of Dease Lake, Telegraph Creek and Iskut.	2.1 Designate viewsapes from Dease Lake, Telegraph Creek and Iskut as scenic areas under the Forest Practices Code. Manage for visual quality from mapped scenic areas as per the strategies outlined in Section 2.3.10: Visual Quality.
<b>Agriculture</b> 3. Provide opportunities for small-scale farming.	Agricultural opportunities are addressed in the Cassiar Iskut-Stikine LRMP Economic Strategy (see Appendix 1).

Settlement, Agriculture, Range	
Objectives	Strategies
<b>Range</b> 4. Provide for livestock grazing needs on Crown land.	4.1 Respect existing livestock grazing tenures under the <i>Range Act</i> . 4.2 Provide opportunity for livestock grazing subject to objectives for other resource values such biodiversity and wildlife, including ungulate winter range.
5. Reduce potential conflicts between agriculture/range use and wildlife.	5.1 Avoid impacts to ungulate winter habitat (e.g., due to increased access and competition for forage) when allocating grazing opportunities in mapped Ungulate Winter Range (See Section 2.3.2.8: Wildlife).
6. Avoid spread of disease from domestic livestock to wildlife.	6.1 Prohibit the grazing of domestic sheep and goats on Crown lands, including for silvicultural purposes. 6.2 Provide information to local landowners on the potential for disease transfer to wildlife from domestic livestock, including domestic sheep, goats, and exotic species such as llamas.
7. Maintain the integrity of rare and endangered plant communities while providing ongoing Crown range use.	7.1 Where possible, avoid rare and endangered plant communities and areas with sensitive wildlife values when allocating grazing tenures. 7.2 Implement measures to minimize the impact of grazing on rare and endangered plant communities as these are identified. Strategies could include: <ul style="list-style-type: none"> <li>• Locating water troughs and salt licks away from rare plant communities</li> <li>• Creating barriers to movement</li> <li>• Seasonal closures, and</li> <li>• Minimizing grazing time in areas of concern.</li> </ul> 7.3 Enforce seasonal closures on grazing. 7.4 Provide information to local landowners on the potential impacts of grazing in areas with rare and endangered plant communities.
8. Maintain water quality in areas with agriculture and range use.	8.1 Minimize disturbance of stream, wetland and lake riparian areas and adjacent moist and upland areas. 8.2 Make farmers and land users aware of best management practices to maintain water quality in policy and legislation (e.g., the <i>Farm Practices Protection Act</i> and the Code of Agricultural Practices under the <i>Waste Management Act</i> ).

Settlement, Agriculture, Range	
Objectives	Strategies
9. Reduce and, where possible, eradicate invasive weed species that pose a risk to wildlife habitat and range lands.	9.1 Undertake measures in the short term and long to control existing alien plants and to monitor and prevent the introduction of other alien species, as presented in the Weed Control Plan for the LRMP area.
	9.2 Manage noxious weeds through the use of methods other than herbicides except in cases where risk of outbreak or spread is high.

### 2.3.9 Timber

Because of extensive alpine and subalpine areas with very low timber volumes, less than two per cent of the total plan area is considered available for timber harvesting. Stands suitable for timber harvesting are scattered throughout the forested landscape, with localized concentrations in areas such as the Bob Quinn and the Klappan.

Little forestry has occurred to date and there are currently no tenures in place within the plan area. Mineral activities and tourism are by far the biggest sectors in the economy of the area. Forestry does represent an opportunity for economic diversification – however at a relatively small scale compared to most other timber supply areas in the province.

The objectives and strategies of the LRMP are designed to provide opportunities for timber harvesting while ensuring that other values such as biodiversity, wildlife habitat, and opportunities for tourism and recreation are not compromised.

#### Goals/ Desired Future State

- ☐ A locally viable and sustainable timber industry
- ☐ A small scale timber industry that is primarily locally based and provides local jobs and benefits
- ☐ An industry that is based on harvesting practices that are ecologically sound and sustainable

Timber	
Objectives	Strategies
1. Produce a long term, secure and sustainable supply of timber that is economically feasible and will benefit the local economy.	1.1 Endeavour to extinguish wildfires within the Initial Attack Zone (Map 3).
	1.2 Harvest some poor quality, slow growing stands on rich sites and replace with productively managed stands to optimize the productivity of the timber harvesting landbase and ensure that the complete wood profile is harvested.

<b>Timber</b>	
<b>Objectives</b>	<b>Strategies</b>
	<p>1.3 Promptly reforest harvested sites with ecologically suitable species.</p> <p>1.4 Improve knowledge of long-term timber productivity, for both primary and secondary use (in addition, maintain growth and yield plots).</p> <p>1.5 Reforest stands within the timber harvesting landbase that are not sufficiently restocked (NSR).</p>
2. In managing timber, apply principles of ecosystem management at the landscape unit and stand level.	<p>2.1 Manage forest resource values at the landscape unit level using a variety of harvest patterns, silviculture systems and cut block sizes which emulate natural disturbances (for more detail see Section 2.3.2: Biodiversity).</p> <p>2.2 Use non-chemical methods only for vegetation management in forestry (e.g., site preparation, manual brushing). Do not use herbicides. Only consider exceptions to this strategy on a site-specific basis and with public consultation where non-chemical methods are demonstrated to be ineffective and render forestry operations infeasible.</p>
3. Provide opportunities for forest management and harvesting in order to generate local economic benefits over the long term.	<p>3.1 Encourage the setting of harvest levels to achieve an even flow supply of saw logs over the long term.</p> <p>3.2 Establish new forest tenures that emphasize the creation of local employment.</p> <p>3.3 Make timber available for local needs, including firewood, and building material.</p> <p>3.4 Provide opportunities for harvesting pulp during market peaks.</p> <p>3.5 Emphasize local business and employment opportunities in the award of contracts.</p>
4. Maintain opportunities for public review of forest management plans.	<p>4.1 Ensure locally accessible public information on planned forest operations and provide adequate support for issuing local permits.</p> <p>4.2 Ensure that local public has opportunity to review and comment on operational plans</p>
5. Maintain the health and productivity of the forest resource within the plan area through forest health and salvage operations.	<p>5.1 Consider opportunities for salvage operations consistent with biodiversity objectives and strategies outlined in the General Management Direction or Area-Specific zones.</p> <p>5.2 Place high priority for harvesting on stands most susceptible to forest pests (particularly balsam bark beetle and spruce beetle) within the timber harvesting land base.</p>



Timber	
Objectives	Strategies
	5.3 Place high priority for harvesting on damaged or diseased timber within the timber harvesting landbase. 5.4 Prevent endemic populations of pests from becoming epidemic by applying accepted pest management techniques where valuable timber is at risk. Examples could include: <ul style="list-style-type: none"> <li>• Use of fall and burn techniques, and</li> <li>• Prioritizing susceptible age classes for harvest.</li> </ul> 5.5 Do not use pesticides/ insecticides to treat forest pests.

### 2.3.10 Visual Quality

The Cassiar Iskut-Stikine area is renowned for its scenic beauty. Scenic areas have been mapped throughout the plan area. These scenic areas are viewscapes visible from communities, public use areas and travel corridors (including roadways and waterways) or other areas where the maintenance of visual quality is important. Within these scenic areas, emphasis will be placed on maintaining the aesthetic values to support recreation, tourism and a quality of life.

Visual quality objectives for scenic areas and methods to maintain visual quality have been designed for forestry-related activities. The LRMP recognizes that it is not always possible to carry out mining and other activities to meet standards of visual quality developed for forestry. However, non-forestry related activities should be carried out in respect of the scenic values of specified areas and cognizant of the visual quality objectives.

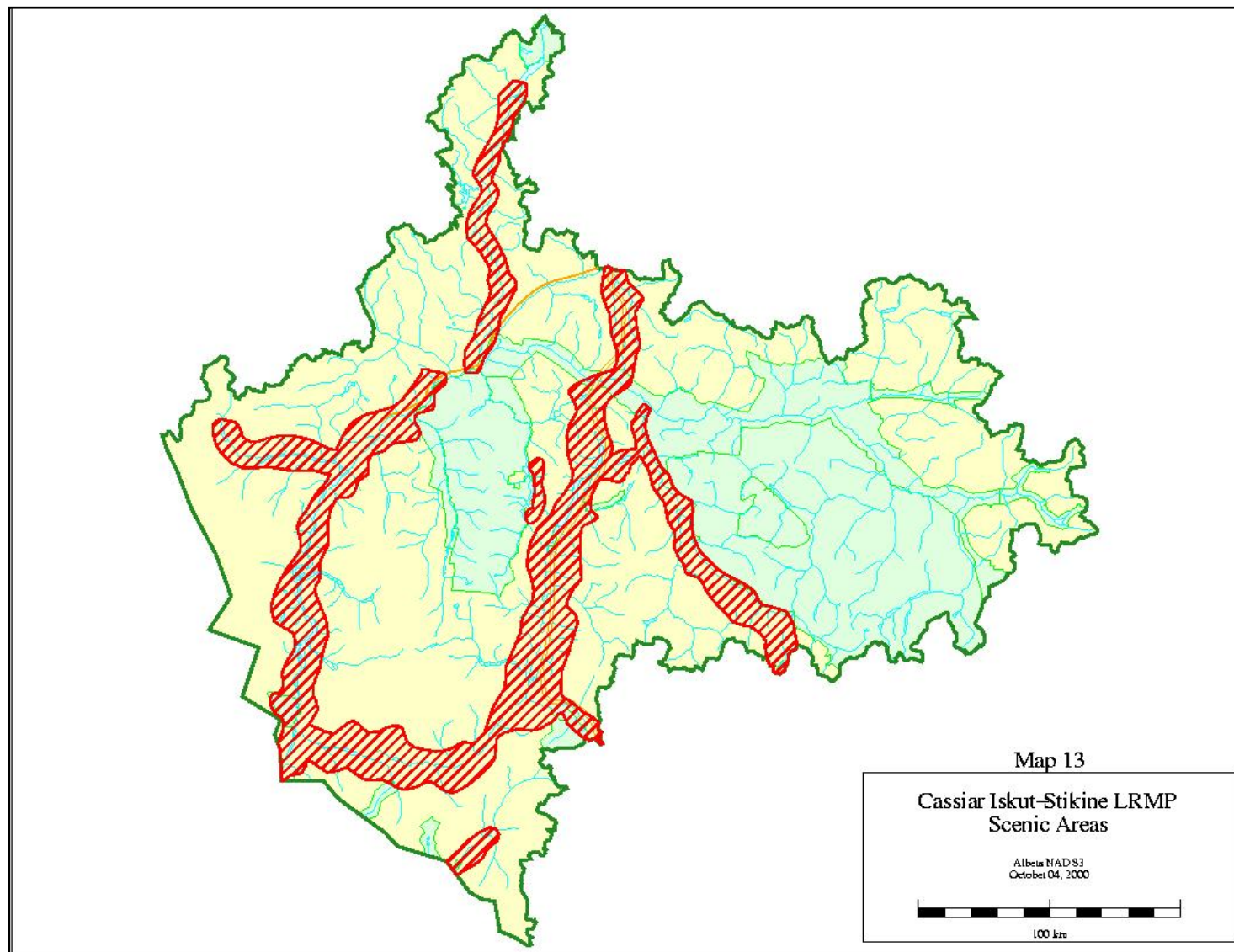
#### Goals/ Desired Future State

- ☐ A scenic landscape that supports world class tourism and recreation potential

Visual Quality	
Objectives	Strategies
1. Maintain scenic values and provide increased opportunities to view scenic landscapes in areas of importance to First Nations, communities, tourism, and recreation.	1.1 Designate the areas identified on Map 13 as known scenic areas under the Forest Practices Code. 1.2 Consider designating new scenic areas as other visually important landscapes are identified in the future. 1.3 Remove screening vegetation to enhance views of prominent landscape features from selected viewpoints.

<b>Visual Quality</b>	
<b>Objectives</b>	<b>Strategies</b>
2. Design forest management and other resource management and development activities to reflect the importance of known scenic areas.	2.1 Develop and approve Visual Quality Objectives for known scenic areas consistent with the direction provided by the CIS LRMP by: <ul style="list-style-type: none"> <li>• updating the Visual Landscape Inventory to current provincial standards, and</li> <li>• providing opportunity for public review and comment of draft VQO's prior to approval.</li> </ul>
	2.2 Meet visual quality objectives during timber harvesting in known scenic areas (as identified in Map 13).
	2.3 Where visual quality and ecological concerns are competing, maintain visual quality only to the extent that it does not compromise ecological objectives.
	2.4 Manage burning (burning landings and piles, slashburning, prescribed fire) to minimize impacts on air clarity in major valleys, e.g. <ul style="list-style-type: none"> <li>• in consideration of venting indices, and</li> <li>• seasonal windows for burning.</li> </ul>
	2.5 In known scenic areas, timber harvesting will be able to occur adjacent to previously harvested blocks when those blocks have achieved Visually Effective Greenup (VEG).
	2.6 Undertake non-timber related development (roads and trails, lodges, mine infrastructure [e.g., camps, buildings], etc.) in identified scenic areas (Map 13) in a manner that respects the VQO, or, where there are no VQOs, the scenic values for the area. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).
	2.7 Coordinate strategic planning and management for visual quality between Protected Areas and the adjacent landbase.
3 In non-forested areas, design development activities to reflect the importance of visual quality.	3.1 Locate roads, camps and infrastructure away from areas of high visual quality where possible (e.g., powerlines).
	3.2 Incorporate principles of landscape design to mitigate effects of development from scenic viewpoints.

**Map 13: Cassiar Iskut-Stikine LRMP – Scenic Areas**



## 2.4 Area-Specific Management

The Cassiar Iskut-Stikine LRMP identifies fifteen zones for area-specific management. These zones are shown in Map 2: Resource Management Zones. Each Area-Specific Resource Management Zone has specific objectives and strategies incremental to the General Management Direction, that have been developed to address the distinct values for the zone.

Zone	Minerals	Timber	Access	Visual	Fish/ Wildlife	Recreation/ Tourism
<b>Hottah Tucho Lakes</b> (171,000 ha)	GMD	GMD	Access management planning for new roads  No permanent roads within 8 km of Hottah and Tucho Lakes (deactivate mine roads after operations complete)	GMD	Coordinate wildlife management with adjacent planning areas  Interior grizzly habitat	Manage Hottah and Tucho Lakes for backcountry recreation
<b>McBride</b> (85,000 ha)	GMD	Apply adaptive ecosystem management to maintain caribou winter habitat	Manage public access near the Stikine River	Viewscapes from the Stikine River	GMD	GMD
<b>Klappan</b> (237,000 ha)	GMD	15 yr deferral of logging in the greater Klappan  No logging in Little Klappan		Viewscapes from railgrade, river corridor and important vistas	Priority area for inventory work	GMD

<b>Zone</b>	<b>Minerals</b>	<b>Timber</b>	<b>Access</b>	<b>Visual</b>	<b>Fish/ Wildlife</b>	<b>Recreation/ Tourism</b>
<b>Iskut Lakes</b> (55,000 ha)	GMD	Timber harvesting for local needs	Access management planning required for new roads	Viewscales from Highway 37 and the Iskut Lakes	Ungulate winter range Trumpeter swans overwintering	Promote front-country tourism  Prepare a recreation plan for the overall Iskut area and Arctic Lake
<b>Mount Edziza</b> (3400 ha)	GMD  This zone will become part of Mount Edziza Park after 20 years or when mineral tenures existing at the time have lapsed	No commercial timber harvesting	Manage public access in cooperation with parks management planning	GMD	Address water quality and fisheries values, including within Mt Edziza Park;  Red- and blue-listed plant communities; Geologic features; Mountain ungulates	GMD
<b>Kakkidi Mowdade Nuttlude Lakes</b> (68,000 ha)	GMD	GMD  Manage regeneration in Willow Burn	Manage public access in conjunction with recreation and parks management planning	Viewscales from Nuttlude-Mowdade lake chain	Water quality and fisheries values in the lake chain.	Prepare a recreation plan for the overall Iskut area and Arctic Lake

<b>Zone</b>	<b>Minerals</b>	<b>Timber</b>	<b>Access</b>	<b>Visual</b>	<b>Fish/ Wildlife</b>	<b>Recreation/ Tourism</b>
<b>Todagin</b> (131,000 ha)	GMD Includes Red Chris. LRMP supports opportunities for exploration and development consistent with existing approval processes. Integrate critical sheep and goat habitat during approval processes	GMD	Air access encouraged for exploration Recreational ATV use prohibited Access restrictions April 15-June 15 for critical lambing kidding habitat (except where not feasible; e.g. operating mines)	GMD	Recommend designating as Wildlife Management Area (excluding block of tenures around Red Chris deposit) Develop multi-stakeholder wildlife management plan for Stone's sheep and mountain goat	Address impacts of recreational use on wild sheep and goats
<b>Middle Iskut</b> (176,000 ha)	GMD	Minimum 100 m reserve (no harvest) zone along Iskut River	Restrict public access west of the Iskut River using river crossings as access control points	Viewscales from Highway 37 and the navigable portions of the Iskut River	GMD	Manage for front country tourism at Devil Lake
<b>Lower Iskut</b> (12,000 ha)	No tailings ponds on the active floodplain	No timber harvesting on the active floodplain of the Lower Iskut	GMD	Viewscales from the Iskut River	Management for grizzly bears	GMD
<b>Unuk</b> (10,000 ha)	GMD	No timber harvesting on the active floodplain of the Unik	Access planning for new roads	Viewscales from the Unuk River	Management for grizzly bears and salmon	Emphasis on low impact river-based recreation

<b>Zone</b>	<b>Minerals</b>	<b>Timber</b>	<b>Access</b>	<b>Visual</b>	<b>Fish/ Wildlife</b>	<b>Recreation/ Tourism</b>
<b>Lower Stikine-Iskut Coastal Grizzly/Salmon</b> (202,000 ha)	No tailings ponds on the active floodplain  Locate exploration camps away from the river and recreational sites.  Continue to prohibit placer mining	No commercial timber harvesting	<b>Lower Stikine Corridor:</b>  Air access preferred for mineral exploration  Locate roads away from the Stikine River wherever possible  Preferred access routes noted  <b>Lower Iskut:</b>  Air access strongly encouraged for mineral exploration  Preferred access route noted	Viewscapes from Stikine and Iskut Rivers	Emphasis on coastal grizzly and salmon; trumpeter swans/waterfowl at wetlands of Iskut-Stikine confluence	Manage for backcountry rec/tourism  Monitor river-based hunting of grizzly and moose
<b>Telegraph Creek Community Watershed</b> (3800 ha)	GMD  Manage according to the Mineral Exploration Code	GMD  Manage according to FPC Community Watershed Guidebook	GMD	GMD	GMD	GMD
<b>Chutine</b> (119,000 ha)	GMD	No timber harvesting on the active floodplain of the Chutine	No permanent access within 8 km of Chutine Lake (deactivate mine roads after operations complete)	Viewscapes from Chutine Lake and Chutine River	GMD	Manage Chutine Lake for backcountry recreation  Maintain opportunities for public camping at Chutine Lake

<b>Zone</b>	<b>Minerals</b>	<b>Timber</b>	<b>Access</b>	<b>Visual</b>	<b>Fish/ Wildlife</b>	<b>Recreation/ Tourism</b>
<b>Tuya</b> (318,000 ha)	GMD	GMD	Public access restrictions in UWR around Mincho Lake	Tuya River corridor	Support salmon enhancement activities in Tuya Lake  Caribou crossing at outlet to Tuya Lake  Ungulate winter range	GMD
<b>Metsantan</b> (3500 ha)	See detailed direction for Metsantan Protected Area (S. 2.5.2)	N/A	Minimize disturbance of seasonal caribou migration	N/A	N/A	N/A



## 2.4.1 Hottah-Tucho Lakes Zone

171,000 ha

The Hottah-Tucho Lakes area includes the northeastern portion of the plan area outside of Spatsizi Park and north of the Pitman River. The management intent of this zone is to integrate management of wildlife habitat (grizzly bear and predator-prey systems) with mineral exploration and development.



The Hottah-Tucho lakes area is remote and undeveloped, having low values for timber and moderate potential for mineral development. The area has high habitat values for interior grizzly species, having a wetter climate and more lush vegetation than surrounding areas. Habitat values are also high for woodland caribou. Hottah-Tucho comprises part of the predator-prey ecosystem of Spatsizi Plateau and provides connectivity from Spatsizi Park to Protected Areas and special management zones in the Fort Nelson LRMP.

- Objectives:**
1. To maintain the functional integrity of grizzly habitat and predator-prey systems while allowing mineral exploration and development to proceed; and
  2. To maintain the wilderness qualities of Hottah and Tucho Lakes.

### Hottah-Tucho Lakes Zone:

Management Category	Strategies
<b>Biodiversity</b>	<ul style="list-style-type: none"> <li>• As per GMD.</li> </ul>
<b>Wildlife</b>	<ul style="list-style-type: none"> <li>• Coordinate management of wildlife habitat and populations in this zone with management in adjacent units (Spatsizi Park, Fort Nelson LRMP, Mackenzie LRMP and Cassiar-North).</li> <li>• Complete detailed mapping to identify critical patch habitats for “interior grizzly” (1 – 10 ha in size) in areas potentially impacted by projects (e.g., mine development, roads). Critical patch habitats include: herb-dominated avalanche tracks and run-out zones on southerly and westerly aspects; skunk cabbage swamps and non-forested fen/marsh complexes; herbaceous riparian meadow/wetland complexes; post-fire stands dominated by <i>Vaccinium</i> species; subalpine parkland meadows; <i>Hedysarum</i> and glacier lily complexes.</li> </ul>
<b>Aquatic Ecosystems and Riparian Habitat</b>	<ul style="list-style-type: none"> <li>• As per GMD.</li> </ul>

## Hottah-Tucho Lakes Zone:

<b>Management Category</b>	<b>Strategies</b>
<b>Hunting, Trapping, Guide-outfitting, Fishing</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Recreation/Tourism</b>	<ul style="list-style-type: none"><li>• Maintain the wilderness quality of Hottah and Tucho Lakes by locating and designing recreation/tourism facilities to reflect the natural setting of the area.</li></ul>
<b>Visual quality</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Access Management</b>	<ul style="list-style-type: none"><li>• If new road access is required, give preference to routes that avoid identified wildlife travel corridors, including those between Protected Areas within and adjacent to the plan area.</li><li>• Prepare access management plans for any new 2- and 4-wheel drive accessible roads. Access management plans will address road use and deactivation and the need for access controls such as gates, removal of temporary bridges, etc. to minimize impacts to wildlife including grizzly and ungulates (caribou and Stone's sheep).</li><li>• To maintain the remote quality of Hottah and Tucho Lakes for backcountry recreation, do not develop permanent road access within 8 km of the lakes. Roads for mineral exploration and mine development are allowed, but should be permanently deactivated/reclaimed following completion of operations.</li><li>• Where a temporary road is required near one of these lakes, take steps to minimize impacts of access on the lake. Examples include:<ul style="list-style-type: none"><li>⇒ Fully deactivating road when project is complete</li><li>⇒ Interim roads, such as for mineral exploration, should be deactivated in a timely manner during extended periods of disuse, consistent with the Mineral Exploration Code</li><li>⇒ Designing roads and managing public use to prevent easy motorized access to the lake.</li></ul></li></ul>
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Timber</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>

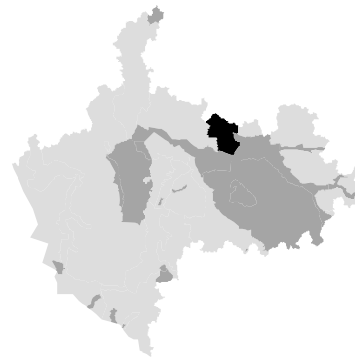
## 2.4.2 McBride Zone

85,000 ha

The McBride zone comprises the entire McBride drainage, running due south into the Stikine River. The zone abuts the Upper Stikine protected area extension on its eastern boundary.

The McBride drainage has high quality timber stands, which provide potential harvesting opportunities close to the community of Dease Lake. The stands are boreal forest and provide winter habitat for moose and the Spatsizi caribou herds.

Though the McBride has high value winter habitat for caribou, the majority of the winter range for this species is in the Protected Areas to the south and east. Therefore, the McBride drainage offers an opportunity to test ecosystem management approaches for caribou and other ungulates in a boreal setting without putting the entire habitat complex at risk.



**Objective:** To maintain ungulate winter habitat for caribou and moose while allowing commercial timber harvesting and mineral exploration and development to proceed.

### McBride Zone:

Management Category	Strategies
Biodiversity	<ul style="list-style-type: none"><li>As per GMD.</li></ul>
Wildlife	<ul style="list-style-type: none"><li>Apply an adaptive ecosystem management approach (see Glossary) to maintain ungulate winter range (caribou and moose) during timber harvesting. This includes:<ul style="list-style-type: none"><li>⇒ Planning operations to test/verify ecosystem management approaches for boreal forests</li><li>⇒ Assessing baseline conditions to provide a basis for future comparisons</li><li>⇒ Monitoring effectiveness of forestry activities in maintaining habitat requirements of caribou over time.</li></ul></li><li>Plan timber harvesting to maintain the following seral stage distribution for each biogeoclimatic variant in the McBride zone. This strategy should be applied with some flexibility in keeping with the adaptive management plan.<ul style="list-style-type: none"><li>&gt; 30 % of the forested landbase &gt; 140 years, and</li><li>&lt;25% of the forested landbase &lt; 40 years</li></ul></li><li>Take measures to enhance moose habitat as required e.g., prescribed burning.</li></ul>

## McBride Zone:

Management Category	Strategies
	<ul style="list-style-type: none"><li>• Coordinate population studies of caribou with projects in adjacent zones e.g., Spatsizi Park.</li></ul>
<b>Aquatic Ecosystems and Riparian Habitat</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Hunting, Trapping, Guide-outfitting, Fishing</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Recreation/Tourism</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Visual quality</b>	<ul style="list-style-type: none"><li>• Maintain visual quality from the Stikine River, particularly the McBride confluence.</li></ul>
<b>Access Management</b>	<ul style="list-style-type: none"><li>• Manage public use of any new access near the Stikine River in cooperation with BC Parks, in consideration of the management plan for Spatsizi Park.</li></ul>
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Timber</b>	<ul style="list-style-type: none"><li>• See Wildlife.</li></ul>

### 2.4.3 Klappan Zone

237,000 ha

The Klappan zone hugs the western flank of Spatsizi Park. The zone comprises the greater and little Klappan drainages.

This zone was identified as a high ranking Area of Interest by the Regional Protected Areas Team. The Klappan drainage is ecologically sensitive, providing low elevation winter habitat for ungulates and grizzly in the Spatsizi predator-prey system. It is also of high cultural significance for the Tahltan people at Iskut.



There are high timber and coal values in the drainage, including a major deposit of high grade metallurgical coal. A 15 year deferral of commercial timber harvesting will be implemented in the greater Klappan drainage. The rationale for the deferral is that less sensitive areas should be harvested first to allow time to study the ecological values in the Klappan and to assess the effectiveness of the LRMP objectives and strategies.

The Klappan railgrade runs through the zone, parallel to the park. The railgrade is used by local residents for recreation, who would like to see opportunities for public use maintained.

**Objective:** To manage the area for the following values and activities:

- ⇒ functional habitat for multiple species of the Spatsizi predator-prey system (moose, caribou, grizzly, etc.);
- ⇒ Tahltan cultural heritage values;
- ⇒ visual quality from the rail grade, the Klappan River and other important viewpoints;
- ⇒ river recreation, including rafting;
- ⇒ mineral and coal exploration and development; and
- ⇒ timber harvesting.

Commercial timber harvesting will be deferred (see Glossary) in the greater Klappan drainage for 15 years. Timber harvesting is not allowed in the Little Klappan drainage

#### Klappan Zone:

<b>Management Category</b>	<b>Strategies</b>
<b>Biodiversity</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Wildlife</b>	<ul style="list-style-type: none"><li>• Conduct the following studies during the 15 year deferral period:<ul style="list-style-type: none"><li>⇒ habitat use by key species of the Spatsizi predator-prey system (moose, caribou, grizzly), and</li><li>⇒ furbearer populations and habitat.</li></ul></li><li>• Designate wintering areas for moose and caribou as known Ungulate Winter Range under the Forest Practices Code.</li></ul>
<b>Aquatic Ecosystems and Riparian Habitat</b>	<ul style="list-style-type: none"><li>• As per GMD,</li></ul>
<b>Hunting, Trapping, Guide-outfitting, Fishing</b>	<ul style="list-style-type: none"><li>• As per GMD,</li></ul>
<b>Recreation/Tourism</b>	<ul style="list-style-type: none"><li>• As per GMD,</li></ul>
<b>Visual quality</b>	<ul style="list-style-type: none"><li>• Designate viewsapes from railgrade, the Klappan river corridor, and other important viewpoints as known scenic areas.</li></ul>
<b>Access Management</b>	<ul style="list-style-type: none"><li>• As per GMD,</li></ul>
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• As per GMD,</li></ul>

## Klappan Zone:

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Management Category	Strategies
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<b>Timber</b>	<ul style="list-style-type: none"><li>Commercial timber harvesting will be deferred (see Glossary) in the greater Klappan drainage for 15 years to assess how well provisions in General Management Direction are addressing biodiversity, wildlife habitat, riparian ecosystems and recreation. A critical element of this agreement is that, for the term of the deferral, the Klappan be excluded from the timber harvesting landbase.</li><li>Commercial timber harvesting is not allowed in the Little Klappan drainage.</li></ul>
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<b>Future Planning Processes</b>	<ul style="list-style-type: none"><li>During the deferral period for timber harvesting, conduct research to establish a baseline of information concerning wildlife habitat and populations and other features of terrestrial and aquatic ecosystems.</li><li>When the deferral period is over, in 2015, ensure that the public has the opportunity to provide input into planning.</li></ul>
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### 2.4.4 Iskut Lakes Zone

55,000 ha

The management emphasis for this area is front-country tourism. Lakes included in this zone are Kinaskan, Tatogga, Eddontenajon, Ealue, and Kluachon.

The five lakes with beautiful mountain backdrops make this area a highlight for travellers on Highway 37. Offering a wide range of activities in a northern natural environment, this area is growing in popularity as a destination for visitors from throughout North America and around the world.



Key features are:

- attractive views from the highway, lakes, and surrounding alpine areas;
- notable natural features such as waterfalls; and
- numerous opportunities for land-based recreational activities (including hiking, wildlife viewing mountain biking and hunting), and water-based recreational activities (including fishing, and boating e.g., rafting, canoe-ing, and kayaking).

This area is also the main staging area for backcountry travellers to Stikine Country provincial parks.

In addition to high recreation and tourism values, this area sustains the community of Iskut. Scenic views contribute to the local quality of life. In addition, country food harvest (hunting, fishing, berries, etc.) as well as harvesting of timber for local use are important in the lifestyle of local people.

**Objective:** To manage natural, cultural and recreation resources to support front-country tourism opportunities while respecting local community needs and values. Mineral exploration and development continue to be acceptable activities in this zone, as is timber harvesting for local needs and to provide opportunities for small-scale commercial use.

**\*\*Note:** Please refer to the Economic Strategy for additional recommendations to address tourism needs for this area

### Iskut Lakes Zone:

Management Category	Strategies
<b>Biodiversity</b>	<ul style="list-style-type: none"> <li>As per GMD.</li> </ul>
<b>Wildlife</b>	<ul style="list-style-type: none"> <li>Manage for Ungulate Winter Range as per GMD.</li> <li>Provide adequate buffers to prevent disturbance of overwintering swans in wetlands contiguous with the Iskut Lakes chain.</li> </ul>
<b>Aquatic Ecosystems and Riparian Habitat</b>	<ul style="list-style-type: none"> <li>Maintain the structural features of riparian areas.</li> </ul>
<b>Hunting, Trapping, Guide-outfitting, Fishing</b>	<ul style="list-style-type: none"> <li>As per GMD.</li> </ul>
<b>Recreation/Tourism</b>	<ul style="list-style-type: none"> <li>Prepare a recreation plan for the Iskut area (including the Kakkidi/Mowdade/Nuttlude Lakes zone and the Iskut Lakes zone) and Arctic Lake south of Mt Edziza Park. See Section 2.4.6: Kakkidi/Mowdade/ Nuttlude Lakes RMZ for more details. This plan should be prepared consistent with the wildlife management plan for the Todagin zone.</li> <li>Plan and promote development of front country attractions and infrastructure in a natural setting (e.g., heritage and cultural attractions, trails, wildlife viewing sites, interpretive sites, signs, access routes, etc.).</li> <li>Make Crown land available to support the development of front country tourism facilities, with consultation and in full consideration of the needs of the Iskut community.</li> <li>Manage development of recreation and tourism facilities and activities in consideration of local community needs. These include:</li> </ul>

## Iskut Lakes Zone:

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Management Category	Strategies
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	<ul style="list-style-type: none"><li>⇒ Minimizing damage to the environment by providing adequate support facilities such as public toilets, appropriate garbage disposal units and firewood;</li><li>⇒ Continuing to provide access to local residents for hunting, firewood, and local economic needs; and</li><li>⇒ Designing and locating trapping, commercial facilities, attractions and infrastructure in a way that minimizes disruption to First Nations and local residents.</li></ul>
<b>Visual quality</b>	<ul style="list-style-type: none"><li>• Designate viewsapes from Highway 37, the Iskut Lakes as known scenic areas.</li><li>• Manage timber harvesting activities, including road development to maintain visual quality from Highway 37, the Iskut Lakes, and other important viewpoints:<ul style="list-style-type: none"><li>⇒ There should be no visible changes to the natural landscape as seen from the community of Iskut, the five lakes (Kinaskan, Tatogga, Eddontenajon, Ealue, and Kluachon) and existing tourism facilities;</li><li>⇒ From Highway 37 and other important viewpoints (e.g., Todagin and Klastline), alterations may be visible but not readily apparent. Design logging and road building to mimic natural landscape line, form, colour and texture.</li></ul></li><li>• Manage other activities (e.g., mineral exploration and mine development) for visual quality as per GMD.</li><li>• Locate and design commercial facilities to reflect the natural setting of the area.</li></ul>
<b>Access Management</b>	<ul style="list-style-type: none"><li>• Where new roads are planned, prepare an access management plan, including direction to manage public access, as needed. Access management should consider potential impacts to:<ul style="list-style-type: none"><li>⇒ wildlife from overhunting and poaching; and</li><li>⇒ cultural heritage values.</li></ul></li></ul>
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Timber</b>	<ul style="list-style-type: none"><li>• Provide timber harvesting opportunities to meet local needs (e.g. firewood, building materials, fence rails, etc.) and to provide opportunities for small-scale commercial use while maintaining the aesthetic, recreational and community values of the zone.</li></ul>



## Iskut Lakes Zone:

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Management Category	Strategies
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|  | <ul style="list-style-type: none"><li>• Prepare a management plan, in conjunction with the Kakkidi/Mowdade/Nuttlude Lakes zone, to address local timber use (see Section 2.4.6: Kakkidi/Mowdade/Nuttlude Lakes RMZ).</li></ul> |
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### 2.4.5 Mount Edziza Zone

3400 ha

This area was formerly the Mount Edziza Recreation Area. The area is surrounded on three sides by Mount Edziza Provincial Park and includes the Spectrum property, a developed gold-copper prospect. The intent of this zone is to promote a cooperative approach to managing mineral exploration, development and reclamation adjacent to a park. While mineral development is currently allowed in this zone, the intent in the long term is to become part of Mount Edziza Provincial Park. To this end, any development in this zone should be undertaken in consideration of its eventual park status.



- Objective:** To cooperatively manage mineral exploration, development and reclamation while:
- ⇒ maintaining the ecological integrity and backcountry character of the adjacent Mount Edziza Provincial Park; and
  - ⇒ to the extent compatible with mine development, maintaining the long term ecological integrity and backcountry character of the Mount Edziza zone.

Commercial timber harvesting will continue to not be allowed within this zone.

## Mt Edziza Zone:

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Management Category	Strategies
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|---------------------|--|
| <b>Biodiversity</b> | <ul style="list-style-type: none"><li>• Avoid disturbance of red- and blue-listed plants and plant communities when locating roads and mine infrastructure.</li></ul>  |
| <b>Wildlife</b>     | <ul style="list-style-type: none"><li>• Avoid disruption of the mineral lick along Tennaya Creek</li><li>• Locate roads and mine infrastructure to minimize disruption of wildlife, in particular mountain goats during kidding season and the use of spring and summer range by mountain ungulates.</li></ul> |

## Mt Edziza Zone:

<b>Management Category</b>	<b>Strategies</b>
<b>Aquatic Ecosystems and Riparian Habitat</b>	<ul style="list-style-type: none"><li>• Maintain water quality and fisheries values, including within the Nuttlude Lake chain and its tributaries, as per GMD.</li></ul>
<b>Hunting, Trapping, Guide-outfitting, Fishing</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Recreation/Tourism</b>	<ul style="list-style-type: none"><li>• Minimize potential to damage or destroy unique volcanic features e.g., (Pipe Organ Rock) during blasting.</li></ul>
<b>Visual quality</b>	<ul style="list-style-type: none"><li>• As per GMD.</li><li>• Where roaded access is required, plan road layout to minimize visual impacts from Nuttlude Lake (e.g., using forest screening).</li></ul>
<b>Access Management</b>	<ul style="list-style-type: none"><li>• Manage public use of any new access cooperatively between BC Parks and the responsible agencies in consideration of the park management plan for Mount Edziza Provincial Park.</li><li>• Recommend that permits for a road through Mount Edziza Provincial Park be issued in a timely manner in the event of mine development being approved in the Mount Edziza Resource Management Zone. For advanced mineral exploration e.g., bulk sampling, consider allowing roaded access through Mount Edziza Park where reasonable review determines that no practicable alternative exists. Any decision to put a road through the park should be accompanied by an appropriate public review process. (See Appendix 5: Policy Recommendations).</li></ul>
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• This zone will be available for staking, mineral exploration, and mine development for a period of 20 years from the date of LRMP approval. At the end of 20 years, if there are no mineral tenures in place, the zone will be added to Mount Edziza Provincial Park. If there are tenures in place 20 years from plan approval, the zone will be added to the park once tenures lapse.</li><li>• To the extent possible, fully reclaim all land disturbed by mineral exploration and mine development.</li></ul>
<b>Timber</b>	<ul style="list-style-type: none"><li>• Commercial timber harvesting is not allowed in this zone.</li><li>• Minimize the harvesting of timber during mine development e.g., only harvest timber where necessary to clear mine sites and access roads. Timber required for mine construction should be harvested from outside the zone.</li></ul>

#### 2.4.6 Kakkidi/Mowdade/Nuttlude Lakes Zone

68,000 ha

This zone comprises the Klastline Plateau and the area immediately to the east of the Kakkidi/Mowdade/Nuttlude lake chain and Mount Edziza Park.



The management intent in this zone is to integrate recreation and tourism with forestry, mineral exploration and mine development. Since it is adjacent to Mount Edziza Park, any development activities should be undertaken in consideration of values within the park, in particular the Kakkidi, Mowdade, Nuttlude lake chain. Management within this zone will also need to be coordinated with the Iskut Lakes zone immediately to the east.

This area has high potential for recreation and tourism use. It provides excellent hiking and wildlife viewing opportunities on Klastline Plateau. Proximity to the Kakkidi lake chain, and the Klastline trail to the north as well as access to tourism infrastructure in Iskut also contribute to the high recreation and tourism values.

A large fire (the Willow Burn) has removed a large amount of the old seral forest in this zone and to the south. As a result, timber harvesting will not occur in the zone for approximately 20 years, consistent with provincial policy regarding biodiversity and seral stage distribution.

**Objective:** To maintain and promote opportunities for recreation and tourism and to maintain the scenic and ecological values in the zone and as they relate to the adjacent Mount Edziza Park, while allowing timber harvesting, mineral exploration and mine development to occur.

#### Kakkidi/Mowdade/Nuttlude Lakes Zone:

Management Category	Strategies
Biodiversity	<ul style="list-style-type: none"><li>As per GMD.</li></ul>
Wildlife	<ul style="list-style-type: none"><li>Manage for Ungulate Winter Range and other wildlife species, including Stone's sheep on Klastline Plateau, as per GMD.</li></ul>
Aquatic Ecosystems and Riparian Habitat	<ul style="list-style-type: none"><li>Manage activities to maintain the water quality and fisheries values in the Kakkidi lake chain within Mount Edziza Provincial Park.</li></ul>
Hunting, Trapping, Guide-outfitting, Fishing	<ul style="list-style-type: none"><li>As per GMD.</li></ul>

## Kakkidi/Mowdade/Nuttlude Lakes Zone:

<b>Management Category</b>	<b>Strategies</b>
<b>Recreation/Tourism</b>	<ul style="list-style-type: none"><li>• Prepare a recreation plan for the Iskut area (including the Kakkidi/Mowdade/ Nuttlude Lakes zone and the Iskut Lakes zone) and Arctic Lake south of Mt Edziza Park. The recreation plan should:<ul style="list-style-type: none"><li>⇒ Identify areas for front- and backcountry use</li><li>⇒ Provide direction on appropriate tourism opportunities</li><li>⇒ Provide direction on managing public access</li><li>⇒ Be integrated with the park management plan for Mount Edziza Provincial Park and consistent with the wildlife management plan for the Todagin zone.</li></ul></li></ul>
<b>Visual quality</b>	<ul style="list-style-type: none"><li>• Designate viewsapes from the Kakkidi lake chain as a known scenic area.</li><li>• Manage other visual quality values in conjunction with the recreation plan and in recognition of the high recreation and tourism values in the area (e.g., Klastline Plateau).</li></ul>
<b>Access Management</b>	<ul style="list-style-type: none"><li>• Manage public access on existing and new roads in conjunction with:<ul style="list-style-type: none"><li>a. the recreation plan for the lake chain and Iskut Lakes; and</li><li>b. the park management plan for Mt Edziza Park. In particular, manage any access near or adjacent to Mount Edziza Park in cooperation with B.C. Parks and consistent with the park management plan.</li></ul></li><li>• Otherwise, access management for forestry and mining activities is as per GMD.</li></ul>
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Timber</b>	<ul style="list-style-type: none"><li>• As per GMD.</li><li>• Prepare a management plan, in conjunction with the Iskut Lakes zone) to address regeneration, local timber use and wildlife tree retention in Willow Burn (East Fire) (see Section 2.4.4: Iskut Lakes).</li></ul>

#### 2.4.7 Todagin Zone

131,000 ha

The Todagin zone comprises a large area that includes Todagin Plateau and Tsatia Mountain. The eastern boundary extends to the treeline of the Klappan drainage.

The management intent for Todagin zone is to integrate management for Stone's sheep and other wildlife, recreational activities, and mineral exploration, mine development and reclamation. The zone has been recommended for designation as a wildlife management area.



The zone provides habitat for a major Stone's sheep population. Other wildlife species include mountain goats, grizzly, wolves, caribou, marmots and raptors. The area also has high recreation values for hiking, wildlife viewing and bow-hunting (including guided hunting trips).

The northern portion of the zone, which encompasses Todagin Plateau, has very high mineral potential and includes the Red Chris project, a large copper-gold deposit. As of 2000, the Red Chris project was in the Environmental Assessment process. Because of its proximity to the community of Iskut, development of this deposit has the potential to provide significant local economic benefits.

**Objective:** To conserve Stone's sheep populations and habitat and other wildlife values integrated with mineral exploration and development.

Todagin Zone:

Management Category	Strategies
Policy Recommendations	<ul style="list-style-type: none"><li>• With the exception of the Red Chris property, this zone will be designated as a Wildlife Management Area (WMA) (see Map 14) with the following conditions:<ul style="list-style-type: none"><li>⇒ Mineral exploration and mine development and associated access continue to be recognized as appropriate activities;</li><li>⇒ Fully integrate the management of wildlife, mineral exploration and mine development north of Todagin Creek. South of Todagin Creek, mineral exploration and mine development are acceptable activities, with maintenance of wildlife values as the primary consideration.</li><li>⇒ Current approval processes will continue i.e., there will still be a one-window approach to project approval with consultation between the Ministry of Energy and Mines and the Ministry of Environment, Lands and Parks.</li></ul></li></ul>

Todagin Zone:

Management Category	Strategies
	⇒ Add the Red Chris property to the WMA once mineral tenures lapse.
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• Support mineral exploration, mine development and associated access as appropriate activities.</li><li>• See Wildlife and Access.</li></ul>
<b>Biodiversity</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Wildlife</b>	<ul style="list-style-type: none"><li>• Prepare a wildlife management plan, in consultation with all interested stakeholders, to address recreational impacts and to effectively integrate resource development activities with habitat needs for mountain ungulates.</li><li>• Map critical habitats for Stone's sheep and mountain goat at 1:5000 to 1:20,000 scale (e.g. lambing areas, south-facing slopes, escape terrain).</li><li>• Locate roaded access, mining camps and other infrastructure away from critical habitats. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).</li><li>• Where mineral deposits occur and mine development proceeds within mapped critical habitat:<ul style="list-style-type: none"><li>⇒ Design development to minimize impacts to habitat during operations; and</li><li>⇒ Fully reclaim habitat in a timely manner (on an ongoing basis and when operations are completed).</li></ul></li><li>• If mine development is proposed, the following should be addressed as part of the approval process:<ul style="list-style-type: none"><li>⇒ Complete baseline inventories of wildlife population and habitat.</li><li>⇒ Incorporate a mountain ungulate monitoring plan as part of issuing mine permits.</li><li>⇒ Address potential for copper toxicity in Stone's sheep.</li><li>⇒ When operations are finished, fully rehabilitate mine sites and roads with native species ecologically suited to the area and palatable to local wildlife species.</li></ul></li><li>• Monitor Stone's sheep and mountain goat populations and habitat to identify any cumulative impacts of recreation use (commercial and non-commercial), mineral development, hunting and access.</li></ul>

## Todagin Zone:

<b>Management Category</b>	<b>Strategies</b>
<b>Aquatic Ecosystems and Riparian Habitat</b>	<ul style="list-style-type: none"><li>• Undertake wildlife habitat enhancement, where required.</li><li>• As per GMD.</li></ul>
<b>Hunting, Trapping, Guide-outfitting, Fishing</b>	<ul style="list-style-type: none"><li>• Maintain the current hunting restrictions limiting the area to bow-hunting on Todagin Plateau.</li><li>• Apply other management strategies (e.g., limited entry hunting for Stone's sheep, other bow-hunting areas) as required to conserve wildlife populations.</li></ul>
<b>Agriculture, Settlement, Range</b>	<ul style="list-style-type: none"><li>• Provide information to local residents and tourism operators about the potential dangers of disease transmission from domestic sheep, goats and llamas to wild sheep and goat populations.</li></ul>
<b>Recreation/Tourism</b>	<ul style="list-style-type: none"><li>• Manage levels of recreational use to minimize impacts on plateau ecosystems and wildlife. Examples could include the following:<ul style="list-style-type: none"><li>⇒ Establish limits of acceptable change and manage recreation use accordingly;</li><li>⇒ Direct recreational users to specific sections of the plateau;</li><li>⇒ Identify sensitive habitat areas where hikers and commercial recreation users are discouraged; and</li><li>⇒ Manage trail development near Todagin Plateau in cooperation with BC Environment and the wildlife management plan.</li></ul></li><li>• Address potential impacts on sheep and goat populations when reviewing commercial recreation proposals (displacement from critical habitat areas, levels of use, disease transmission from domestic animals, aircraft use, etc.).</li><li>• Locate roaded access, mining camps and other infrastructure away from existing tourism facilities.</li><li>• Recommend designating an area of the plateau as a wildlife viewing area. Details about boundaries and management within the wildlife viewing area will be developed as part of a wildlife management plan for the Todagin zone.</li><li>• Increase public awareness of Todagin wildlife and First Nations values e.g., by creating a wildlife viewing stop and information kiosk off the highway, consistent with the direction in the wildlife management plan and parks management plan.</li></ul>

## Todagin Zone:

<b>Management Category</b>	<b>Strategies</b>
	<ul style="list-style-type: none"><li>• Coordinate planning for recreational use in the Todagin wildlife management plan with the recreation plan for Iskut Lakes area (See Section 2.4.6: Kakkidi/Mowdade/Nuttlude Lakes zone).</li></ul>
<b>Visual quality</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Access Management</b>	<ul style="list-style-type: none"><li>• Encourage air access for mineral exploration throughout the zone.<sup>3</sup></li><li>• Minimize impacts to wild sheep and goats (particularly lambing and kidding areas) and address community safety in considering options for access routes within the wildlife management area.</li><li>• Apply seasonal restrictions on use of access within or adjacent to identified critical habitat areas for lambing and kidding from April 15 – June 15. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.). This strategy does not apply to operating mines.</li><li>• Consult fully with the public, including local residents and the LRMP Monitoring Committee, regarding any new road locations.</li><li>• Provide access controls, including staffed gates, where needed, to manage public access to the plateau area.</li><li>• Prohibit use of ATVs (not including snowmobiles) for recreation and hunting. Restrict snowmobile use on the plateau if wildlife are shown to be adversely impacted.</li><li>• Permanently deactivate roads upon completion of operations.</li><li>• Provide guidelines to aircraft companies to inform pilots about avoiding critical lambing and kidding areas during sensitive periods (generally between April 15 and June 15).</li></ul>
<b>Timber</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>

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<sup>3</sup> Note: The GMD contains the following strategy for flights near to natal areas for Stone's sheep and mountain goats (S8.1 Access Management, S6.3 Wildlife): "To the extent possible, avoid repeated flights in or near to natal areas for Stone's sheep and mountain goats (Map 9) from April 15 to June 15. This strategy applies to air access for mineral activities, recreation, and sightseeing."

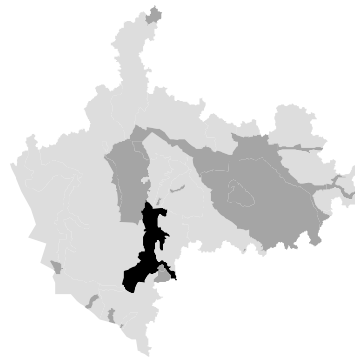


#### 2.4.8 Middle Iskut Zone

176,000 ha

The Middle Iskut zone follows the Iskut River to Forrest Kerr canyon and includes the Highway 37 corridor south of Kinaskan Provincial Park.

This zone includes a significant portion of the timber harvesting land base for the LRMP area and is the main area where commercial timber harvesting has occurred to date. Riparian areas along this section of the river are part of a unique transitional ecosystem linking Interior Cedar Hemlock ecosystems with boreal forest to the north. Much of this zone also includes Highway 37, which supports significant tourism traffic. Because of the proximity of the highway and other roads, several sections of the river are accessible, providing a range of recreation opportunities, including kayaking, rafting, hiking along canyons, camping at Devil Lake and visiting the Iskut Hot Springs.



Because of the high recreation and tourism potential and high ecological and connectivity values in this zone, the LRMP provides for stronger riparian management than provided by the General Management Direction.

**Objective:** To maintain the structural and functional integrity of riparian habitat along the Iskut River and to maintain the recreation values along the river and highway corridor while continuing to allow commercial timber harvesting and mineral exploration and development.

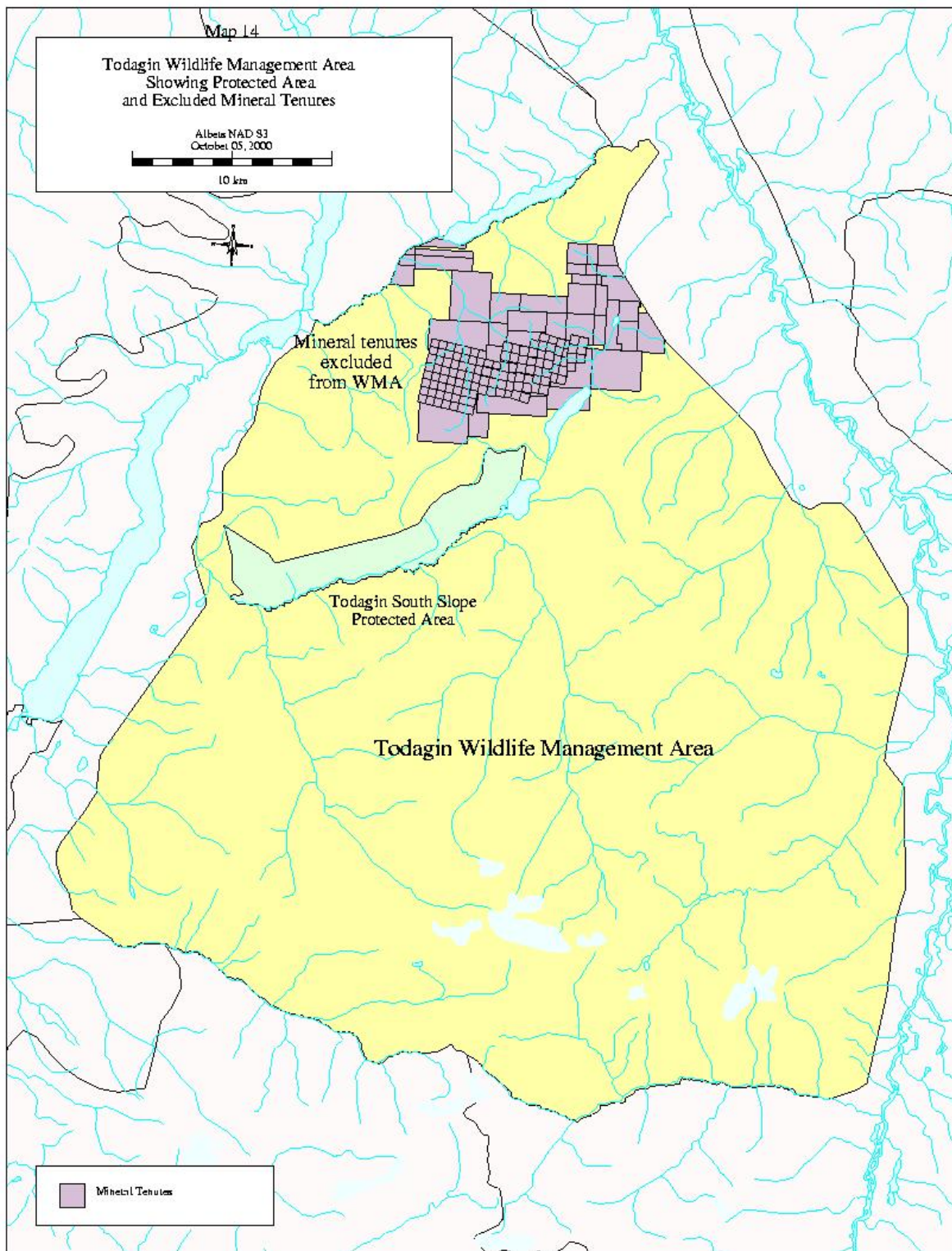
#### Middle Iskut Zone:

Management Category	Strategies
Biodiversity	<ul style="list-style-type: none"><li>• See Aquatic/Riparian and Access.</li></ul>
Wildlife	<ul style="list-style-type: none"><li>• Manage for Ungulate Winter Range and other wildlife species as per GMD.</li></ul>
Aquatic Ecosystems and Riparian Habitat	<ul style="list-style-type: none"><li>• Implement a minimum 100 m reserve zone extending from the outer edge of the active floodplain to each side of the Iskut River and adjacent mapped environmentally sensitive areas, as described below. There will be no timber harvesting within the reserve zone. The reserve zone applies to forestry activities, not mining.</li></ul>

## Middle Iskut Zone:

<b>Management Category</b>	<b>Strategies</b>
	<p>The reserve zone includes all of the area within 100m of the outer edge of the active floodplain (see Glossary) or the top of the inner gorge for areas with steep banks/canyons. In some areas this zone will be widened to include “high wildlife environmentally sensitive areas” i.e., critical wildlife riparian habitats such as wetland complexes, confluence areas, ungulate winter range within riparian habitat, and mapped environmentally sensitive areas for wildlife which are within or contiguous with the 100m reserve zone.</p>
<b>Hunting, Trapping, Guide-outfitting, Fishing Recreation/Tourism</b>	<ul style="list-style-type: none"><li>• If an access road is constructed to Devil Lake, monitor fish populations and take action to prevent overfishing.</li><li>• Provide opportunities for frontcountry tourism development at Devil Lake.</li><li>• Locate and design commercial facilities at Devil Lake to reflect the natural setting of the area.</li></ul>
<b>Visual quality</b>	<ul style="list-style-type: none"><li>• Designate viewsapes from the Iskut River, Devil Lake, and Highway 37 as known scenic areas.<ul style="list-style-type: none"><li>⇒ Changes to the natural landscape should, where possible, be difficult to distinguish from natural openings from navigable portions of the Iskut River;</li><li>⇒ From Highway 37, alterations may be visible but not readily apparent. Design logging and road building to mimic natural landscape line, form, colour and texture.</li></ul></li></ul>
<b>Access Management</b>	<ul style="list-style-type: none"><li>• For new roads, restrict public access west of the Iskut river using river crossings as access control points to minimize impacts on grizzly habitat.</li><li>• In the interest of maintaining biodiversity, encourage the location of main haul roads for forestry to be as far as is technically and feasibly possible from the Iskut River.</li></ul>
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Timber</b>	<ul style="list-style-type: none"><li>• As per GMD (See Aquatic/Riparian and Visual Quality).</li></ul>

**Map 14: Todagin Wildlife Management Area Show Protected Area and Excluded Mineral Tenures**



#### 2.4.9 Lower Iskut Zone

12,000 ha

The Lower Iskut zone connects the Middle Iskut zone and Lower Stikine-Iskut Grizzly Salmon Management zone. The intent of this zone is to conserve the sensitive fisheries and habitat values of the Lower Iskut River and to provide continuity of management between the Middle Iskut and Lower Stikine-Iskut zones.



**Objective:** To maintain the following while allowing commercial timber harvesting and mineral exploration and development and road development to occur:

- ⇒ the ecological integrity of riparian areas, including active floodplains, wetlands, and stream confluences;
- ⇒ habitat values for grizzly, mountain goat, and moose;
- ⇒ fisheries values, emphasizing no net loss of fish habitat;
- ⇒ recreation values;
- ⇒ water quality; and
- ⇒ visual quality from the Iskut River.

Commercial timber harvesting is not allowed on the active floodplain (see Glossary) of the Iskut River.

Lower Iskut Zone:

Management Category	Strategies
Biodiversity	<ul style="list-style-type: none"><li>• As per GMD</li></ul>
Wildlife	<ul style="list-style-type: none"><li>• Apply the following strategies to address grizzly bear habitat:<ul style="list-style-type: none"><li>a) Complete detailed mapping to identify critical patch habitats (1 – 10 ha in size) in areas potentially impacted by projects (e.g., mine development, roads). This strategy applies to both the forested and non-forested landbase. Detailed mapping is not required for mineral exploration activities but GMD still applies. Critical patch habitats include: salmon spawning areas and other fish habitat areas where grizzly bears feed; herb-dominated avalanche tracks and run-out zones on</li></ul></li></ul>

## Lower Iskut Zone:

Management Category	Strategies
	southerly and westerly aspects; skunk cabbage swamps and non-forested fen/marsh complexes; herbaceous riparian meadow/wetland complexes; post-fire stands dominated by <i>Vaccinium</i> species; subalpine parkland meadows; <i>Hedysarum</i> and glacier lily complexes.
	b) Design cutblocks over space and time to maximize areas of contiguous forested habitat.
	c) Provide linkages of continuous mature and old forest cover between grizzly habitats at the landscape, sub-regional and regional scales, in keeping with natural disturbance patterns.
<b>Aquatic Ecosystems and Riparian Habitat</b>	<ul style="list-style-type: none"><li>• Maintain the functional integrity of ungulate winter range for goat and moose (as per GMD).</li><li>• Manage all activities along the Iskut River and its tributaries so that there is no net loss of fish habitat.</li><li>• Apply best management practices from the Forest Practices Code <i>Riparian Management Area Guidebook</i> to wetlands, floodplains, and riparian habitat as per GMD.</li><li>• On a site-specific basis and where ecologically appropriate, increase the riparian reserve or management area to maintain riparian structure and function at major stream confluences e.g. at the confluence with the Verrett River.</li></ul>
<b>Hunting, Trapping, Guide-outfitting, Fishing</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Recreation/Tourism</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Visual quality</b>	<ul style="list-style-type: none"><li>• Designate views from Iskut River as a known scenic area. Alterations may be visible but not readily apparent. Design logging and road building to mimic natural landscape line, form, colour and texture.</li><li>• Minimize visual impacts of roads from the Iskut River.</li></ul>
<b>Access Management</b>	<ul style="list-style-type: none"><li>• Limit main stem road development so that the road is on one side of a valley at any one location. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).</li></ul>

## Lower Iskut Zone:

Management Category	Strategies
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• Use transportation methods that incur the least environmental risk, and are ecologically appropriate and economically feasible.</li><li>• Wherever possible, combine development of infrastructure (including powerlines) with existing or planned roads.</li><li>• As per GMD.</li><li>• Do not locate tailings ponds on the active floodplain (see Glossary). Where possible, avoid locating tailings ponds on the 100 year floodplain.</li></ul>
<b>Timber</b>	<ul style="list-style-type: none"><li>• Commercial timber harvesting is not allowed on the active floodplain (see Glossary) of the Iskut River.</li><li>• When timber harvesting occurs, monitor alterations to habitat suitability and effectiveness and develop preventative, mitigative or restorative management practices as required to maintain the quality of grizzly habitat. Address the following when planning forest management activities:<ul style="list-style-type: none"><li>⇒ Apply forest ecosystem networks if applicable to the level of disturbance and ecology of the zone</li><li>⇒ Within mapped critical habitat areas, the first priority will be given to maintaining and enhancing habitat attributes. Management within these areas could include:<ul style="list-style-type: none"><li>- Retention (no harvest) areas</li><li>- Seasonal restrictions on harvesting</li><li>- Increased forest cover constraints</li><li>- Locate roads to minimize impacts.</li></ul></li></ul></li></ul>

#### 2.4.10 Unuk River Zone

10,000 ha

The Unuk River zone comprises the portion of the Unuk River watershed south of Sulphurets Creek. The intent of this zone is to integrate management for salmon and grizzly bears, recreation, mineral exploration and development, and timber harvesting.



The Unuk River valley, south of Sulphurets Creek, is very remote. It contains high value wildlife habitat, in particular for salmon and grizzly bear, and provides important riparian values.

The area has high mineral potential and is currently one of the most actively explored areas in the LRMP. The area also contains significant timber stands that would become economically viable if a mine road is developed in the future. Because of its remoteness and undeveloped character, the area is also used for commercial wilderness rafting trips.

**Objective:** To maintain the following while allowing commercial timber harvesting and mineral exploration and development to occur:

- ⇒ the high quality and quantity of grizzly bear habitat; and
- ⇒ visual quality from the Unuk River.

Commercial timber harvesting will not be allowed on the active floodplain (see Glossary) of the Unuk River.

Unuk River Zone:

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Management Category	Strategies
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<b>Biodiversity</b>	<ul style="list-style-type: none"><li>• Maintain linkages of continuous mature and old forest cover with Misty Fjords National Monument.</li></ul>
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<b>Wildlife</b>	<ul style="list-style-type: none"><li>• Apply the following strategies to address grizzly bear habitat:<ul style="list-style-type: none"><li>a) Complete detailed mapping to identify critical patch habitats (1 – 10 ha in size) in areas potentially impacted by projects (e.g., mine development, roads). This strategy applies to both the forested and non-forested landbase. Detailed mapping is not required for mineral exploration activities but GMD still applies. Critical patch habitats include: salmon spawning areas and other fish habitat areas where grizzly bears feed; herb-dominated avalanche tracks and run-out zones on southerly and westerly aspects; skunk cabbage swamps and non-forested fen/marsh complexes;</li></ul></li></ul>
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## Unuk River Zone:

Management Category	Strategies
	<p>herbaceous riparian meadow/wetland complexes; post-fire stands dominated by <i>Vaccinium</i> species; subalpine parkland meadows; <i>Hedysarum</i> and glacier lily complexes.</p> <p>b) Design cutblocks over space and time to maximize areas of contiguous forested habitat.</p> <p>c) Retain at least 30% of the forested landbase in old seral condition (as defined in the <i>FPC Biodiversity Guidebook</i>) in each biogeoclimatic variant in the Unuk River zone.</p> <p>d) Retain a maximum of 35% of the forested landbase in early seral condition (&lt; 40 years) in each biogeoclimatic variant in the Unuk River zone.</p> <p>e) Provide linkages of continuous mature and old forest cover between grizzly habitats at the landscape, sub-regional and regional scales, in keeping with natural disturbance patterns.</p>
<b>Aquatic Ecosystems and Riparian Habitat</b>	<ul style="list-style-type: none"> <li>• Manage all activities along the Unuk River and its tributaries so that there is no net loss of fish habitat as per GMD.</li> <li>• Apply best management practices from the Forest Practices Code <i>Riparian Management Area Guidebook</i> to wetlands, floodplains, and riparian habitat as per GMD.</li> </ul>
<b>Hunting, Trapping, Guide-outfitting, Fishing Recreation/Tourism</b>	<ul style="list-style-type: none"> <li>• As per GMD.</li> <li>• Encourage low-impact recreation/tourism activities that minimize impacts on wildlife, sensitive ecosystems and cultural/heritage values.</li> <li>• Locate activities to minimize potential for human-bear interaction, as per GMD.</li> <li>• 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.</li> <li>• Maintain opportunities for public camping at the confluence of the South Unuk and Unuk Rivers.</li> </ul>
<b>Visual quality</b>	<ul style="list-style-type: none"> <li>• Designate views from Unuk River as a known scenic area. Wherever possible, design logging and road building to mimic natural landscape line, form, colour and texture.</li> </ul>
<b>Access Management</b>	<ul style="list-style-type: none"> <li>• Air or water access are strongly encouraged for mineral exploration activities.</li> </ul>



## Unuk River Zone:

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Management Category	Strategies
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<b>Mineral and Energy Resources</b>	
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<b>Timber</b>	
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- Apply timely hunting and/or access restrictions when there is substantiated evidence that grizzly or other wildlife populations are at risk or declining (this includes verifiable local information and scientific/biological studies) as per GMD.
- Prepare access management plans for any new 2- and 4-wheel drive accessible roads. Access management plans will address road use and deactivation and the need for access controls such as gates, removal of temporary bridges, etc.
- Limit main stem road development so that the road is on one side of a valley at any one location. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).
- Wherever possible, combine development of infrastructure (including powerlines) with existing or planned roads.
- Reclaim mineral exploration trails in a timely manner, consistent with the Mineral Exploration Code.
- As per GMD.
- See Access Management.
- Commercial timber harvesting is not allowed on the active floodplain (see Glossary) of the Unuk River.
- When timber harvesting occurs:
  - a) Monitor alterations to habitat suitability and effectiveness and develop preventative, mitigative or restorative management practices as required to maintain the quality of grizzly habitat. Address the following when planning forest management activities:
    - ⇒ Apply forest ecosystem networks if applicable to the level of disturbance and ecology of the zone
    - ⇒ Within mapped critical habitat areas, the first priority will be given to maintaining and enhancing habitat attributes. Management within these areas could include:
      - Retention (no harvest) areas
      - Seasonal restrictions on harvesting
      - Increased forest cover constraints
      - Locate roads to minimize impacts.

## Unuk River Zone:

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Management Category	Strategies
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|  | b) Consider closing access to forestry operations for extended time periods following first pass harvesting and once silviculture obligations are complete in order to minimize impacts to grizzly populations. |
| <b>Research and Inventory Priority</b> | • Undertake baseline studies of grizzly bear populations and habitat (see Section 3: Research and Inventory Priorities).  |

### 2.4.11 Lower Stikine-Iskut Coastal Grizzly/Salmon Zone

202,000 ha

The Lower Stikine-Iskut Grizzly Salmon Management Zone includes the valley of the Stikine River from the Chutine confluence to the US border, and the lower Iskut River west of the Craig River.

The intent of this zone is to maintain the functional integrity of biological processes and cultural heritage values in the Lower Stikine and Lower Iskut River valleys, as well as the scenic and remote character of the river corridors, while providing continued opportunities for mineral exploration and development. The management emphasis in this zone will be to maintain habitat values for grizzly and salmon in recognition of their role as keystone species in the ecosystems of the Iskut-Stikine.



The Stikine and Iskut Rivers and their drainages provide excellent habitat for all five species of Pacific salmon. The salmon support a commercial inland fishery and traditional aboriginal food fishing by the Tahltan First Nation. The salmon are also a keystone species in the coastal food chain, providing a vital food source for grizzly bear and other animals, as well as contributing to a nutrient cycle critical to the health of coastal ecosystems.

The river valleys and the side drainages have very high biodiversity values. The ecosystems change from dry Sub-boreal Spruce near the Chutine confluence, to transitional Interior Cedar Hemlock, to wet Coastal Western Hemlock near the border with Alaska. The Lower Stikine is the largest river in the province where a complete transition area and productive valley-bottom riparian habitats have not been altered by timber harvesting. In addition to over-all high biodiversity, much of the zone contains provincially significant grizzly habitat and also has high values for mountain goats and moose. The confluence of the Iskut and Stikine contains a wetland complex that provides habitat to a number of species, including migratory waterfowl and an overwintering area for trumpeter swans.

The abundance of salmon and traditional travel routes along the Stikine and Iskut Rivers have resulted in a high number of aboriginal cultural heritage sites, including old villages, legend sites and traditional fishing areas. The river has been a transportation route since time immemorial, first for the First Nations, and later also for fur traders and prospectors. The area has long been prized for its recreation and tourism values. In the Lower Stikine, remoteness, spectacular scenery, glaciers, hot springs, and abundant wildlife draw visitors from around the world. The Lower Iskut is less travelled, but also has potential for world class tourism opportunities.

Mineral exploration and development are accepted activities within the Coastal Grizzly/Salmon Management Zone, including roaded access where needed. The Lower Iskut area within the zone is provincially significant for mineralization and the adjacent areas are among the most highly mineralized in the province. This adjacent area includes an operating mine (Eskay Creek), a number of past producers including the recently closed Snip mine, two projects in the Environmental Assessment Process (mine development review phase), and a number of developed prospects. The areas adjacent to the Stikine River are also rich in mineral resources, as evidenced by large undeveloped base metal deposits at Galore Creek and Shaft Creek. Rugged terrain makes the valleys of the Lower Stikine and Iskut strategic in terms of transportation routes for potential future mine development. Careful planning and management of access will be critical for mineral development in order to maintain the high ecological, recreational and cultural values of the area.

- Objective:** Continue to provide opportunities for mineral exploration and mine and road development while maintaining the following:
- ⇒ habitat values for salmon, grizzly, mountain goat; and moose;
  - ⇒ fisheries values, emphasizing no net loss of fish habitat and sustainable salmon populations;
  - ⇒ the ecological integrity of the confluence area of the Iskut and Stikine Rivers, including habitat for migratory waterfowl, wintering areas for trumpeter swans, fish, wildlife and cultural heritage values;
  - ⇒ the ecological integrity of other riparian areas, including active floodplains, wetlands, and stream confluences;
  - ⇒ the ecological integrity of the transition zone from dry interior to wet coastal ecosystems;
  - ⇒ recreation and tourism values;
  - ⇒ water quality; and
  - ⇒ visual quality from the Stikine and Iskut Rivers.

Logging is only allowed for the purposes of mineral exploration and/or mine development and for localized use.

## Lower Stikine-Iskut Coastal Grizzly/Salmon Zone:

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Management Category	Strategies
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<b>Biodiversity</b>	<ul style="list-style-type: none"><li>• See Timber, Wildlife.</li></ul>
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<b>Wildlife</b>	<ul style="list-style-type: none"><li>• Provide adequate buffers to prevent disturbance of overwintering swans where these are identified (including the Iskut-Stikine confluence).</li><li>• Assess habitat values for swans and other waterfowl at the Iskut-Stikine confluence and along the Iskut River. Where inventories indicate significant habitat values, implement appropriate measures to conserve these values such as assigning an appropriate wildlife designation (e.g., wildlife sanctuary, wildlife habitat area, federal migratory bird sanctuary).</li><li>• Apply the following strategies to address grizzly bear habitat:<ul style="list-style-type: none"><li>a) Complete detailed mapping to identify critical patch habitats (1 – 10 ha in size) in areas potentially impacted by projects (e.g., mine development, roads). Detailed mapping is not required for mineral exploration activities but GMD still applies. Critical patch habitats include: salmon spawning areas and other fish habitat areas where grizzly bears feed; herb-dominated avalanche tracks and run-out zones on southerly and westerly aspects; skunk cabbage swamps and non-forested fen/marsh complexes; herbaceous riparian meadow/wetland complexes; post-fire stands dominated by <i>Vaccinium</i> species; subalpine parkland meadows; <i>Hedysarum</i> and glacier lily complexes.</li><li>b) Locate roads and mine infrastructure to minimize impacts to the mapped critical patch habitats identified through the mapping prescribed in (a).</li><li>c) Monitor for changes to habitat suitability and effectiveness and develop preventative, mitigative or restorative management practices, as required, to maintain the quality of grizzly habitat.</li></ul></li><li>• Maintain ungulate winter range for goat and moose (as per GMD).</li></ul>
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<b>Aquatic Ecosystems and Riparian Habitat</b>	<ul style="list-style-type: none"><li>• Manage all activities along the Stikine, Iskut and Craig Rivers and their tributaries so that there is no net loss of fish habitat, with particular emphasis on sensitive fish habitats like wetland areas, small streams in the flood plain, stream confluences and salmon rearing and spawning areas.</li></ul>
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## Lower Stikine-Iskut Coastal Grizzly/Salmon Zone:

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Management Category	Strategies
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<b>Hunting, Trapping, Guide-outfitting, Fishing</b>	<ul style="list-style-type: none"><li>• Monitor hunting mortality of grizzly, moose, and mountain goats and undertake mitigative measures if population viability is threatened.</li><li>• Support an ecologically sustainable salmon fishery.</li></ul>
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<b>Recreation/Tourism</b>	<ul style="list-style-type: none"><li>• Manage recreation and tourism (facilities and commercial activities) for a backcountry experience.</li><li>• Manage levels of recreational use to minimize impacts to wildlife and sensitive sites.</li></ul>
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<b>Visual quality</b>	<ul style="list-style-type: none"><li>• Designate viewsapes from the Stikine and Iskut Rivers as known scenic areas. Wherever possible, there should be no visible change to the natural landscape as seen from the river.</li><li>• Minimize visual impacts of roads from the river.</li></ul>
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<b>Cultural/heritage resources</b>	<ul style="list-style-type: none"><li>• Conserve cultural/heritage sites as per GMD.</li></ul>
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<b>Access Management</b>	<p>Roads are allowed within this zone for the purpose of mineral exploration and mine development.</p> <p>Separate access strategies for the Lower Stikine and Lower Iskut have been developed:</p> <p><b>Lower Stikine Corridor:</b></p> <p>Mineral exploration:</p> <ul style="list-style-type: none"><li>• Use non-roaded access for mineral exploration unless it can be demonstrated that there are no practicable alternatives. The types of roaded access that may be required for exploration activities could include the construction of spur roads from the river or air strips for the transportation of heavy equipment or bulk samples.</li><li>• Permanently deactivate mineral exploration trails in a timely manner, consistent with the Mineral Exploration Code.</li></ul> <p>Mine development:</p> <p>Where roaded access is required, it is recommended the following measures be applied to any roaded access in the Lower Stikine corridor. This is intended as guidance for road approval and to assist potential proponents to prepare road proposals that address the key values for this area.</p> <ul style="list-style-type: none"><li>• For mine development, permits to begin construction of major road corridors should only be issued after over-all project approval requirements have been met.</li></ul>
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## Lower Stikine-Iskut Coastal Grizzly/Salmon Zone:

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Management Category	Strategies
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- Avoid constructing roads within the zone. Use non-roaded access or roads outside of this zone unless it can be demonstrated that there are no practicable alternatives.
- Minimize impacts to views from the Stikine River (see Visual Quality).
- The following access routes are preferred, linking with Highway 37:
  - ⇒ South from Mess Creek through to More Creek (or Forrest Kerr Creek);
  - ⇒ East via Porcupine Creek to More Creek (or Forrest Kerr Creek).

### **Lower Iskut:**

- Air or water access are strongly encouraged for mineral exploration activities.
- The following access route is preferred, linking with Highway 37:
  - ⇒ Along the north side of the Lower Iskut, away from the floodplain and crossing upstream of the Craig to connect with the Eskay Mine Road

### **Access Strategies That Apply To Both The Lower Stikine And The Lower Iskut:**

The following measures are recommended for either exploration or mine roads:

- Prepare an access management plan to minimize impacts on ecological, scenic and recreational values. Access management plans will address road use and deactivation and the need for access controls such as gates, removal of temporary bridges, etc.
- Avoid roads within site-specific critical habitat features (terrestrial and aquatic) as identified in GMD (see Wildlife).
- Minimize road density, using shared routes where possible for roads and infrastructure.
- Limit main stem road development so that roads are on one side of a valley at any one location. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.).

## Lower Stikine-Iskut Coastal Grizzly/Salmon Zone:

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Management Category	Strategies
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<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• Employ transportation methods that incur the least environmental risk, are ecologically appropriate and economically feasible.</li><li>• Do not construct circle routes.</li><li>• Permanently deactivate roads within the zone upon completion of operations.</li><li>• See Access.</li><li>• Do not locate tailings ponds on the active floodplain (see Glossary). Where possible, avoid locating tailings ponds on the 100 year floodplain.</li><li>• Where possible, locate exploration base camps so that they are not visible from the river and are away from high value recreational sites.</li><li>• Recommend that placer tenures continue to be disallowed.</li></ul>
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<b>Timber</b>	<ul style="list-style-type: none"><li>• Commercial timber harvesting at any scale is not allowed in the Lower Stikine-Iskut Coastal Grizzly/Salmon zone.</li><li>• Removal of trees is allowed only where required for the purposes of approved mineral exploration and mine development, including access, and to meet localized non-commercial needs, e.g., firewood, fence rails, building materials (including for construction of commercial facilities), etc.</li></ul>
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### 2.4.12 Chutine Zone

119,000 ha

This zone comprises the entire Chutine watershed, including Chutine River and Lake. The intent of this zone is to conserve wildlife values of Chutine River watershed and to provide opportunities for integrated recreation and tourism use, timber harvesting for local needs, and mineral exploration and development.



The Chutine River and its lake are located just south of Telegraph Creek. As such, the area provides opportunities for recreation and tourism ventures out of Telegraph Creek (kayaks, jet boats, rafting, mountaineering). Chutine Lake has spectacular views. The watershed also provides productive grizzly and

salmon habitat and moose winter range. Timber values in this zone are not high, but there are opportunities in the area for harvesting for local needs.

**Objective:** To maintain the following while allowing timber harvesting and mineral exploration and development to occur:

- ⇒ habitat values for grizzly and moose;
- ⇒ fisheries values;
- ⇒ opportunities for backcountry recreation around Chutine Lake; and
- ⇒ visual quality from Chutine Lake and Chutine River.

Timber harvesting will not be allowed in the active floodplain (see Glossary) of the Chutine River.

#### Chutine Zone:

Management Category	Strategies
<b>Biodiversity</b>	<ul style="list-style-type: none"> <li>• See Timber.</li> </ul>
<b>Wildlife</b>	<ul style="list-style-type: none"> <li>• Maintain ungulate winter range for moose, as per GMD.</li> <li>• Maintain the functional integrity of high value grizzly habitat as per GMD.</li> </ul>
<b>Aquatic Ecosystems and Riparian Habitat</b>	<ul style="list-style-type: none"> <li>• As per GMD.</li> </ul>
<b>Hunting, Trapping, Guide-outfitting, Fishing</b>	<ul style="list-style-type: none"> <li>• As per GMD.</li> </ul>
<b>Recreation/Tourism</b>	<ul style="list-style-type: none"> <li>• Maintain the wilderness quality of Chutine Lake by locating and designing recreation/tourism facilities to reflect the natural setting of the area.</li> <li>• Manage levels of recreational use to minimize impacts to wildlife and to maintain the backcountry setting of the area (assess levels of use when reviewing new commercial recreation applications).</li> <li>• Maintain opportunities for public camping on Chutine Lake.</li> </ul>
<b>Visual quality</b>	<ul style="list-style-type: none"> <li>• Designate viewsapes from Chutine River and Chutine Lake as known scenic areas.</li> <li>• Manage the quality of viewsapes from Chutine River. Alterations may be visible but not conspicuous. Design logging and road building to mimic natural landscape line, form, colour and texture.</li> <li>• There should be no visible alteration to the natural landscape as seen from Chutine Lake.</li> </ul>



## Chutine Zone:

<b>Management Category</b>	<b>Strategies</b>
<b>Access Management</b>	<ul style="list-style-type: none"><li>• If new road construction is required, minimize impacts on recreation and wildlife values in this unit:<ul style="list-style-type: none"><li>⇒ Limit main stem road development so that the road is on one side of a valley at any one location. Only consider exceptions to this strategy after fairly assessing and weighing all implications (ecological, economic, safety, etc.)</li><li>⇒ Apply timely hunting and/or access restrictions when there is substantiated evidence that grizzly or other wildlife populations are at risk or declining (this includes verifiable local information and scientific/biological studies) as per GMD.</li></ul></li><li>• To maintain the remote quality of Chutine Lake for backcountry recreation, do not develop permanent road access within 8 km of the lake. Roads for mineral exploration and mine development are allowed, but should be permanently deactivated/reclaimed following completion of operations.</li><li>• Where a temporary road is required near Chutine Lake, take steps to minimize impacts of access on the lake. Examples include:<ul style="list-style-type: none"><li>⇒ Fully deactivating road when project is complete</li><li>⇒ Interim roads, such as for mineral exploration should be deactivated in a timely manner during extended periods of disuse, consistent with the Mineral Exploration Code</li><li>⇒ Designing roads and managing public use to prevent easy motorized access to the lake.</li></ul></li></ul>
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Timber</b>	<ul style="list-style-type: none"><li>• As per GMD.</li><li>• Commercial timber harvesting will not be allowed in the active floodplain (see Glossary) of the Chutine River.</li></ul>

#### 2.4.13 Telegraph Creek Community Watershed Zone

3800 ha

This zone includes the domestic water supply for the community of Telegraph Creek and is formally designated as a *Community Watershed*.



**Objective:** To maintain the quality and quantity of community water supply and to maintain natural stream flow regimes within the natural range of variability.

#### Telegraph Creek Community Watershed Zone:

Management Category	Strategies
<b>Biodiversity</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Wildlife</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Aquatic Ecosystems and Riparian Habitat</b>	<ul style="list-style-type: none"><li>• Assess terrain stability and surface soil erosion hazard before conducting operations.</li><li>• Conduct a watershed assessment procedure if timber harvesting is planned within the zone.</li></ul>
<b>Hunting, Trapping, Guide-outfitting, Fishing</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Recreation/Tourism</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Visual quality</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Access Management</b>	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"><li>• Manage mineral exploration, including road construction, maintenance and deactivation, according to the guidelines for community watersheds outlined in the Mineral Exploration Code.</li></ul>
<b>Timber</b>	<ul style="list-style-type: none"><li>• Manage forestry activities, including access construction and site maintenance, according to the guidelines for community watersheds outlined in the Forest Practices Code <i>Community Watershed Guidebook</i> (1995).</li></ul>

#### 2.4.14 Tuya Zone

318,000 ha

The Tuya zone includes the entire Tuya drainage, north of the Stikine River and west of Dease Lake.

The area has high wildlife values, including moose winter range at Mincho Lake and high caribou habitat values on Kawdy Plateau and Level Mountain. There is a salmon enhancement project underway at Tuya Lake and potential for salmon enhancement on the Tuya River. The Tuya River provides opportunities for river recreation, including kayaking and rafting.



**Objective:** To maintain the following while allowing commercial timber harvesting and mineral exploration and development to occur:

- ⇒ functional winter habitat for moose, particularly near Mincho Lake;
- ⇒ functional integrity of the caribou crossing at the outlet to Tuya Lake;
- ⇒ water quality and fish habitat in Tuya Lake and Tuya River;
- ⇒ continuation and possible future expansion of salmon enhancement activities in Tuya Lake and Tuya River; and
- ⇒ visual quality along the Tuya River.

Tuya Zone:

Management Category	Strategies
Biodiversity	<ul style="list-style-type: none"><li>• As per GMD.</li></ul>
Wildlife	<ul style="list-style-type: none"><li>• The outlet of Tuya Lake has been identified as a key crossing area for caribou migration. Before approving any development which could disrupt caribou migration, collect additional information to assess potential impacts to caribou and take steps to minimize impacts.</li><li>• Designate wintering areas for moose as known Ungulate Winter Range under the Forest Practices Code.</li></ul>
Aquatic Ecosystems and Riparian Habitat	<ul style="list-style-type: none"><li>• Recommend continuation and possible expansion of salmon enhancement activities in Tuya Lake.</li><li>• Support future planning for salmon enhancement on the Tuya River.</li></ul>

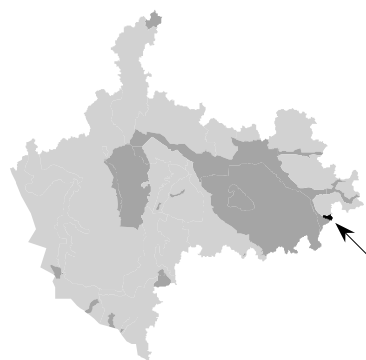
## Tuya Zone:

Management Category	Strategies
	<ul style="list-style-type: none"> <li>Manage access, including road layout and use to minimize sedimentation and to maintain water quality in Tuya Lake.</li> </ul>
<b>Hunting, Trapping, Guide-outfitting, Fishing</b>	<ul style="list-style-type: none"> <li>As per GMD.</li> </ul>
<b>Recreation/Tourism</b>	<ul style="list-style-type: none"> <li>As per GMD.</li> </ul>
<b>Visual quality</b>	<ul style="list-style-type: none"> <li>Designate areas visible from the Tuya River as a known scenic area.</li> </ul>
<b>Access Management</b>	<ul style="list-style-type: none"> <li>Minimize disruption of moose due to increased access in and adjacent to ungulate winter range near Mincho Lake by applying the following: <ul style="list-style-type: none"> <li>⇒ avoid constructing roads to this area</li> <li>⇒ if no practicable road alternatives exist, minimize impacts from hunting by implementing hunting restrictions like no-shooting zones, or if necessary restricting vehicle access via a gate during winter.</li> </ul> </li> </ul>
<b>Mineral and Energy Resources</b>	<ul style="list-style-type: none"> <li>As per GMD.</li> </ul>
<b>Timber</b>	<ul style="list-style-type: none"> <li>As per GMD.</li> </ul>

### 2.4.15 Metsantan Zone

3500 ha

The Metsantan Zone includes a mineralized area adjacent to the Metsantan Protected Area and includes very high First Nations cultural heritage values (See Map 16). The zone will be excluded from the Metsantan Protected Area and will be available for staking, mineral exploration and mine development for a period of 20 years from the date of LRMP approval.



At the end of 20 years, if there are no mineral tenures in place, the area will be added to the Protected Area. If there are tenures in place 20 years from plan approval, the tenure areas will be added to the Protected Area once tenures lapse. The following management direction is provided:

- To the extent compatible with mine development, maintain the long term ecological integrity and cultural values of the excluded Metsantan tenure areas in consideration of their eventual Protected Area status.

- Manage access into mineral tenures adjacent to the protected area to minimize disturbance of seasonal migration of caribou.

## **2.5 Protected Areas**

Protected Areas are land and freshwater or marine areas set aside to protect the province's diverse natural and cultural heritage. They are dedicated to present and future generations for a spectrum of compatible uses. Land use within Protected Areas emphasizes resource conservation to the degree that resource extraction is excluded and other land uses may be limited or excluded. Mining, logging, hydro dams and oil and gas development are not allowed in Protected Areas.

The Cassiar Iskut-Stikine LRMP area is distinct in having very large Protected Areas comprising whole ecosystems. This allows B.C. Parks to use a systems approach to Protected Areas management. In addition, the management direction in the LRMP emphasizes the importance of coordinating strategic planning and management between Protected Areas and the adjacent landbase.

Protected Areas are currently managed under the *Park Act*, the *Ecological Reserves Act*, and the *Environment and Land Use Act* and associated regulations. The Province has developed general guidelines regarding resource and recreation use in Protected Areas (See Appendix 9). The LRMP includes additional direction regarding acceptable uses within individual Protected Areas, as outlined in Section 2.5.2. This direction on acceptable uses will be incorporated into more detailed management planning for each Protected Area, with full public consultation, including input from local residents and stakeholders. Interim management direction statements will provide temporary management guidance until comprehensive management plans are completed.

First Nations traditional uses and rights are respected in Protected Areas. The LRMP endorses initiatives between BC Parks and the Tahltan First Nations to establish a Protected Areas committee to provide recommendations on Protected Areas management within the Tahltan traditional territory.

## 2.5.1 Objectives and Strategies for Management within Protected Areas

### Goals/ Desired Future State

- ☐ A protected area system for the LRMP area that has viable, representative examples of the natural diversity of the LRMP area including terrestrial and aquatic ecosystems, characteristic habitats, hydrology, landforms, and characteristic backcountry recreational and cultural heritage values of each ecosection.
- ☐ A Protected Areas system for the LRMP area that has special natural, cultural heritage and recreational features including rare and endangered species and critical habitats, outstanding or unique botanical, zoological, geological, and paleontological features, outstanding or fragile cultural heritage features, and outstanding outdoor recreational features such as trails.
- ☐ Protected Areas in the Cassiar Iskut-Stikine that are a major contributor to the local economy and local employment.

General Management Direction for Protected Areas	
Objectives	Strategies
1. Ensure the maintenance of the conservation, recreation and cultural heritage values within Protected Areas. This includes developing comprehensive park management plans in a timely manner.	<p>1.1 Develop comprehensive management plans for each approved protected area in a timely manner and with respect to the priority resource values at risk.</p> <p>1.2 Develop management plans with the benefit of extensive public, First Nations and inter-agency participation and incorporate direction and consider advice from the approved LRMP.</p> <p>1.3 Develop plans that, among other things, define park-specific management objectives, acceptable uses, acceptable levels of use, zoning, and other strategies to minimize conflicts and help ensure the integrity of important protected area values.</p> <p>1.4 Include consultation with tourism industry representatives during management planning processes in order to examine potential commercial opportunities within provincial parks, subject to the primary goal of protecting conservation, recreation and cultural heritage values within Protected Areas.</p>

<b>General Management Direction for Protected Areas</b>	
<b>Objectives</b>	<b>Strategies</b>
	<p>1.5 Assess commercial opportunities with regard to their compatibility with protected area management plans and, where appropriate, their contribution to the local economy and local employment. Generally, physical commercial infrastructure (e.g., roads, lodgings, staging areas, etc.) will be directed outside of protected area boundaries in order to minimize impacts within Protected Areas.</p> <p>1.6 Pending the development of comprehensive management plans for each protected area, develop management direction statements in a timely manner to direct management and operations. Management direction statements will involve consultation with stakeholders, LRMP participants and First Nations.</p>
2. Recognize and accommodate traditional uses and aboriginal rights of First Nations in Protected Areas.	<p>2.1 Develop government-to-government relationships between BC Parks and First Nations concerning management of Protected Areas.</p> <p>2.2 Establish communication protocols between BC Parks and First Nations with respect to new and existing Protected Areas.</p>
3. Recognize the legal rights of existing tenure holders and landowners within newly established parks and deal fairly with those interests.	<p>3.1 Existing mineral and timber tenures and other tenures/encumbrances associated with commodity extraction will be discontinued within new Protected Areas. The terms of discontinuance will be negotiated in a timely manner with owners of existing tenure interests, in accordance with provincial policy respecting resource rights compensation. Existing non-tenured uses (commercial and private) may be continued subject to compatibility with management objectives and values for individual Protected Areas.</p> <p>3.2 Existing tenures within new Protected Areas for utility rights-of-way, communication sites, grazing, commercial backcountry recreation, guide-outfitting, trapping, water works and use, and other tenures not based in commodity extraction, will be allowed to continue, in accordance with the existing management conditions attached to those tenures. In the future, the management conditions attached to those tenures may be amended to comply with the requirements of BC Parks policy and management plans developed for individual Protected Areas.</p>

General Management Direction for Protected Areas	
Objectives	Strategies
	<p>3.3 Consistent with tenure document provisions and current assignments/transfer procedures, holders of existing tenures of the type identified in strategy 3.2 above may assign/transfer their tenures to different parties. However, where existing tenures lapse or are voluntarily surrendered by a tenure holder, the province is under no obligation to re-issue the tenure rights.</p> <p>3.4 Further to 3.2 and 3.3 above, trapping will continue as an authorized, use in Protected Areas. Extinguishment of tenure will occur on a voluntary basis only, through purchase by BC Parks at fair market value.</p> <p>3.5 Further to 3.2 and 3.3 above, existing range tenures that are within Protected Areas will continue to be administered and managed in accordance with the <i>Range Act</i>, as per the transitional provisions for new parks in the <i>Park Amendment Act</i>, 1997.</p> <p>3.6 Alterations to conditions of tenure will be based on sound resource management principles with respect to the activity in question (e.g., sustainability of trapping, guiding, grazing activities) and/or avoidance of impacts to the resource values for which the protected area was established (e.g., caribou, biodiversity, recreation etc.). Alterations will be made in consultation with the tenure holder. Where alterations to conditions of tenure act, in practical terms, to extinguish tenure, it is recommended that the tenure holder be fairly compensated.</p> <p>3.7 Existing owners of private land and First Nations will continue to exercise their rights. Where private land is surrounded by a new park and the only access is through the protected area, rights to existing access to those properties will continue.</p>
4. Maintain ecosystem representation and integrity, and ensure protection of key resource values and natural features.	<p>4.1 Within Protected Areas, management emphasis will be placed on maintaining the ecosystems, resource values and natural features for which Protected Areas were established.</p> <p>4.2 Management interventions will not significantly alter natural ecological, hydrological and geomorphic processes except for express management purposes as defined by a protected area management plan.</p>



General Management Direction for Protected Areas	
Objectives	Strategies
	<p>4.3 Where existing grazing tenures occur, sensitive plant communities (i.e., steep south facing slopes) will be maintained in conjunction with Ministry of Forests through application of range management guidelines.</p> <p>4.4 Assemble resource inventories for new park areas as budgets permit.</p> <p>4.5 Vegetation management may be undertaken, where appropriate, (e.g., burning to enhance wildlife forage).</p> <p>4.6 Monitor visitor use and manage so that levels of use do not exceed carrying capacity (i.e., overuse is avoided).</p> <p>4.7 Encourage use of low impact outdoor techniques in Protected Areas.</p>
5. Protect key species and their habitats.	<p>5.1 Permit opportunities to establish benchmarks for scientific study and management of rare, endangered and at risk species.</p> <p>5.2 Within Protected Areas, manage rare, endangered and at risk species and their habitats as priority resource values.</p> <p>5.3 Maintain functional habitat, cover and site-specific features for fish and wildlife species.</p> <p>5.4 Encourage human use patterns that minimize impact on the environment (e.g. trails, boardwalks, facilities).</p>
6. Coordinate strategic planning and management between Protected Areas and the adjacent landbase.	<p>6.1 Manage natural occurrences (e.g., fires, insects, and forest disease) within park boundaries relative to their impact on the ecosystem within the boundaries of the protected area, and on the broader ecosystem values of which the protected area is a part.</p> <p>6.2 Coordinate planning of resources and resource development activities on land adjacent to and within Protected Areas (e.g., mountain pine beetle management, management for wildlife, recreation, visual quality and fire, and access management adjacent to sensitive features within a park).</p>
7. Provide a range of recreation opportunities from primitive to intensive recreation use, compatible with the values being protected.	<p>7.1 Plan for a range of recreation experiences compatible with the general wilderness quality of the region, in order to compliment recreation elsewhere in the plan area.</p> <p>7.2 Where appropriate, close or reclaim existing access and trails within Protected Areas to support primitive recreation experiences. Similarly development of trails</p>

<b>General Management Direction for Protected Areas</b>	
<b>Objectives</b>	<b>Strategies</b>
	<p>and facilities and recreational access to some areas may be managed or limited to maintain the quality of the recreational experience and protected area values.</p> <p>7.3 Limit development of trails and facilities in wilderness Protected Areas to maintain primitive recreation values</p> <p>7.4 Levels of recreational use and associated impacts will be monitored and management applied, where necessary, to maintain the backcountry qualities of an area.</p> <p>7.5 Provide recreational opportunities accessible to local residents, subject to the carrying capacity of individual Protected Areas and the values being protected</p> <p>7.6 Develop and maintain facilities and trails to support tourism and local resident use in frontcountry Protected Areas zoned for intensive recreation consistent with values being protected</p>
8. Plan and manage Protected Areas in a manner that protects cultural heritage values.	8.1 Identify and protect archaeological sites, special sites, traditional use, and heritage trails (First Nations and pioneer).
9. Recognize hunting as an acceptable use within Protected Areas.	<p>9.1 Continue to provide hunting opportunities for First Nations, local and resident hunters, and guide outfitters in Protected Areas, except where there are the following overriding considerations:</p> <ul style="list-style-type: none"> <li>• Public safety; and</li> <li>• Conservation priorities.</li> </ul> <p>9.2 Develop hunting regulations in cooperation with B.C. Environment, Fish and Wildlife Branch. Detailed guidelines for hunting will be developed in consultation with guide outfitters and local and resident hunter groups.</p> <p>9.3 Base any future changes to allocable harvests on up-to-date professional and scientific information on the status of wildlife populations.</p> <p>9.4 Address allocation of harvest among First Nations, local and resident hunters, and guide outfitters, when changing hunting regulations within new Protected Areas.</p>

<b>General Management Direction for Protected Areas</b>	
<b>Objectives</b>	<b>Strategies</b>
10. Where opportunities are identified in a protected area management plan and are consistent with the objectives for which the protected area is managed, facilitate increased local business development and employment associated with Protected Areas	<p>10.1 Include local employment and business creation as criteria for awarding commercial park use permits.</p> <p>10.2 Work with local tourism operators and communities to ensure that information on recreation opportunities in Protected Areas is available and accurately described consistent with values in Protected Areas.</p> <p>10.3 Provide information to local communities on potential economic and employment opportunities associated with Protected Areas.</p>

### **2.5.2 New Protected Areas**

The following table summarizes the key values in each of the fourteen new Protected Areas created by the LRMP. Management to protect these values will be detailed in the protected area management plan for each area. The table also outlines any strategic management direction that should be considered in developing the protected area management plan.

The management direction for two of the Protected Areas (Upper Craig and Upper Stikine Spatsizi Extension) includes limited provisions for access through the protected area, where required to access mineral claims. These access provisions were negotiated to maintain access to the larger landbase outside the Protected Areas and were developed in consideration of the overall LRMP Recommendations Package.

<b>Items to be addressed in the protected area management plan</b>		
<b>Protected Area</b>	<b>Values to be protected</b>	<b>Management Direction</b>
1. Border Lake (800 ha)	<p>To protect a highly productive lake and wetland ecosystem, which includes:</p> <ul style="list-style-type: none"> <li>• High fisheries values, including sockeye and sea-run cutthroat trout.</li> <li>• Productive wetland complex with uncommon plant communities.</li> <li>• Critical spring patch habitat for grizzly.</li> </ul>	<ul style="list-style-type: none"> <li>• Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas.</li> <li>• Manage recreation use to be compatible with the ecological sensitivity of the lake and wetland complex.</li> </ul>

Items to be addressed in the protected area management plan		
Protected Area	Values to be protected	Management Direction
	<ul style="list-style-type: none"> <li>High recreational values on the Unuk River south of Border Lake.</li> </ul>	
2. Choquette Hot Springs (48 ha)	<p>To protect hotsprings and surrounding riparian and thermal wetlands, which contain:</p> <ul style="list-style-type: none"> <li>Uncommon plant species.</li> <li>Important ungulate wintering area.</li> </ul>	<ul style="list-style-type: none"> <li>Protect the natural character of the springs and wetlands.</li> <li>Maintain opportunities for public use.</li> <li>Maintain opportunities for compatible commercial development.</li> <li>Hunting is not allowed.</li> </ul>
3. Craig Headwaters (7500 ha)	<p>To protect a representative example of low elevation coastal western hemlock forest and associated ecosystem which includes:</p> <ul style="list-style-type: none"> <li>High fisheries values, including spawning and rearing habitat for salmon.</li> <li>High value grizzly habitat.</li> <li>Key area of grizzly/salmon interaction.</li> <li>High recreational values.</li> </ul>	<ul style="list-style-type: none"> <li>In the event that a request is made for access and where reasonable review determines that no practicable alternative exists outside of the protected area, then a decision regarding the most appropriate access will be made by Government authorities. The decision will be made in full consideration of the functional integrity of the protected area and the need for access for mineral activities, in accordance with applicable review and approval processes.</li> <li>The existing mineral tenures within the protected area boundary will be excluded from the protected area until such time as the tenures lapse (see Map 15).</li> <li>Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas.</li> </ul>
4. Great Glacier (9300 ha)	<p>To protect a readily accessible glacial landscape that extends to valley bottom, including:</p> <ul style="list-style-type: none"> <li>Spectacular, readily accessible glacier viewing close to the Stikine River.</li> <li>Beautiful periglacial lake with excellent view from various points along a short hiking trail.</li> </ul>	<ul style="list-style-type: none"> <li>Maintain opportunities for public camping.</li> <li>Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas. Address public safety (e.g., seasonal hunting restrictions) as part of detailed planning for the Protected Area.</li> </ul>

Items to be addressed in the protected area management plan		
Protected Area	Values to be protected	Management Direction
	<ul style="list-style-type: none"> <li>Existing campsite near the Stikine River.</li> </ul>	
5. Iskut River Hot Springs (4 ha)	To protect a hot spring and associated unique plant communities and recreation opportunities.	<ul style="list-style-type: none"> <li>Assess aboriginal cultural heritage significance and presence of uncommon plant species in more detailed PA planning.</li> <li>Protect the natural character of the springs and wetlands.</li> <li>Maintain opportunities for public use.</li> <li>Maintain opportunities for compatible commercial development,</li> <li>Hunting is not allowed,</li> </ul>
6. Klastline River (14,000 ha)	<p>To increase the viability of the predator prey ecosystem associated with adjacent Mount Edziza Park and the protected area along the Stikine River. Specific features include:</p> <ul style="list-style-type: none"> <li>One of the most northern winter ranges for mule deer.</li> <li>South facing grassy aspen slopes.</li> <li>Representative ecosystems of the spruce-willow-birch zone.</li> <li>High habitat values for mountain goat.</li> <li>Recreational and cultural heritage values associated with Klastline Trail.</li> </ul>	<ul style="list-style-type: none"> <li>Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas.</li> <li>Permit non-motorized use only on Klastline trail from spring thaw to fall freeze-up.</li> <li>Snowmobile use is allowed along the Klastline Trail.</li> <li>Maintain opportunities for construction of cabins, as required, to support recreational use along the Klastline Trail.</li> </ul>
7. Lava Forks (7000 ha)	<p>To protect the most recent known lava flow in Canada, which includes:</p> <ul style="list-style-type: none"> <li>Spectacular scenery with outstanding volcanic features (lava flows, ash dunes, lava-dammed lakes).</li> <li>Large mineral spring.</li> <li>Excellent example of ecological processes associated with primary succession.</li> </ul>	<ul style="list-style-type: none"> <li>Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas.</li> </ul>

Items to be addressed in the protected area management plan		
Protected Area	Values to be protected	Management Direction
8. Mess Creek (24,000 ha)	<p>To protect high value low elevation habitat and ecosystems adjacent to Mount Edziza Park and large mineral springs with extensive tufa deposits and associated wetlands, including:</p> <ul style="list-style-type: none"> <li>• Rare plant species associated with tufa deposits and wetlands.</li> <li>• Mineral licks.</li> <li>• High value wildlife habitat for goat, moose, grizzly along valley, including a major movement corridor and key winter range.</li> </ul>	<ul style="list-style-type: none"> <li>• Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas.</li> <li>• Provide designated trails to minimize impacts to calcite deposits.</li> <li>• Accommodate existing trapping use consistent with protected area values.</li> </ul>
9. Ningunsaw Extension (15,000 ha)	<p>Adjoins the existing ecological reserve to provide valley bottom to alpine representation of ICH ecosystems in the Eastern Skeena Mountains ecosection. The area includes:</p> <ul style="list-style-type: none"> <li>• High habitat values for grizzly bear.</li> <li>• A section of the Telegraph Trail.</li> </ul>	<ul style="list-style-type: none"> <li>• Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas. Coordinate the setting of limited entry hunting (LEH) levels with LEH outside of the protected area.</li> <li>• The boundary for the protected area will exclude the right-of-way for Highway 36 and gravel sources required for maintenance and upgrading activities.</li> <li>• The Ministry of Transportation and Highways (MOTH) or its contractors will continue activities in the protected area that provide public safety along Highway 37. These activities include avalanche control and keeping stream channels clear of debris to prevent road wash-outs. MOTH will endeavour to plan and implement these activities in a manner that minimizes impacts on protected area values, in consultation with BC Parks.</li> <li>• Consider establishing a viewing area for grizzly bears as part of the protected area management plan.</li> </ul>

Items to be addressed in the protected area management plan		
Protected Area	Values to be protected	Management Direction
10. Spatsizi Headwaters  (400 ha)	To protect the headwaters of the Spatsizi River, including <ul style="list-style-type: none"> <li>• Upper elevational glacial lakes.</li> <li>• Alpine meadows.</li> <li>• Recreational values for hiking and wildlife viewing.</li> <li>• Tahltan Traditional use.</li> </ul>	<ul style="list-style-type: none"> <li>• Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas.</li> <li>• Maintain opportunities for cultural uses of the area, such as food harvesting e.g., marmot.</li> </ul>
11. Stikine Grand Canyon  (45,000 ha)	To recognize and protect the Grand Canyon of the Stikine as an exceptional natural landform, including: <ul style="list-style-type: none"> <li>• Uncommon dry steppe ecosystems</li> <li>• A unique population of canyon mountain goats.</li> </ul>	<ul style="list-style-type: none"> <li>• Allow a range of front-country to backcountry viewing opportunities along the Grand Canyon of the Stikine.</li> <li>• Locate trails to viewing areas to minimize potential for disturbance of mountain goats.</li> <li>• Allow opportunities for frontcountry tourism development in the vicinity of the Stikine bridge on Highway 37.</li> <li>• The protected area will exclude the right-of-way to either side of existing highways (Highway 37 and the Telegraph Creek Road) and gravel sources required for maintenance and upgrading activities.</li> <li>• Identify existing private commercial uses that may be untenured and seek to accommodate those uses consistent with Protected Areas values and the protected area management plan e.g. the existing trail riding operation.</li> <li>• Continue to allow existing access to private or leased land.</li> <li>• Existing grazing use will be allowed to continue.</li> <li>• Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas.</li> </ul>

Items to be addressed in the protected area management plan		
Protected Area	Values to be protected	Management Direction
12. Todagin South Slope  (3500 ha)	To protect critical winter range and lambing area for Stone's sheep.	<ul style="list-style-type: none"> <li>• Maintain the existing bow-hunting only provision.</li> <li>• Respect the existing license for domestic and agricultural water use on Ibsen Creek.</li> <li>• Address use of helicopters particularly during sensitive periods (kidding and lambing season).</li> <li>• Consider a wildlife viewing area at the western end of the protected area, overlooking Highway 37. Details regarding management within a wildlife viewing area will be developed as part of the wildlife management plan for Todagin Plateau.</li> </ul>
13. Tuya Mountains  (18,000 ha)	<p>To protect an excellent example of rare tuya landforms and associated fragile alpine ecosystem. Other features include:</p> <ul style="list-style-type: none"> <li>• A representative lake ecosystem at Butte Lake.</li> <li>• Sensitive plant communities, including fragile tundra vegetation.</li> <li>• High wildlife values, including movement corridors for caribou and grizzly.</li> <li>• Outstanding backcountry recreation opportunities in a spectacular tundra setting.</li> </ul>	<ul style="list-style-type: none"> <li>• Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas.</li> <li>• Maintain opportunities for commercial facilities like lodges and cabins, compatible with the high ecological values in the area.</li> </ul>
14. Upper Stikine Spatsizi Extension  (297,000 ha)	<p>To protect the Spatsizi predator-prey system and the upper reaches of the Stikine River, including:</p> <ul style="list-style-type: none"> <li>• Important low elevation habitat in Stikine River valley and tributary valleys.</li> </ul>	<ul style="list-style-type: none"> <li>• Consider important archaeological sites, cultural/heritage values, and activities of First Nations in Protected Areas planning.</li> <li>• Allow opportunities for construction of backcountry cabins as required to support recreational use, compatible with protected area values.</li> </ul>

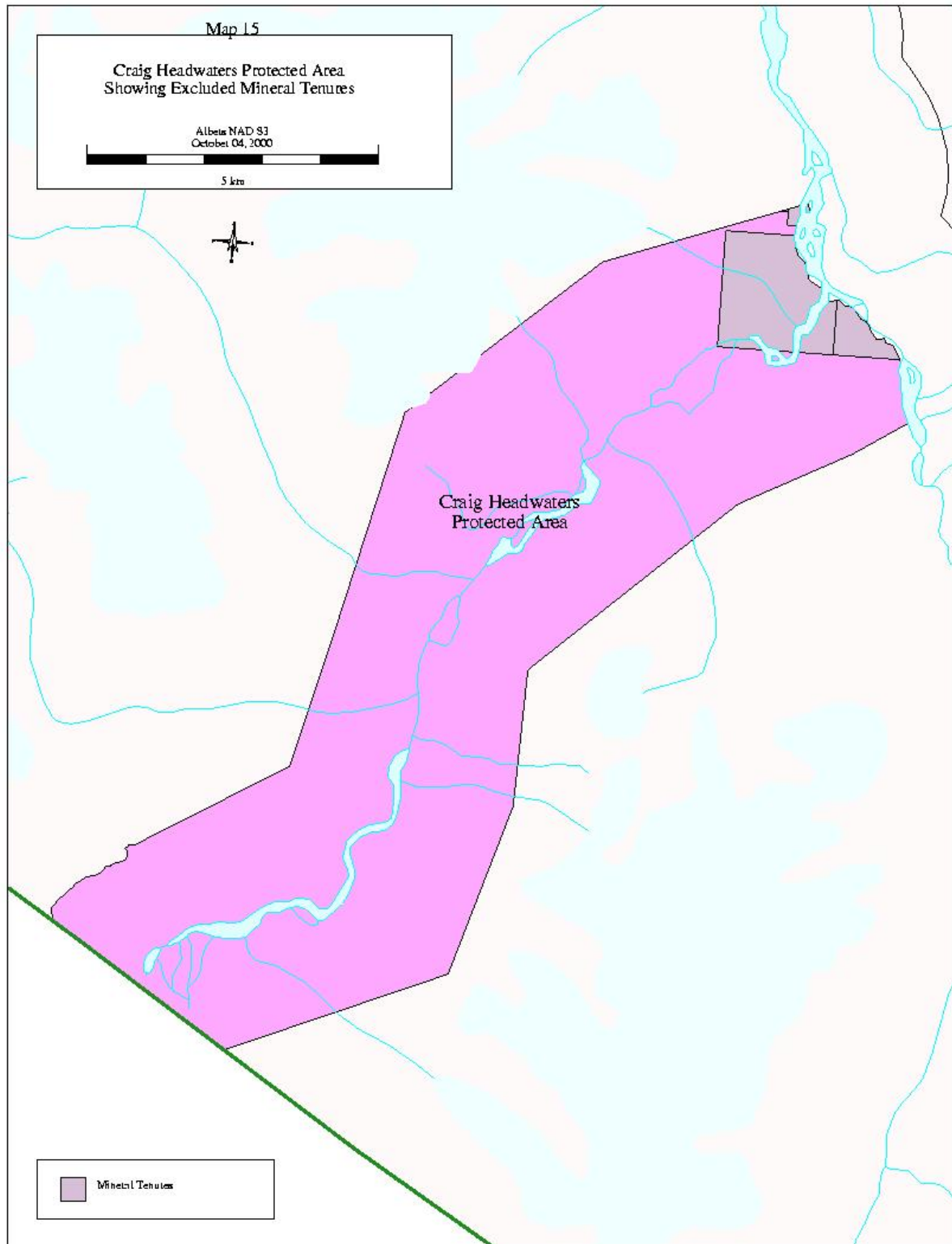


Items to be addressed in the protected area management plan		
Protected Area	Values to be protected	Management Direction
	<ul style="list-style-type: none"> <li>• Highly significant caribou winter habitat at Mount Brock, in forested areas north of Stikine River and year-round caribou habitat, including major rutting areas at Mt Edozadelly/</li> <li>• High value moose habitat and calving grounds, particularly at Pitman River, Chukachida River and Geese Creek.</li> <li>• High value sheep habitat, particularly the enhancement area at Beggarly Mountain.</li> <li>• Key wildlife movement corridors along Pitman and Chukachida Rivers, providing connectivity to high value habitat in the Mackenzie LRMP.</li> <li>• High cultural heritage values for the Tahltan, including very high values at Caribou Hide and Metsantan Village e.g., grave sites, archaeological sites, and remnant buildings. Potential use for summer elder trips, youth camps and other traditional activities.</li> <li>• Internationally recognized river recreation..</li> <li>• Other wilderness recreation opportunities (hunting, fishing, backpacking).</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to allow motorized boat use for recreation and hunting along the Stikine, Chukachida, and Pitman Rivers, consistent with acceptable types and levels of use.</li> <li>• Hunting will continue as per Objective 9, Section 2.5.1: GMD for Protected Areas.</li> </ul> <p><b>For Pitman River (16,000 ha):</b></p> <ul style="list-style-type: none"> <li>• In the event that a request is made for access and where reasonable review determines that no practicable alternative exists outside of the protected area, then a decision regarding the most appropriate access will be made by Government authorities. The decision will be made in full consideration of the functional integrity of the protected area and the need for access for mineral activities, in accordance with applicable review and approval processes.</li> <li>• If a road is required, locate it to minimize environmental and wildlife impacts, including providing access controls if required. Permanently deactivate the road upon completion of operations.</li> <li>• Do not create a circle route as a result of providing access across this protected area.</li> <li>• The Pitman River has highly unstable terrain. If a road is required, recommend full bonding for road construction in recognition of the higher environmental risk.</li> </ul>

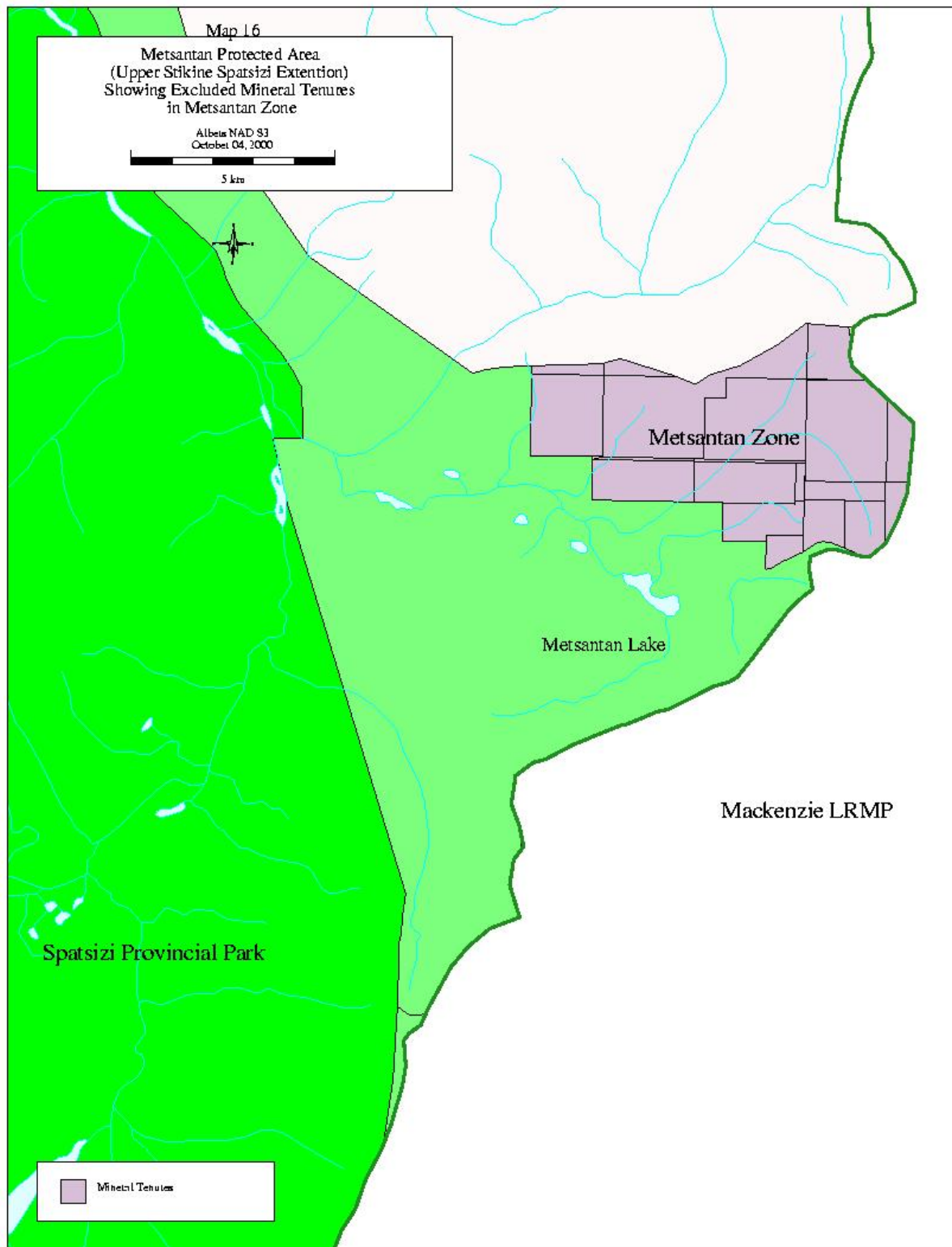
Items to be addressed in the protected area management plan		
Protected Area	Values to be protected	Management Direction
		<ul style="list-style-type: none"> <li>• In keeping with the LRMP Economic Strategy, it is preferred that any mining roads north of the Pitman connect with northern routes (e.g., the Jade Road), to allow economic benefits to accrue to the local area.</li> </ul> <p><b>For Chukachida River and Geese Creek (19,400):</b></p> <ul style="list-style-type: none"> <li>• In the event that a request is made for access and where reasonable review determines that no practicable alternative exists outside of the protected area, then a decision regarding the most appropriate access will be made by Government authorities. The decision will be made in full consideration of the functional integrity of the protected area and the need for access for mineral activities, in accordance with applicable review and approval processes.</li> <li>• If a road is required, locate it to minimize environmental and wildlife impacts, including providing access controls if required. Permanently deactivate the road upon completion of operations.</li> <li>• Do not create a circle route as a result of providing access across this protected area.</li> <li>• The Chukachida area includes one mineral tenure that will be addressed as per Section 2.5.1, Strategy 3.1: GMD for Protected Areas.</li> </ul>

Items to be addressed in the protected area management plan		
Protected Area	Values to be protected	Management Direction
		<p><b>For Metsantan:</b></p> <ul style="list-style-type: none"> <li>Existing mineral tenure areas (Map 16) will be excluded from the Metsantan Protected Area and will be available for staking, mineral exploration, and mine development for a period of 20 years from the date of LRMP approval. At the end of 20 years, if there are no mineral tenures in place, these areas will be added to the Protected Area. If there are tenures in place 20 years from plan approval, the tenure areas will be added to the Protected Area once tenures lapse.</li> <li>To the extent compatible with mine development, maintain the long term ecological integrity and cultural values of the excluded Metsantan tenure areas in consideration of their eventual Protected Area status.</li> <li>Manage access into mineral tenures adjacent to the protected area to minimize disturbance of seasonal migration of caribou.</li> </ul>

**Map 15: Craig Headwaters Protected Area Showing Excluded Mineral Tenures**



**Map 16: Metsantan Protected Area (Upper Stikine Spatsizi Extension) Showing Excluded Mineral Tenures in Metsantan Zone**



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### 3. Research and Inventory Priorities

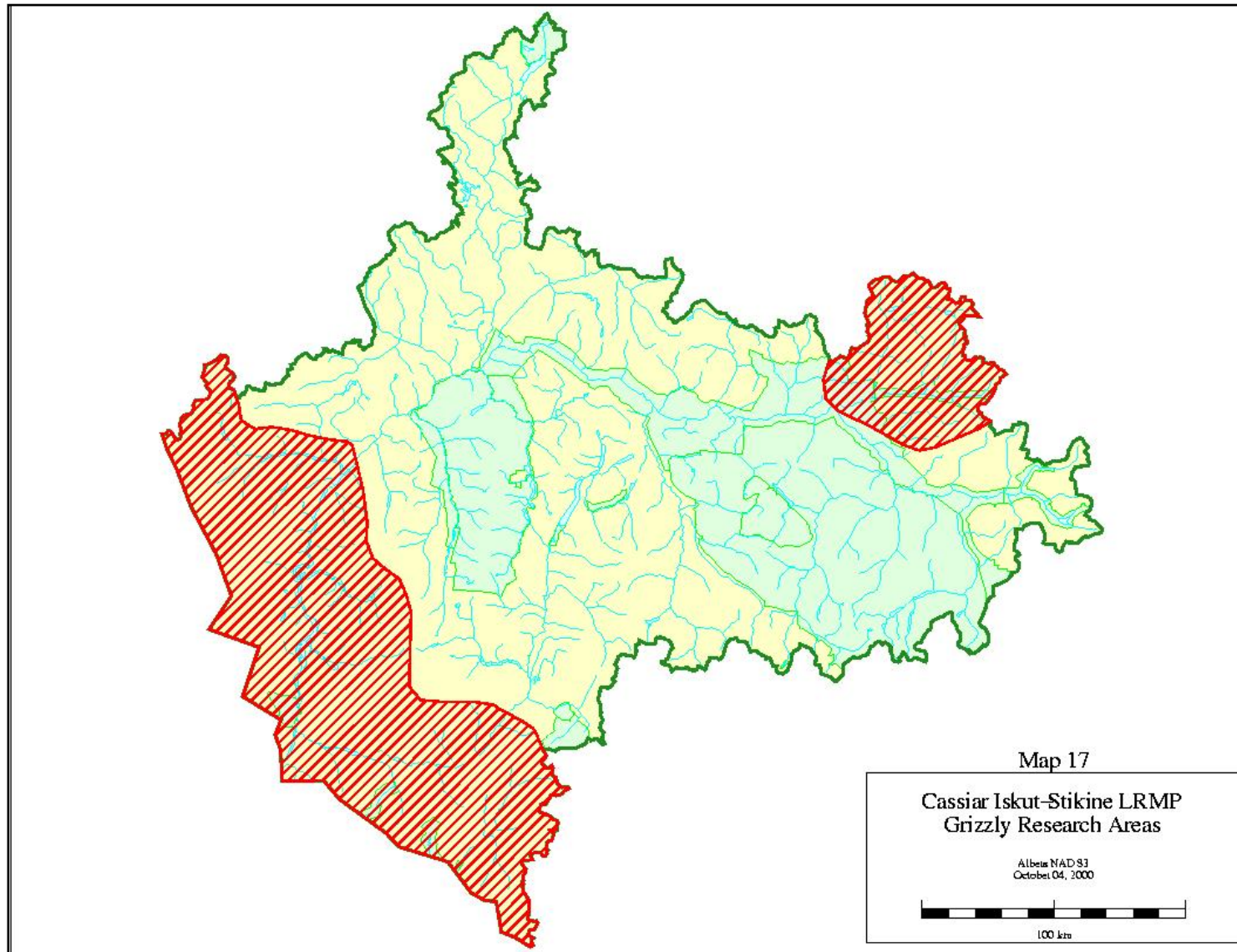
The following research and inventory projects have been identified to effectively implement the management direction in the LRMP. These projects have been prioritized according to their relative importance (VH = Very High, H = High).

Rank	
	<b>GENERAL MANAGEMENT DIRECTION:</b>
H	<ul style="list-style-type: none"><li>Complete inventories of streams for presence of bull trout and bull trout congregation areas. Forward information on known congregation areas to B.C. Environment for consideration as Wildlife Habitat Areas.</li></ul>
VH	<ul style="list-style-type: none"><li>Complete inventories of trumpeter swan nesting and overwintering areas, including late fall and early spring migration areas. Forward information on known trumpeter swan habitat to B.C. Environment for consideration as Wildlife Habitat Areas.</li></ul>
H	<ul style="list-style-type: none"><li>Note presence of raptors and nest sites (active, inactive, alternate) during baseline monitoring for applicable projects and processes.</li></ul>
H	<ul style="list-style-type: none"><li>Continue research on wolverine ecology to better understand impacts of trapping practices.</li></ul>
VH	<ul style="list-style-type: none"><li>Collate a list of mineral and exploration and development properties where materials remain on site, highlighting the following and make that information available to the public.<ul style="list-style-type: none"><li>Sites and status of operations</li><li>Reclamation and clean-up requirements</li><li>Bonding requirements.</li></ul></li></ul>

Rank	
	<b>AREA-SPECIFIC DIRECTION:</b>
VH	<ul style="list-style-type: none"><li>Conduct research on grizzly bears in the following areas (see Map 17):<ul style="list-style-type: none"><li><b>A. Coastal Grizzly-Salmon Research Area</b>, including the Chutine, Lower Stikine, Lower Iskut, and Unuk areas to the extent of the salmon runs. Priorities for research in the Coastal Grizzly Salmon Research Area will be:<ul style="list-style-type: none"><li>Grizzly-salmon interaction and impacts on bear ecology; and</li><li>Recruitment and cub survival.</li></ul></li></ul></li></ul>

Rank	
	<p><b>B. Interior Boreal Grizzly Research Area</b>, including the Hottah-Tucho Lakes area and the Pitman. Research in the Interior Boreal Grizzly Research Area will include:</p> <ul style="list-style-type: none"> <li>• a study of predator-prey interactions and impacts on bear ecology; and</li> <li>• an inventory of critical patch habitats for interior grizzly species.</li> </ul> <p>The purpose of these research areas will be to study population ecology and habitat to provide information and data to future discussions of population and habitat management for grizzly e.g., through other processes or the provincial grizzly conservation strategy. It will be important to link this research with studies going on in other jurisdictions (i.e., Alaska, adjacent planning areas, elsewhere in B.C.) to avoid duplication of effort.</p>
VH	<ul style="list-style-type: none"> <li>• Waterfowl habitat (including Trumpeter swans and migratory waterfowl) at wetlands at Stikine-Iskut confluence and along the Iskut River.</li> </ul>
VH	<ul style="list-style-type: none"> <li>• Rare and endangered plant ecosystems associated with dry grass lands in Telegraph Creek Area.</li> </ul>
H	<ul style="list-style-type: none"> <li>• Baseline information of wildlife (caribou and moose winter range) for McBride adaptive ecosystem management plan.</li> </ul>
H	<ul style="list-style-type: none"> <li>• Baseline information on wildlife populations and habitat and other features of terrestrial and aquatic ecosystems in the Klappan drainage e.g.: <ul style="list-style-type: none"> <li>• Habitat use by key species of the Spatsizi predator-prey system (moose, caribou, grizzly); and</li> <li>• furbearer populations and habitat.</li> </ul> </li> </ul>
VH	<ul style="list-style-type: none"> <li>• Map critical habitats (e.g., kidding and lambing areas, escape terrain) for Stone's sheep and mountain goat at 1:5000 to 1:20000 in the Todagin Wildlife Management Area and Todagin Protected Area/</li> </ul>
H	<ul style="list-style-type: none"> <li>• Baseline water quality information for Nuttlude-Mowdade Lake chain.</li> </ul>
VH	<ul style="list-style-type: none"> <li>• Identify fishers as a priority species for wildlife inventory in specified areas, including the Klappan, Bob Quinn, Middle Iskut and Tanzilla.</li> </ul>
VH	<ul style="list-style-type: none"> <li>• Regularly monitor Stone's sheep and mountain goat populations and habitat in the Todagin Wildlife Management Area to identify any cumulative impacts of recreation use, mineral development, hunting and access.</li> </ul>
H	<ul style="list-style-type: none"> <li>• If a road is built into Devil Lake, monitor fish populations at Devil Lake and take action to prevent over-fishing.</li> </ul>
VH	<ul style="list-style-type: none"> <li>• Monitor hunting mortality of grizzly and moose in the Lower Iskut-Stikine zone and undertake mitigative measures as required.</li> </ul>

**Map 17: Cassiar Iskut-Stikine LRMP Grizzly Research Areas**





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## 4. Economic Strategy

### 4.1 Overview

The Cassiar-Iskut-Stikine is renowned for its outstanding wilderness quality and significant natural and cultural heritage resources. The area contains a rich endowment of natural resources including minerals, forests, fish and wildlife, wilderness and outstanding scenic resources. It also has high quality cultural resources including the heritage and culture of the Tahltan First Nations, and historic values associated with mining, fur-trading and river navigation.

At present, the economy of the Cassiar Iskut-Stikine plan area is based primarily on its natural resources and on public administration. The main source of employment is the public sector followed by mining, tourism, retail and construction. Forestry, fishing and agriculture also provide employment and business opportunities, but at a much smaller scale.

To help increase the well-being and livelihood of the communities in the plan area, the LRMP table developed an Economic Strategy that defines priorities for future economic development. The Government of BC endorses the Economic Strategy in principle, and will follow up on identified priorities during LRMP implementation.

The Economic Strategy includes a future vision for the area and a range of goals and actions for achieving the vision. The strategy is based on a number of key principles including:

- Respect for traditional values and ways of life
- Respect for wilderness values
- Preserve and enhance local quality of life
- Sustainable development and stable economic growth
- Creation of local jobs and business opportunities.

The Economic Strategy is designed to lay the groundwork for future development that enhances local opportunities and contributes to economic diversification in the Cassiar Iskut-Stikine area.

The purpose of the Strategy is to identify initiatives and actions that will contribute to the economic future envisioned by the LRMP table. It includes an analysis of opportunities and constraints, goals and recommended actions for a variety of sectors including:

- |               |  |
|---------------|--|
| • Forestry    | • Mining                                     |
| • Tourism     | • Fisheries                                  |
| • Agriculture | • Botanical Forest Products/Medicinal Plants |
| • Government  | • Infrastructure and Capacity Building       |

The Economic Strategy—which contains 28 individual strategies and 134 recommended actions for achieving the strategies—will take several years to implement and will require a high degree of support and commitment from local communities. With this in mind, the following projects are considered priorities for implementation:

- Establish a Tahltan/multi-stakeholder economic development round table to oversee implementation of the strategy
- Develop a regional tourism strategy
- Develop a community-based forestry strategy
- Develop a commercial and recreational fishing strategy
- Develop a Highway 37 North Corridor Strategy
- Develop a strategy for training and skill development.

The complete Economic Strategy, including a detailed description of the above projects, is provided in Appendix 1. The Economic Strategy is intended to be used as a reference for government agencies and other organizations with an interest in economic development for the Cassiar Iskut-Stikine area. The Economic Strategy recognizes mineral exploration and development as important components of the area's economy. However, no specific strategies were identified as implementation priorities because factors that determine exploration activities are so strongly dependent on external factors like world commodity prices.

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## 5. Socio-Economic and Environmental Analysis

### 5.1 Introduction

The following is an independent summary evaluation of the socio-economic/environmental implications of the proposed consensus Land Use Plan developed by the Cassiar Iskut-Stikine LRMP Table. The LRMP is a draft strategic plan providing broad direction for Crown land management to lower level planning. The analysis was undertaken by Gary Holman (Consulting Economist) and Eliot Terry (R.P. Bio.) of Keystone Wildlife Research, with input from the Ministry of Employment and Investment and the LRMP's Technical Support Team. The work attempts to follow the principles outlined in the provincial government's *Social and Economic Impact Assessment for LRMP: Interim Guidelines (1993)* and evaluates only key differences between the Plan and the "Base Case," i.e. the default land use regime in absence of an LRMP. The complete *Cassiar Iskut-Stikine LRMP Consensus Recommendations Package: Final Socio-Economic & Environmental Assessment* (August 2000) is available under separate cover from the Ministry of Employment and Investment (Economics Branch) in Victoria.

### 5.2 The "Base Case" vs. the LRMP Land Use Regimes

The assessment relies heavily on BC Environment's (Smithers office) Geographic Information System (GIS) area analysis, which utilized resource value mapping provided by various government agencies. The Base Case management regime, against which the LRMP regime is compared, includes the *Timber Supply Review* regime (the basis for the Chief Forester's TSA AAC determination), the *Forest Practices Code* (FPC), and other current management initiatives (e.g. *Fish Protection Act*, *Mineral Exploration Code*, *Mining Rights Amendment Act*). Protected Areas (PAs) as recommended by the Regional Protected Areas Team (RPAT) are not attributed to the Base Case, since no Plan Area target has been set by government for this LRMP.

The proposed Plan divides the Gross Land Base (GLB) of the 5.2 million ha Plan Area into 15 "Resource Management Zones" (RMZs) plus Protected Areas (PAs). For purposes of analysis, these zones are aggregated into 6 broad zone categories for comparison to the Base Case: *Protected Areas* (PAs), *No Commercial Logging Zones* (NCLZs, somewhat analogous to *Recreation Areas* in the Base Case), several *Additional Constraint Zones* (ACZs), and *General Management Zones* (GMZs).

As shown in Table 1 below, the key land use change is that the proportion of the Plan Area in PAs, NCLZs, and ACZs is higher in the proposed Plan (about 48% of the Gross Land Base) than in the Base Case (about 31%). The proportion of the Plan Area covered by GMZs is therefore reduced, and there are also somewhat more stringent conditions placed on resource development within GMZs than is the case for areas under General Management in the Base Case.

Although LRMP strategies were developed to provide flexibility in decision-making, the assessment assumes that the policy direction provided by LRMP strategies will be implemented. The LRMP has also recommended that a number of key management objectives be established

as part of a “Higher Level Plan” under the *Forest Practices Code*. This will increase the likelihood that resource managers implement lower level planning in a way that is consistent with LRMP direction.

**Table 1: Land Use Zones as % of the Cassiar Iskut-Stikine LRMP Plan Area<sup>a</sup>**

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6 <sup>f</sup>
	<i>Minerals/Access Additional Constraint Zones</i>					
	<b>Minerals ACZs / No Logging</b>	<b>Mineral &amp; Timber ACZs</b>	<b>Mineral ACZs / Low Timber Constraints</b>	<b>Timber ACZs / Low Mineral Constraints</b>	<b>General Management<sup>b</sup></b>	<b>Protected Areas</b>
<b>Base Case</b>	<b>4.4%<sup>c</sup></b>	<b>4.3%<sup>d</sup></b>	<b>not applicable</b>	<b>4.7%<sup>e</sup></b>	<b>69.2%</b>	<b>17.4%</b>
<b>Land Use Plan</b>	<b>3.9%</b>	<b>1.3%</b>	<b>5.7%</b>	<b>11.3%</b>	<b>52%</b>	<b>26.3%</b>

**Notes:**

(a) The Gross Land Base (GLB) of Plan Area is 5.2 million ha. The High Potential Timber Land Base (HPTLB, as estimated by MoF 1998) is 136,000 ha and the Base Case (pre-LRMP) Timber Harvesting Land Base (BCTHLB, preliminary estimate by MoF, 2000) is 53,500 ha, based on more conservative assumptions by MoF about what is economic to log in the short term.

(b) General Management Zone (GMZ) includes integrated resource management lands as well as small amounts of ALR, Indian Reserves, and Private/Settlement lands. Note that GMZs in the proposed Plan has more potential development constraints than the GMZ in Base Case, primarily for timber.

(c) Refers to *Stikine* and *Mt. Edziza Recreation Areas*, which allow mineral activities but not logging.

(d) Refers to *Lower Stikine Management Plan* zone, which exists under current management.

(e) Includes *Highway 37 Viewscape Corridor* and *Community Watersheds* under current management.

(f) Since these statistics were compiled, refined mapwork and final negotiations on a number of small proposed PAs increase total PAs from 25.7% to 26.3% of the Plan Area. Note also that three PAs (Upper Craig, Pitman, and Chukachida) allow for potential future road access - they total 0.8% (43,000 ha.) of the Plan Area.

## 5.3 Socio-Economic Implications

The key socio-economic impacts by sector are presented below. Since a significant proportion of the economic benefits from resource development accrue to non-residents of the Plan Area, land use changes can have socio-economic implications at the provincial as well as the Plan Area level. However, the focus of the assessment is at the Plan Area level. This is because most of the impacts involve changes to *potential* rather than *existing* activities, and thus are very difficult to quantify in economic terms, hence the extensive use of GIS area statistics in drawing conclusions. A more succinct “summary matrix” of the key socio-economic and environmental trade-offs associated with moving from the Base Case to the recommended Land Use Plan is provided in the full *Socio-Economic and Environmental Assessment* (August 2000).

## ***Mining and Energy***

The Plan Area is one of the richest mineral potential areas in BC, with one existing mine, two proposed mines in the BC *Environmental Assessment* (EA) process, 10 “past producers,” 33 “developed prospects,” 73 “prospects” and 439 “showings.”<sup>4</sup> The latest estimate (early 2000) of direct employment in mining is about 150 (at very high wages) with about 50 being Plan Area residents. About 8% of Plan Area resident employment and 5% of resident personal income is mining-related. In the Base Case, mineral development would likely continue as a major economic driver, as would the historical pattern of mine openings and closures. However, the likelihood and timing of new exploration and development is very uncertain since it is subject to metal prices, the “hidden” nature of resource, access / infrastructure limitations, ore grades, land claims, the tax regime, and other factors.

There is significant long term coal potential and moderate oil and gas potential in the Plan Area, but development in the foreseeable future is limited by low energy prices, high access costs and less costly alternatives elsewhere in BC. No large scale hydro-electric project is likely in the foreseeable future because of less costly alternatives and *Fish Protection Act* restrictions on the Stikine River.

The PAs in the proposed Plan do not preclude any developed prospects,<sup>5</sup> but would preclude two (3% of) prospects, 26 (6% of) showings, and two tenures comprising a maximum of 1.5% of mineral tenured area. In addition, about 11% of the Plan Area are in what are considered *Minerals/Access Additional Constraint Zones* (ACZs) with access and seasonal restrictions, compared to about 9% in the Base Case, which could marginally increase exploration and development costs. The significance of these land use changes will depend on the likelihood and timing of mineral development which is uncertain due to the “hidden” nature of the resource and a history of market fluctuation.

A key issue regarding ACZs is the LRMP recommendation to designate the *Todagin Plateau Zone* as a *Wildlife Management Area* (WMA). The adjacent proposed Red Chris copper/gold project, currently in the EA process, is excluded from the WMA, but road access across it may be requested. The WMA, which is administered by BC Environment, must be managed consistently with LRMP direction, which confirms mineral development, including road access, as an appropriate activity. The terms and conditions for such a road that may be required by BC Environment could increase costs, although such costs would likely comprise a very small proportion of the capital costs for the project. The Red Chris project, if viable, has an estimated employment level of 200-240 workers for about 20 years.

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<sup>4</sup> “Mineral occurrences” include “developed prospects” (proven deposits with numerical estimates of tonnages and grades), “prospects” (mineral occurrences for which there is some indication of dimension), and “showings” (mineral occurrences not sufficiently defined to permit resource estimation), as well as current and past producing mines. There are about 12,000 documented mineral occurrences in BC.

<sup>5</sup> However, five developed prospects (three on the “AI” property in the proposed Metsantan PA and the Spectrum & Klastline/Hawk properties in the Mt. Edziza zone) are “grandfathered” into areas that will become PAs after the tenures expire or in 20 years, whichever is later.

The proposed Plan is an improvement over the Base Case regarding the Spectrum developed prospect in the (current) *Mount Edziza Recreation Area*, since its availability for exploration and development is confirmed for 20 years, and thereafter for as long as the tenures do not lapse. The Plan also recommends that permits for construction of road access through lands currently within *Mount Edziza Park* to a mine be issued after mine approval. However, the fact that such approval will require a future legislative change to the park boundary and that road access for the later stages of exploration (e.g. bulk sampling) would be considered only if “no practicable alternative exists,” means the possibility of higher costs for the later stages of exploration and that investor uncertainty regarding road access to the Spectrum property has not been entirely eliminated. It is estimated that Spectrum, if developed, would provide about 75 jobs and about \$0.8 million per year in BC tax revenues for seven years.

There is no incremental impact from the proposed Plan beyond the Base Case on major hydro development on the Stikine River. The Plan precludes development on several other major rivers in the Plan Area (Upper Craig, Pitman, Chukachida), but such developments are unlikely anyway in the foreseeable future. Potential, future transmission lines through the proposed Stikine Canyon PA would likely be restricted to the existing road corridors. The Plan would not preclude any more coal or other energy potential than the Base Case, although access and seasonal restrictions in the Plan (e.g. for critical wildlife habitat) could marginally increase exploration / development costs.

## **Forestry**

There is currently minimal timber harvesting in the Plan Area. The “Timber Harvesting Land Base” (THLB) comprises about 1% of the 5.2 million hectare Plan Area, and even the Ministry of Forests’ (MoF) more broadly defined “High Potential Timber Land Base” (HPTLB) comprises less than 3%. The most recent estimate is that local forestry employment is about 15, accounting for about 3% of Plan Area employment and 2% of resident personal income, but all were working outside of Plan Area. Forestry’s importance to the regional economy will likely increase over time, but activity will continue to be cyclical. Lack of infrastructure, very limited local investor capital, and high costs limit processing potential. Conditions on new timber licenses (e.g., if there is encouragement for “local hire”) will be a significant determinant of local benefits arising out of future forestry development. Some access costs could decline and THLB expand as a result of roads for new mines.

According to MoF’s preliminary timber supply analysis for the Cassiar Timber Supply Area (TSA), of which the Plan Area has historically accounted for about 60% of the projected harvest, the TSA could sustain a Base Case harvest level similar to the current Allowable Annual Cut (AAC) of 400,000 m<sup>3</sup>/yr. in perpetuity. It is estimated that such a harvesting level could support about 180 future jobs, of which only a portion would be held by Plan Area residents.

The PAs and NCLZs in the proposed Plan would reduce the harvest level only marginally (about 7000 m<sup>3</sup>/yr. or under 2%). Any timber harvest impact could probably be deferred for a number of decades, since in all likelihood the recommended 15 year harvest deferral in the *Klappan Zone* (which accounts for most of the potential harvest impact) can be made up at alternative harvest

sites in the TSA.<sup>6</sup> This small, future foregone harvest could mean the loss of about three future jobs (i.e., jobs that do not currently exist). The proportion of the THLB in other ACZs is also higher in the proposed Plan than the Base Case, which could result in additional harvesting costs, which are already high in the Plan Area. Higher costs mean that the forestry sector in the Plan Area could be more vulnerable to downturns in forest product markets.

## **Tourism**

Tourism includes both “front-country” and “back-country” components, of which the latter is most closely linked to Crown land management policy. The wilderness attributes, pristine rivers, and fish and wildlife populations of the Plan Area make it one of the most important eco-tourism attractions in BC.

According to 1996 Census data and Ministry of Finance & Corporate Relations “economic dependency” analysis, tourism is the largest private sector employer of local residents in the area<sup>7</sup> (employing over 100 or about 16% of total resident employment) and appears to be growing strongly, based upon socio-economic survey work undertaken for the LRMP. The relatively low annual salaries and seasonal nature of the work means that tourism related income in the Plan Area accounts for only 6% of Plan Area income, however, though the lifestyle is also highly valued. Key growth factors include the condition of Highway 37 and other infrastructure, protection of wilderness / wildlife populations, and access to parks. Tourism growth will likely continue in short term, but in the longer term, a proportion of the job potential in wilderness tourism, particularly in GMZs, could be placed at risk in the Base Case due to cumulative impacts of timber harvesting, mineral development, and related road development.

The proposed Plan would better protect many of the provincially significant wilderness tourism opportunities and recreation values in the Plan Area, as follows:

- Placing several large rivers, including the Stikine, in new PAs or ACZs, which better protect the scenic and fisheries values upon which tourism operators rely.
- The protection of key areas by the *Tuya Mountains*, *Lava Forks*, and *Great Glacier* proposed PAs. Two hot springs are also in PAs with recreation as one of the recognized potential uses (Choquette, Iskut River).
- The critical Stone’s Sheep habitat in the Todagin Plateau is placed in a PA and most of the rest of the Plateau is recommended as a *Wildlife Management Area* to be administered by BC Environment, with recreation as a recognized activity.
- The Plan provides greater protection for recognized cultural and heritage sites, including the designation of two trails (Klastline and Telegraph) as heritage trails with restrictions on adjacent resource development.

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<sup>6</sup> In the unlikely event that no alternative harvesting sites would be available in the TSA, the harvest impact could be as high as 30,000 m<sup>3</sup>/yr, or about 8% of the current AAC for the TSA.

<sup>7</sup> Note that the available tourism employment/revenue data also includes the activities generated by business travellers due to the manner in which conventional tourism statistics are estimated.

Another key recommendation in the Plan is to identify recreation and visual quality in the area around Iskut (Iskut Lakes and Nuttlude-Kakiddi Lake Chain) as priority values. These scenic areas are close to existing commercial tourism facilities, and are staging points for the *Spatsizi* and *Mt. Edziza Parks*, with good potential for trail development and promotion. New PAs will protect attributes that support wilderness tourism and take some pressure off existing parks in the Plan Area, but they could also restrict the nature and scale of commercial tourism operations.

The proposed Plan should preserve a greater proportion of existing and growth opportunities for wilderness tourism than in the Base Case. However, with potential future timber harvesting, mineral development, and related road access, a portion of long term wilderness tourism potential could still be foregone. For example, the Plan allows mineral development in the *Mt. Edziza* and *Todagin Plateau Zones*, and maintains logging access in GMZs to areas south of the Iskut, between the *Mt. Edziza Zone* and Kinaskan Lake and south and west of Dease Lake. Parts of all of these areas are important for tourism use. Outside of existing parks, and roughly 72% of primitive and 56% of semi-primitive/non-motorized areas, as well as recreation features such as Chutine Lake and Hoodoo Mountain are still located within GMZs in the proposed Plan.<sup>8</sup>

### ***Other Nature-Based Economic Activities***

Fishing, trapping and botanical forest products provide over 20 seasonal jobs to local residents in the Plan Area. Such activities are also very important for sustenance and culturally, particularly for First Nations. The Stikine is one of the most important salmon rivers in the Pacific Northwest and has good potential for salmon enhancement. Trapping in the Base Case is likely to decline in the long term due to the decline in old growth dependent furbearers. There is good potential for botanical forest products, although there are concerns in the Base Case regarding lack of recognition for these values in resource development planning.

The proposed Plan would provide greater protection for many “nature-based” activities (e.g. fisheries, botanical forest products, trapping), although some impacts on these values would still occur over time. Examples of supportive management strategies include integration of botanical forest products into timber harvesting plans, no logging on the lower Stikine (important for salmon), and old growth protection (important for marten). Depending on management strategies, PAs could restrict some nature-based activities (e.g. botanical forest products), but existing tenures are affirmed (e.g. trapping).

### ***Government Revenue Implications***

The BC government revenue impacts of the proposed Plan, compared to Base Case trends, would be highly correlated with impacts of the Plan on economic activity, and the costs and profitability of such activity. However, such impacts are difficult to predict and quantify since they relate almost entirely to future potential, rather than existing economic activities.

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<sup>8</sup> This MoF inventory defines “primitive” lands as being >8 km from a 4-wheel drive road & >5000 ha. in area and “semi-primitive/non-motorized” lands as being >1 km from a 4-wheel drive road & >1000 ha. in area.



In the short term, the Plan allows for substantial resource development and regional economic growth, and the local economic structure will be more influenced by factors other than the LRMP such as land claims, provincial tax and economic development policy, world commodity prices, and highway/power access. In other words, these are all factors that are also at play in the Base Case. It is likely that any timber harvesting and related government revenue impacts of the Plan can be minimized by finding alternative harvesting sites until well after the *Klappan* area becomes available for harvesting. While there is still some uncertainty in the Plan regarding the Spectrum gold property, potentially resulting in foregoing about \$800,000 of provincial revenues for seven years, the Plan marginally reduces this uncertainty compared to the Base Case.

In the longer term, the Plan will encourage stronger growth in wilderness tourism and nature-based activities, while somewhat reducing potential, future growth in forestry, and marginally constraining mineral exploration and development, compared to the Base Case. Given the offsetting nature of Plan impacts on various sectors, and uncertainties regarding the likelihood and timing of incremental impacts, it is not clear that the net present value of Provincial government revenues generated by Plan Area economic activity would be significantly different in the proposed Plan relative to the Base Case.

### ***First Nations Concerns***

The proposed Plan will not prejudice any land claims or existing resource use and management rights of First Nations in the Plan Area. In general, the Plan appears to be more consistent with the economic and resource management vision of First Nations than the Base Case. Some future, potential resource development opportunities may be limited, however, it still allows for substantial future resource development. The Plan also better protects traditional/sustenance activities, cultural heritage sites, wildlife and First Nations wilderness tourism opportunities than the Base Case.

## **5.4 Environmental Implications**

### ***Protected Areas and Ecosystem Representation***

A total of 14 new *Protected Areas* are proposed in the recommended Land Use Plan. The new parks vary in size from 405 ha (*Spatsizi Headwaters*) to 313,150 ha (*Upper Stikine River*). In total, these proposed PAs including existing parks represent 26.3% (~1.37 million ha) of the Plan Area.

The proposed new PAs significantly improve ecosystem representation compared to the Base Case by increasing representation in all eight ecosections including three ecosections that lacked regional representation. Designation of the *Upper Stikine River* (a *Recreation Area* in the Base Case, which allows mineral activities but not commercial logging) as a PA increases connectivity and ecological integrity of the existing *Spatsizi Wilderness Park* and will help maintain one of the few intact large mammal predator-prey systems in North America. The smaller “Goal 2” PAs also capture special features such as lava formations and cultural heritage values reasonably well.

*Mount Edziza Park* remains vulnerable in the short term due to increased road access and potential mineral development along a small part of its eastern boundary; however, LRMP-recommended mitigation strategies (e.g., access controls) partly reduce the risks. Risks are expected to decline further as mineral tenures revert to Class A park after a minimum of 20 years.

Overall, the proposed PAs capture internationally significant wildlife values as well as some of the gaps in low elevation forested ecosystems and special features. Although road access through three of the proposed PAs (i.e., *Chukachida*, *Upper Craig*, *Pitman*) may reduce ecosystem representation and integrity of these PAs, considerable uncertainty remains regarding where and when road access may occur.

### ***Biodiversity and Old Growth Forests***

The recommended Land Use Plan allocates 29% of the mature coniferous forests that occur on the *High* and *Medium Potential* timber land bases<sup>9</sup> combined (277, 308 ha) to PAs and another 10% to areas where logging is precluded (i.e., *Mount Edziza* and *Lower Stikine-Iskut Coastal Grizzly Zones*). This effectively protects over one-third (39%) of mature coniferous forests and provides enhanced protection for species dependent on mature and old forests compared to the Base Case, which has 21% in PAs and *Recreation Areas*. In addition, the LRMP's *General Management Direction* provides enhanced protection for red and blue-listed species including research/inventory priorities as well as management recommendations for higher level plan species (eg. bull trout, fisher, grizzly bear).

The *General Management Direction* also suggests reduced risks to biodiversity compared to the Base Case. In particular, the Plan proposes to implement seral stage targets consistent with the *Biodiversity Guidebook* (1995). This direction will help ensure early seral forests do not significantly exceed natural levels as well as provide enhanced representation of older forests by applying seral targets to the site series level. Stand-level biodiversity also receives enhanced protection from the Plan by increasing *Wildlife Tree Patch* (WTP) retention targets for cutblocks greater than 60 ha (10-30%). Combined, these strategies suggest that using silvicultural systems that emulate (as best as possible) natural disturbance regimes should reduce risks to species by maintaining a range of forests structures typical of each disturbance type and which plants and animals have adapted to over time.

### ***Riparian Habitats***

The Land Use Plan recommends that *Best Management Practices* as outlined by the *Riparian Management Area Guidebook* (1995) be applied to all fish-bearing streams (including "S4" streams) as well as active floodplains. This recommendation significantly improves the long term outlook for riparian values by providing protection for many smaller streams in the Plan Area as well as by removing the uncertainty associated with discretionary management decisions in *Riparian Management Areas*. Similarly, the Plan also recommends increasing riparian reserve

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<sup>9</sup> These longer term potential timber harvesting areas are from work done by MoF in 1998; subsequent work has resulted in a more conservative "Timber Harvesting Land Base" estimate of 53,500 ha for the Plan Area.

widths where ecologically appropriate, which also reduces risks to riparian values. In particular, the 100-metre no timber harvesting (except for mining) buffer proposed for the Iskut River (*Middle Iskut RMZ*) as well as no commercial timber harvesting along active floodplains of the Unuk and Chutine Rivers provides enhanced protection for riparian values along these key river systems. Overall, managing these large rivers in this way combined with other management direction suggests a significant landscape feature (i.e., riparian connectivity) will be maintained over key portions of the Plan Area.

### **Woodland Caribou**

The recommended Plan substantially reduces the risks to woodland caribou by increasing the amount of habitat in PAs and by using a variety of area-specific management strategies. In particular, the designation of the (current) *Upper Stikine Recreation Area* as a park (313,150 ha) in the Land Use Plan will maintain a significant amount of caribou habitat in a roadless condition and reduce the amount of winter habitat potentially disturbed by mineral development compared to the Base Case. The proposed PA also includes areas with high timber values that were not part of the *Recreation Area*. This reallocation of habitat results in a total of 51% of *High* and *Moderate to High* caribou habitat in PAs (vs. 36% in the Base Case). In addition, the Plan proposes portions of *High* and *Moderately High* caribou habitat be designated as *Ungulate Winter Range* (UWR) under the *Forest Practices Code* (OPR, section 69). Although the extent of these areas are not known as this time, this direction suggests management objectives and strategies for the UWR will be established with legally-binding direction under the FPC and provide increased certainty that woodland caribou winter range will be appropriately addressed during lower level planning processes. Overall, it is estimated that implementing the Land Use Plan would pose low risks to caribou over the long term

### **Mountain Goat**

The Land Use Plan allocates an additional 4% (28% vs. 24% in the Base Case) of mountain goat habitat to Protected Areas including the unique canyon goat population of the Upper Stikine. Because mountain goats are vulnerable to human disturbances, the Plan also reduces the risks by recommending management objectives and strategies that minimize potential disturbances from mineral development activities (e.g. encouragement of air access during early exploration). In addition to these positive measures, it recommends portions of goat winter range be designated as *Ungulate Winter Range* under the FPC (OPR section 69). This management direction suggests greater certainty that mountain goat winter range will be maintained. Overall, implementing the Land Use Plan would pose moderate risks to mountain goats over the long term.

### **Stone's Sheep**

The Land Use Plan modestly increases the amount of *High* and *Moderate to High* habitat in PAs from 29% (Base Case) to 32%. The majority of remaining habitat will be managed under *General Management Direction* (49%) and ACZ characterized by “Additional Mining Constraints/Low Timber Constraints” (11%; Zone Group #3). Although this is only a modest increase in the amount allocated to PAs, the proposed *Todagin South Slope* PA (3,490 ha) does capture high suitability winter and lambing habitat. Moreover, the *General Management Direction* as well as area-specific strategies outlined for the *Todagin Plateau Zone* (e.g. prohibit

recreational ATV use, access controls, encouragement of seasonal restrictions on use of access) including the Plan's proposed *Wildlife Management Area* also suggest reduced risks to Stone's sheep over the long term. Although some of these strategies may have occurred under Base Case management, there will likely be greater certainty that they will be implemented with direction from the Plan.

Overall, implementing the Plan would pose moderate risks to Stone's sheep populations over most of the Plan Area. However, risks may be somewhat higher in the short term near the *Todagin Plateau* and *Mount Edziza* RMZs due to the higher likelihood of mineral development activities (i.e., due to the Red Chris and Spectrum developed prospects) and increased access. The risks to Stone's sheep should decline once the tenures lapse and the Red Chris property is incorporated into the WMA and the *Mount Edziza* RMZ becomes part of the existing *Mt. Edziza Park*.

### **Moose**

The Plan reduces the risks to moose habitat substantially by increasing the amount of *High* and *Moderate to High* suitability moose habitat in PAs from 27% in the Base Case to 45%. Overall, the allocation of moose habitat, combined with the *General Management Direction* (e.g., natural disturbance patterns, access management) as well as the proposed establishment of *Ungulate Winter Range* areas (Section 69, FPC), suggests the Land Use Plan would significantly reduce the risks to moose (low-moderate) compared to the Base Case over the long term.

### **Grizzly Bears (Blue-listed)**

The recommended Land Use Plan enhances protection for grizzly bears by increasing the amount of grizzly bear habitat in PAs from 12% in the Base Case to 18% (an additional 62,444 ha). The relative effectiveness of each of the proposed parks to maintain viable grizzly bear populations, however, varies with the size of the park and whether access is permitted. As such, the relatively large size of the *Upper Stikine River* PA (313,150 ha) suggests a viable and functional landscape that will remain roadless and provide relatively low risks to grizzly bears. The *Craig*, *Pitman* and *Chukachida* PAs, however, have provisions for possible future road access (*ELUA* designation), which lowers their potential effectiveness and potentially increases the risks to grizzly bear survival. However, mitigation strategies may reduce risks to acceptable levels.

In addition to habitat allocated to new parks, 12% of grizzly bear habitat is allocated to the *Lower Stikine-Iskut Coastal Grizzly/Salmon Zone* where commercial timber harvesting is prohibited. In particular, strategies that address access management, silvicultural systems as well as human-bear interactions indicate reduced risks to grizzly bears. These measures together with strategies (e.g., access, seral constraints) outlined for area-specific zones (i.e., *Hottah-Tucho Lakes*, *Middle and Lower Iskut*, *Unuk*, *Chutine*, and the *Lower Stikine-Iskut Coastal Grizzly/Salmon Zone*) suggest risks to grizzly bear habitat are reduced from relatively high levels in the Base Case to moderate levels over the long term.

### **Marten**

The Land Use Plan substantially reduces the risks to marten by allocating a large proportion of high value marten habitat to PAs (43%) as well as another 5% to a "No Commercial Logging

Zone” (i.e., the *Lower Stikine-Iskut Coastal Grizzly/Salmon Zone*). If available, more spatially explicit habitat supply modeling would clarify the risks to marten over time, however, the *General Management Direction* for marten as well as natural disturbance and biodiversity objectives suggests mature and old growth habitat attributes will be maintained at landscape and stand levels. Still, because there will be some loss of total habitat from the Timber Harvesting Land Base as future harvesting increases, marten may occur at slightly lower densities. The extent to which marten may decline will partly depend on how well areas outside the actual Timber Harvesting Land Base provide the required habitat and life requisites (i.e., coarse woody debris, prey base, etc.).

Overall, the Land Use Plan would maintain more marten habitat in a natural condition (i.e. in PAs) and provides for less roaded access than the Base Case. Although mature and old growth forests will decline on the Timber Harvesting Land Base, appropriate silvicultural systems and excluded areas may partly reduce impacts. Therefore, the Plan is estimated to pose low-moderate risks to marten habitat and populations.

### ***Fisheries***

The Land Use Plan modestly improves the outlook for salmon and freshwater fish compared to the Base Case. In particular, providing full protection for the *Upper Stikine River* reduces the risks to Arctic Grayling (red-listed) populations. In addition, other PAs (e.g., *Border Lake*) will provide habitat protection for certain species of trout. Although many of strategies outlined in the *Aquatic Ecosystems and Riparian Habitat* section of the *General Management Direction* are similar to current management practices, landscape level management direction should provide enhanced protection for riparian habitats and fishery values by addressing broader watershed concerns. Precluding commercial timber harvesting in the *Lower Stikine-Iskut Coastal Grizzly Bear/Salmon Zone* as well as along specific floodplains (e.g., Chutine, Unuk, Iskut River), will also help maintain fish habitat compared to the Base Case. Limiting access to wilderness lakes (e.g., Hottah-Tucho, Chutine) and managing key fish bearing lakes (Ealue, Kiniskan, Eddontenajon, Tatogga) using best management practices will also reduce risks to fish populations. Overall, the Plan is estimated to pose low-moderate risks to fish habitat.

### ***Water Quality***

The Land Use Plan also addresses water quality as part of its *Aquatic Ecosystem and Riparian Habitat* section, as well as through area-specific strategies for the *Telegraph Creek Community Watershed* and for Tuya Lake. Although it does not appear the LRMP is proposing more stringent management requirements than existing regulations in these specific areas, broader protection of water resources are enhanced through other management strategies (e.g., no commercial timber harvesting along certain floodplains) along with full protection of the *Upper Stikine River*. Overall, the Plan is estimated to pose low-moderate risks for water resources.

## **5.5 Higher Level Plan Provisions under the Forest Practices Code**

This assessment has assumed that all LRMP strategies are implemented. The Cassiar-Iskut LRMP has recommended that as part of the implementation process, a number of key management objectives be established as “Higher Level Plans” (HLPs).

When LRMP objectives that differ from the regular requirements of the *Forest Practices Code* (FPC) are established as HLPs, they are then supported not only in policy, but also in law, and thus there is increased confidence that they will be implemented by government resource managers. This also means that the socio-economic and environmental implications of the access management and other strategies as evaluated above, are more likely to occur. For example, if particular access and/or other grizzly bear management strategies are established as HLPs, this increases the likelihood that the LRMP will lower risks to grizzly populations. On the other hand, such strategies could also increase the costs of mineral exploration and development.

There is some concern that HLPs could make government more vulnerable to legal challenge causing potential delays and/or withdrawals of economic activity. On the other hand, resource managers are also more likely to make decisions that are consistent with the intent of the LRMP, thus reducing the likelihood of legal challenge, administrative, or judicial review. It should also be recognized that there are also risks of legal challenge even when there is no HLP direction (e.g., the Tulsequah Chief situation).

## 5.6 Conclusions

There are no identifiable losses in existing jobs that can be attributed to the recommended Land Use Plan. Furthermore, the economic implications of the Plan relate almost entirely to future potential, rather than existing economic activities. In the longer term, the Plan will encourage stronger growth in wilderness tourism and nature-based activities, while somewhat reducing potential, future growth in forestry, and marginally constraining mineral exploration and development, compared to the Base Case. However, the Plan still allows for substantial resource development. In the short term, there could be less mineral exploration activity (primarily by non-Plan Area residents) until the industry becomes more accustomed to the Plan's management regime, but regional economic growth will be more influenced by factors other than the Plan (e.g., First Nations land claims, provincial tax and economic development policy, world commodity prices, highway/power access, and national/global economic conditions).

The gradual extension of road networks throughout the Plan Area for resource exploration and development will reduce access constraints and costs over time. However, the increase in the area-specific "Additional Constraint Zones" is likely to incrementally increase mineral and forestry access and development costs in the Plan Area compared to the Base Case.

Given the offsetting nature of Plan impacts on various sectors, and uncertainties regarding the likelihood and timing of incremental impacts, it is not clear that the net present value of provincial government revenues generated by Plan Area economic activity would be significantly different in the proposed Plan relative to the Base Case.

As for environmental values, implementing the recommended Land Use Plan would provide enhanced protection for such values compared to the Base Case. This is largely due to the upgrading of the *Upper Stikine River* from a "Recreation Area" to a Protected Area, as well as the management objectives and strategies outlined in the *General Management Direction* and *Area-Specific Management Zones*. Although much of the incremental management direction is related to future forest development in the Plan Area, management strategies pertaining to

mineral access and development will also be more supportive of a range of environmental values.

Due to the dynamic and uncertain nature of mineral development as well as the potential increase in the size of the Timber Harvesting Land Base (i.e., into more of the High/Medium potential timber areas) including what may occur after the 15 year deferral for the Klappan, risks to biodiversity will vary temporally as well as spatially over the Plan Area. The *General Management Direction*, however, suggests enough flexibility to meet these challenges and manage risks appropriately to minimize potential negative impacts associated with resource development and human disturbance.

In general, the assessment assumes that LRMP strategies are implemented. A number of objectives are also expected to become part of a “Higher Level Plan” under the *Forest Practices Code*. This will increase the likelihood that resource managers implement lower level planning in a way that is consistent with LRMP direction. This also means that the environmental and economic benefits and costs of the Plan, as evaluated in this report, are also more likely to occur.

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## **6. Implementation, Monitoring and Amendment**

### **6.1 Introduction**

Once the LRMP has been approved by Government, the management direction in the plan will be applied through a dual process of plan implementation and monitoring. Implementation is the responsibility of government agencies and describes the application of the LRMP objectives and strategies to on-the-ground management of land and resources. The public has an ongoing role in monitoring how effectively the government is implementing the plan and whether the stated management intent is being achieved. Through ongoing feedback, the implementation of the plan can be adapted to optimize the overall effectiveness of the delivery of the LRMP.

### **6.2 Roles and Responsibilities**

There are a number of different players involved in implementation and monitoring of the LRMP. The roles and responsibilities of the various participants in the process are as follows.

#### **6.2.1 *Provincial Ministries and Agencies***

The role of the provincial government in implementation and monitoring occurs at the level of individual agencies and at an interagency level.

##### **Interagency Management Committee**

The Prince Rupert Interagency Management Committee (IAMC) is a group of senior managers from the resource agencies. The IAMC provides overall coordination of implementation of strategic land use plans throughout the Prince Rupert region. The IAMC will:

- Coordinate implementation of the Cassiar Iskut-Stikine LRMP;
- Monitor implementation progress and compliance by agencies and resource users;
- Interpret plan management objectives and strategies and resolve issues where necessary;
- Prepare an annual monitoring report on plan implementation;
- Establish and coordinate the activities of a Monitoring Committee;
- Review recommendations from the Monitoring Committee on proposed plan amendments and provide advice on those amendments to Government;
- Advise Government of specific problems regarding plan implementation; and
- Coordinate the 10-year Plan Review.



## **Individual agencies**

Government agencies are the primary vehicles for the implementation of the LRMP through the ongoing delivery of government programs, policies and initiatives. The relevant ministries and agencies will:

- Carry out responsibilities under the plan;
- Prepare an Implementation Plan detailing tasks arising from LRMP objectives and strategies, including defining priorities for implementation and more detailed planning;
- Provide the LRMP document to licensed resource users, resource agency staff, stakeholders, First Nations and interested public;
- Require consistency with the LRMP by resource users;
- Advise the IAMC on aspects of plan interpretation and implementation;
- Prepare summaries for the annual monitoring report; and
- Initiate, review and/or provide recommendations on proposed revisions and amendments to the plan.

### **6.2.2 First Nations**

Government is committed to working with First Nations on a government-to-government basis. The LRMP is without prejudice to aboriginal rights and treaty negotiations. All First Nations are encouraged to participate in monitoring and review of the plan, at their own discretion.

### **6.2.3 LRMP Monitoring Committee**

The role of the LRMP Monitoring Committee is to monitor resource management and development activities to assess compliance with, and effectiveness of, activities to meet the intent of the Cassiar Iskut-Stikine LRMP. The Committee does not have the mandate to make land use planning decisions.

The membership of the Committee is intended to be inclusive and to reflect the diversity of the planning table that developed the LRMP, including representatives of local government and First Nations at their discretion.

One of the first tasks of the members of the Monitoring Committee will be to develop a Terms of Reference and Ground Rules. The range of activities of the Committee could include the following:

- To review and provide input to the annual monitoring report;
- To bring any concerns and new information to the attention of the IAMC;
- To provide advice to agencies on plan interpretation and implementation upon request of the IAMC or individual agencies;
- To review and provide recommendations on proposed plan amendments, based on monitoring and implementation reports; and
- To provide community liaison concerning plan implementation and monitoring.

Adequate funding should be provided to support participation in the Monitoring Committee, consistent with current policy.

#### **6.2.4 Public**

It is recognized that members of the public, in general, are important contributors to the effective implementation and monitoring of the LRMP in partnership with the different government agencies and First Nations. The nature and level of public involvement in more detailed planning will be determined in response to emerging issues, stakeholder interests and agency resources.

#### **6.2.5 Local Governments**

Local governments will be kept informed about the implementation of the LRMP and are encouraged to participate in the implementation and ongoing monitoring and review of the plan.

Local governments are encouraged to inform the IAMC and agencies of settlement planning initiatives that may have implications for implementing the LRMP direction.

### **6.3 Implementation**

In the Management Direction for the LRMP, the goals and objectives provide the management intent for the plan, while the strategies provide details as to the types of activities that should occur on the landbase. During plan implementation, the direction in the LRMP will guide approval processes and overall operational planning. Implementation of the LRMP can occur through a number of processes:

- More detailed plans, such as landscape unit plans, forest development plans, range use plans;
- Approval processes such as the Environmental Assessment Process;
- Resource development permits;
- Land dispositions; and
- Incremental activities implemented as specific LRMP projects.

The management intent in the Cassiar Iskut-Stikine LRMP will be reflected in resource management and development activities as soon as possible. The term of the LRMP is ten years, with a major review beginning at year eight in preparation for the next plan.

#### **6.3.1 Legal Designations**

The following legal designations will occur as part of LRMP implementation. Government will decide on the appropriate designations to apply.

## **Higher Level Plans under the Forest Practices Code**

Objectives in the LRMP that direct forestry or range practices may be established as higher level plans under the *Forest Practices Code of B.C. Act*. Higher level plans guide operational plans which guide forest practices, including timber harvesting and road construction. Operational plans, such as forest development plans and range use plans, must be consistent with higher level plans.

## **Protected Areas**

Protected Areas within the Cassiar Iskut-Stikine LRMP will be legally designated under the relevant legislation. Currently Protected Areas are designated under the *Park Act*, *Environment and Land Use Act*, or *Ecological Reserve Act*, depending on the values and management direction identified by the LRMP for each Protected Area.

## **Other designations**

Another legal designations includes the designation of parts of the Todagin Resource Management Zone as a Wildlife Management Area under the *Wildlife Act*. Other LRMP direction may be designated under relevant legislation (e.g., wildlife habitat areas, areas of non-motorized recreational use on plateaus, recreational sites and trails) as part of plan implementation.

### **6.3.2 Direction to More Detailed Planning**

As part of implementation, it will be necessary to refine the broad, strategic guidance in the LRMP in more detailed plans. Some of these detailed plans include landscape unit plans, range use plans, recreation plans, parks management plans, settlement use plans (pursuant to the *Municipal Act*), and future local plans developed in response to area-specific issues.

In all cases, it is expected that the detailed planning initiatives and the resulting products will be guided by, and be consistent with, LRMP management direction. Where more detailed planning processes reveal new information, a minor revision or amendment to the LRMP may be warranted, in accordance with the criteria outlined in Section 6.5.

### **6.3.3 Public Education**

Throughout the Management Direction there are strategies to increase the awareness of the public or specified user groups about issues related to resource use and management in the LRMP area. For ease of implementation, these are listed in Appendix 10.

## **6.4 Monitoring**

The monitoring phase of the LRMP involves ongoing assessment of how well the management intent in the LRMP is being implemented. The public, including the LRMP Monitoring Committee, have an important role to play in monitoring the LRMP.

There are two aspects to plan monitoring:

- a. An assessment of LRMP implementation through agency projects and programs; and
- b. The effectiveness of plan implementation in achieving the management intent of the plan, as reflected in the goals and objectives. If the desired outcomes of the LRMP are not being achieved, it may be necessary to consider revisions or amendments to the plan.

### **6.4.1 Adaptive Management**

The management direction in the Cassiar Iskut-Stikine LRMP has been developed using the best information and knowledge available at this time. At the same time, there is inevitably some amount of uncertainty as to the ultimate effectiveness of management recommendations. Therefore, the LRMP endorses a process of adaptive management (see Glossary) to allow continual improvement of management policies and practices. By monitoring key response indicators over time and incorporating new information and knowledge, agencies will be able to analyze the outcome of their management practices in light of the original LRMP objectives and incorporate those results into future planning and approaches to best practices on the land.

### **6.4.2 Annual Monitoring Report**

Accountability to the plan is described in the Annual Monitoring Report, in which individual agencies report on implementation progress and the status of completion of tasks or actions identified in the LRMP Implementation Strategy. The Report also summarizes, through the evaluation of performance indicators, the achievement of expected outcomes for the LRMP.

The Prince Rupert Interagency Management Committee is responsible for preparing the Annual Monitoring Report. Those ministries responsible for implementing the LRMP objectives contribute annual reports on their agency's progress on LRMP tasks and activities.

The Annual Monitoring Report will be presented to the LRMP Monitoring Committee for review at an annual meeting to ensure that projects and programs are being implemented in accordance with the management direction and intent of the LRMP. As part of the review process, the Monitoring Committee may make recommendations on plan implementation and amendments. The IAMC will report back to the Monitoring Committee on how the recommendations of the Committee have been addressed.

## **6.5 Plan Amendments**

Proposed revisions to the LRMP as identified by agencies, the LRMP Monitoring Committee, or through more detailed planning, will be identified in the Annual Monitoring Report. The Prince Rupert IAMC will review and approve minor revisions to the plan, but major amendments will need to be approved by the Ministers.

### **6.5.1 Minor revisions**

Recommendations for minor revisions to the plan will be made by the Monitoring Committee to the IAMC. After IAMC approval, minor revisions will be documented in the annual monitoring report.

Examples of minor revisions include:

- Revised priorities for implementation;
- Small changes to boundaries of area specific management zones;
- Refinements to objectives and strategies as suggested by more detailed plans; and
- Changes required to make the plan conform with new laws and regulations.

### **6.5.2 Major revisions**

A major revision to the plan is called an amendment. The following are considered amendments to the plan:

- Major revisions to objectives or management statements; or
- Changes of 500 hectares or more to the boundaries of area-specific management zones, not including protected areas.

Amendments to the plan will not include boundary changes to protected areas. Protected area boundaries are legislated under the *Park Act*, *Environment and Land Use Act* or *Ecological Reserve Act* and cannot be changed without an Order in Council.

Although the LRMP Monitoring Committee does not have the mandate to make land use planning decisions, it can make recommendations for revisions or amendments to the plan. Any proposed amendments will be identified in the Annual Monitoring Report and at the annual Monitoring Committee meeting. The IAMC will decide when an amendment process is required and will define and coordinate the process consistent with existing legislation, regulations and policy.

### **6.5.3 10-year Plan Review**

The Cassiar Iskut-Stikine LRMP is subject to a scheduled, comprehensive review to commence in the 8<sup>th</sup> year of the plan and to be completed by the 10<sup>th</sup> year. The Prince Rupert IAMC may also consider annually whether or not a comprehensive review is warranted prior to the scheduled plan review.

The IAMC will establish the Terms of Reference for the scheduled review, in consultation with the public, First Nations, and the LRMP Monitoring Committee and consistent with existing legislation, regulations and policy.

## **6.6 Interpretation and Appeal**

From time to time, the public or agencies may become concerned about how the plan is being interpreted or about specific land and resource practices. In all instances of concern, the issues will be dealt with in a cooperative manner.

### ***6.6.1 Interpretation of Land Use Objectives and Strategies***

The objectives and strategies in this LRMP are intended to be interpreted at a broad or strategic level wherever possible. Where a concern is raised over the interpretation of land use objectives and strategies, the concern should be addressed directly to the affected agency or agencies. The responsible manager will respond to the concern in writing, consulting with the Technical Support Team where necessary.

If the matter is not satisfactorily resolved, the concern will be forwarded to the Interagency Management Committee for resolution. The Interagency Management Committee will determine if the decision is consistent with the intent of the LRMP. If it is consistent, no further action will be taken. If it is not, the agency responsible will be directed to revise the decision to be consistent with the intent of the plan. The IAMC may consult with the LRMP Monitoring Committee on issues of plan interpretation.

### ***6.6.2 Appeal of Resource Management Practices***

Where the public or agencies raise concerns with specific management practices that are occurring in the LRMP, there are a number of avenues for appeal, depending on the issue and whether or not there is an existing review and appeal process in place.

- a. If there is an existing review and appeal process in place (e.g., the Forest Practices Board or the Environmental Appeals Board) the issue should be dealt with through that process.
- b. If there is not an existing review and appeal process in place, the issue should be raised with the resource agency that is mandated to manage those specific values.
- c. Issues may also be raised at the annual meeting of the Monitoring Committee to review the Annual Monitoring Report.

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## 7. Glossary of Terms

**ACCESS PLAN:** A plan that shows how road construction, modification and deactivation will be carried out to protect, or mitigate impacts on known resources or sensitive locations while maximizing the efficacy of resource development.

**ACTIVE FLOODPLAIN:** An active floodplain is any level area with alluvial soils, adjacent to streams, which is flooded by stream water on a periodic basis and is at the same elevation as areas showing evidence of:

- Flood channels free of terrestrial vegetation
- Rafted debris or fluvial sediments newly deposited on the surface of the forest floor or suspended on trees or vegetation
- Recent scarring of trees by material moved by flood waters.

The active floodplain is typically flooded every few years and may be less extensive than a broader floodplain that is bounded by a distinct terrace or slope break

**ACCESS MANAGEMENT PLAN:** A plan that directs the control of public access following road development to minimize impacts on sensitive habitats and wildlife populations e.g., through gating, access control points, or seasonal road closures.

**ADAPTIVE MANAGEMENT:** The rigorous combination of management, research, and monitoring so that credible information is gained and management activities can be modified by experience. Adaptive management acknowledges institutional barriers to change and designs means to overcome them.

**ADVANCED EXPLORATION:** Development work to provide an estimate of the size, shape, position and value of an occurrence of oil, gas, minerals or rocks in advance of a production decision. Advanced exploration can involve techniques such as detailed borehole drilling, surface or underground bulk samples from trial pits, headings, drifts and tunnels.

**AGRICULTURAL LAND:** Land that is used for farming, including ranching, and land that has biophysical attributes that make it suitable for agricultural use. The latter includes lands identified by the Canada Land Inventory agricultural capability classes 1 to 5, as well as unique lands that have the capability to sustain agriculture in the regional context.

**ALLOWABLE ANNUAL CUT (AAC):** The allowable rate of timber harvest from a specified area of land. The chief forester sets AACs for timber supply areas (TSAs) and tree farm licences (TFLs) in accordance with Section 7 of the *Forest Act*.

**ALPINE:** The zone in a mountain system which lies above the timberline.

**ALTERNATIVE SILVICULTURE SYSTEMS:** Silviculture systems other than clearcutting or clearcutting with reserves that maintain significant mature forest cover.

**ANADROMOUS FISH:** Fish that spawn in freshwater and migrate to sea to grow to maturity.

**ARCHAEOLOGICAL SITES:** Locations containing or with the potential to contain the physical remains of past human activity. These sites are assessed through archaeological investigations (see also cultural heritage resource).

**BACKCOUNTRY RECREATION:** The Ministry of Small Business, Tourism and Culture defines a backcountry area as one that is accessible by neither paved nor gravel road. A backcountry area under this definition is more than 1 km from any road. Backcountry areas are remote and have little to no visible evidence of human activity or development.

**BASE CASE (LRMP):** Present conditions and likely future developments in a planning area in the absence of any changes to existing land and resource management. This should include a description of current resources and resource uses, current management strategies and land use designations, and relevant historical conditions and trends, as well as a discussion of their contribution to current and long term social, economic and environmental conditions. In LRMP, the base case provides a benchmark for scenario evaluation.

**BIODIVERSITY: (SEE BIOLOGICAL DIVERSITY)**

**BIOGEOCLIMATIC ECOSYSTEM CLASSIFICATION:** A hierarchical classification scheme that integrates climatic, vegetation and site factors at three levels: regional, local and chronological.

**BIOGEOCLIMATIC ZONE:** A large geographic area with a broadly homogeneous macroclimate. Each zone is named after one or more of the dominant climax species of the ecosystems in the zone, and a geographic or climatic modifier. British Columbia has 14 biogeoclimatic zones.

**BIOLOGICAL DIVERSITY:** The diversity of plants, animals and other living organisms in all their forms and levels of organization, including genes, species, ecosystems, and the evolutionary and functional processes that link them.

**BLUE-LISTED SPECIES:** Sensitive or vulnerable species as identified by the Ministry of Environment, Lands and Parks. Blue-listed species are considered to be vulnerable and “at risk” but not yet endangered or threatened. Populations of these species may not be in decline but their habitat or other requirements are such that they are sensitive to further disturbance. The blue list also includes species that may not be in decline but that are generally suspected of being vulnerable, but for which information is too limited to allow designation in another category.

**BOTANICAL FOREST PRODUCT:** Non-timber based products gathered from forest and range land. There are seven recognized categories: wild edible mushrooms, floral greenery, medicinal products, fruits and berries, herbs and vegetables, landscaping products, and craft products.

**COARSE WOODY DEBRIS:** Sound and rotting logs and stumps that provide habitat for fungi, plants, animals and insects and their predators, and that provide a source of nutrients for soil development.



**COMMERCIAL TIMBER HARVESTING:** The cutting and removal of trees from a forested area for the primary purpose of producing forest products and/or practising forest management. “Commercial Timber Harvesting” does not include the incidental cutting and removal of trees for other purposes (e.g., mining).

**COMMUNITY WATERSHED:** Defined in the *Forest Practices Code of British Columbia Act* as:

- a) the drainage area above the most downstream point of diversion on a stream for a water use that is for human consumption and that is licenced under the *Water Act* for
  - i) a waterworks purpose, or
  - ii) a domestic purpose if the licence is held by or is subject to the control of a water users’ community incorporated under the *Water Act* if the drainage area is not more than 500 km<sup>2</sup> and the water licence was issued before June 15, 1995 or
- b) an area that is designated as a community watershed under subsection (10).

**CONNECTIVITY:** A qualitative term describing the degree to which late-successional ecosystems are linked to one another to form an interconnected network. The degree of interconnectedness and the characteristics of the linkages vary in natural landscapes based on topography and natural disturbance regime. Breaking of these linkages results in fragmentation.

**CONSENSUS:** Generally described as broad agreement. Operational consensus for the purpose of the Cassiar Iskut-Stikine Land and Resource Management Plan was defined in the Ground Rules for the planning process as “general agreement, or no substantial disagreement, by everybody-but-one on an issue or on the final package of recommendations.”

**COVER:** Features or characteristics of the landscape that allow animals to either reduce the risk of predation and/or avoid extreme temperature (heat or cold including the wind chill) and/or avoid deep snow.

**CRITICAL WILDLIFE HABITAT:** Part or all of a specific place occupied by a wildlife species population of such species and recognized as being essential for the maintenance of the population. [Wetlands, breeding sites (leks, rutting arenas, etc.), birthing sites (calving, spawning, etc.), riparian zones, colonies, rookeries, hibernacula, winter range and over wintering area (caribou, ungulates, trumpeter swans, etc.), caves, talus slopes, avalanche chutes, denning sites, nesting sites and cliffs.]

**CROWN LAND:** Land that is owned by the Crown; referred to as federal Crown land when it is owned by Canada, and as provincial Crown land when it is owned by a province. Land refers to the land itself and the resources or values on or under it.

**CULTURAL HERITAGE RESOURCE:** An object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to the Province, a community or an aboriginal people. Cultural heritage resources include archaeological sites, structural features, heritage landscape features and traditional use sites.

**CUMULATIVE EFFECTS:** Effects on biota of stress imposed by more than one mechanism (e.g., stress in fish imposed by both elevated suspended sediment concentrations in the water and by high water temperatures).

**CUTBLOCK:** Defined in the *Forest Practices Code of British Columbia Act* as a specific area of land identified on a forest development plan, or in a licence to cut, road permit, or Christmas tree permit, within which timber is to be or has been harvested.

**DEACTIVATION (see ROAD DEACTIVATION)**

**DEFERRED AREA:** Defined in the *Forest Practices Code of British Columbia Act* Operational Planning Regulation as an area specified in a higher level plan where:

- a) timber harvesting or other forest development activities have been postponed for a period of time, or
- b) that the district manager has determined should not be harvested or otherwise be developed until a higher level plan for the area is completed.

**ECOLOGICAL RESERVE:** Crown land reserved for ecological purposes under the *Ecological Reserve Act* including areas:

- a) suitable for scientific research and educational purposes associated with studies in productivity and other aspects of the natural environment;
- b) that are representative examples of natural ecosystems within the province;
- c) where rare or endangered native plants or animals in their natural habitat may be preserved; and
- d) that contain unique and rare examples of botanical, zoological or geological phenomena.

**ECOSECTION:** An ecological unit based on climate and physiography.

**ECOSYSTEM:** A functional unit consisting of all the living organisms (plants, animals and microbes) in a given area, and all the non-living physical and chemical factors of their environment, linked together through nutrient cycling and energy flow. An ecosystem can be of any size — a log, pond, field, forest or the earth's biosphere — but it always functions as a whole unit. Ecosystems are commonly described according to the major type of vegetation, for example, forest ecosystem, or range ecosystem.

**ECOSYSTEM INTEGRITY:** The soundness or wholeness of the processes and organisms composing the ecosystem. To maintain ecosystem integrity one must maintain functioning, self-sustaining ecosystems with characteristics similar to the original ones.

**ECOSYSTEM MANAGEMENT/ ECOSYSTEM-BASED MANAGEMENT:** A strategy or plan to manage ecosystems to provide for all associated organisms, as opposed to a strategy or plan for managing individual species.

**ENVIRONMENTALLY SENSITIVE AREA:** An area identified during a forest inventory that is sensitive to disturbance and/or is significantly valuable for fisheries, wildlife, water and recreation resources.

**FOREST COVER REQUIREMENTS:** Specify desired distributions of areas by age or size class groupings. These objectives can be used to reflect desired conditions for wildlife, watershed protection, visual quality and other integrated resource management objectives.

**FOREST DEVELOPMENT PLAN:** An operational plan guided by the principles of integrated resource management that details the logistics of timber development, usually over a period of five years. Methods, schedules and responsibilities for accessing, harvesting, renewing, and protecting forest resources are set out to enable site-specific operations to proceed.

**FOREST PRACTICES CODE (FPC):** Commonly used to refer to the legislation (including the *Forest Practices Code of British Columbia Act* and associated regulations), standards and guidebooks that govern forest practices in BC.

**FRONTCOUNTRY TOURISM:** Defined by the Ministry of Small Business, Tourism and Culture as any area that is accessible by paved road or is under the influence of paved-road access. Usually refers to areas that are within 1 km of a paved road.

**GENETIC DIVERSITY:** Variation among and within species that is attributable to differences in hereditary material (DNA).

**GRAZING:** The consumption of any kind of standing, non-woody vegetation by livestock or wildlife.

**GUIDEBOOKS:** Guidebooks are guidelines and recommendations on how to best achieve the requirements of the *Forest Practices Code of British Columbia Act*. The guidebooks are not legally enforceable. However, specifications and procedures recommended by the guidebooks may be incorporated into plans, prescriptions and contracts in which case those specifications and procedures may become legally enforceable.

**HABITAT:** The place where an organism lives and/or the conditions of that environment including the soil, vegetation, water and food.

**HABITAT MANAGEMENT:** Management of the forest to create environments which provide habitats (food, shelter) to meet the needs of particular organisms.

**HERITAGE TRAIL:** A trail having cultural significance by reason of established aboriginal use or use by early immigrants (see also cultural heritage resource).

**HIGHER LEVEL PLAN:** Defined in the *Forest Practices Code of British Columbia Act* as

- a) an objective for a resource management zone
- b) an objective for a landscape unit,
- c) an objective for a sensitive area,
- d) an objective for a recreation site, recreation trail or interpretive forest site.

**IDENTIFIED WILDLIFE:** defined in the *Forest Practices Code of British Columbia Act* Operational Planning Regulation as those species at risk that the Deputy Minister of Environment, Lands and Parks, or a person authorized by that deputy minister, and the chief forester, agree will be managed through a higher level plan, wildlife habitat area, or general wildlife measure.

**IMPACT ASSESSMENT:** A study of the potential future effects of resource development on other resources and on social, economic and/or environmental conditions.

**INTERAGENCY MANAGEMENT COMMITTEE (IAMC):** The interagency committee of senior land and resource management officials in each region of the province. The committee is responsible for integrating all resource planning and protected areas work in a region and for setting regional planning priorities.

**INTERIOR FOREST CONDITIONS:** Conditions achieved at a point where edge effects no longer influence environmental conditions within a patch. The conditions changed usually involve light intensity, temperature, wind, relative humidity and snow accumulation and melt.

**KEYSTONE SPECIES:** A species that plays an important ecological role in determining the overall structure and dynamic relationships within a biotic community. A keystone species' presence is essential to the integrity and stability of a particular ecosystem.

**LAND AND RESOURCE MANAGEMENT PLANNING (LRMP):** An integrated sub-regional consensus-based process requiring public participation that produces a Land and Resource Management Plan for review and approval by government. The plan establishes direction for land use and specifies broad resource management objectives and strategies.

**LAND USE COORDINATION OFFICE (LUCO):** LUCO is the provincial government office established to coordinate both the administration of inter-agency land use planning, and to coordinate between government agencies.

**LANDSCAPE INVENTORY (SEE VISUAL LANDSCAPE INVENTORY)**

**LANDSCAPE UNIT:** Planning areas established under the *Forest Practices Code of British Columbia Act* by the district manager and based on topographic or geographic features such as a watershed or series of watersheds.

**MAINTAIN:** To preserve from failure or decline; to cause to continue.

**MINERAL:** Ore of metal and every natural substance that can be mined and that either is in place where it was originally formed or deposited, or is in talus rock, and includes rock or other materials from mine tailings, dumps and previously mined deposits of minerals, but does not include: coal, petroleum, natural gas, earth, soil, peat, marl, sand and gravel, and rock and riprap used in the construction of roads, buildings or structures.

**MINERAL TENURE:** A claim or lease issued under the *Mineral Tenure Act* (= mineral title).

**NATURAL DISTURBANCE TYPES:** Forest cover types resulting from natural disturbance regimes, such as wildfires, windstorms and, to a lesser extent, insects and landslides. For the purposes of setting biodiversity objectives, five natural disturbance types are recognized as occurring in BC:

- NDT1 Ecosystems with rare stand-initiating events
- NDT2 Ecosystems with infrequent stand-initiating events
- NDT3 Ecosystems with frequent stand-initiating events
- NDT4 Ecosystems with frequent stand-maintaining fires
- NDT5 Alpine Tundra and Sub-alpine Parkland ecosystems.

**NO STAKING RESERVE:** There are two types of reserves which are currently in use to manage mineral lands. A “no staking” mineral and/or placer reserve precludes location (staking) of a mineral and/or placer claim. To permit location with specific conditions or restrictions, a “subject to conditions” reserve would be established.

**OBJECTIVE:** An aim, goal or end of action. Objectives and associated strategies contained in plans provide direction on land use and resource management for the plan area.

**OFFICIAL COMMUNITY PLAN (OCP):** General statement of the broad objectives and policies of the local government respecting the form and character of existing and proposed land use and servicing requirements in the area covered by the plan.

**OLD GROWTH:** Forest that contains live and dead trees of various sizes, species, composition and age class structures. Old growth forests, as part of a slowly changing but dynamic ecosystem, include climax forests but not sub-climax or mid-seral forests. The age and structure of old growth varies significantly by forest type and from one biogeoclimatic zone to another.

**OLD GROWTH ATTRIBUTES:** Structural attributes and other characteristics of old growth forests, including: large trees for the species and site; wide variation in tree sizes and spacing; accumulations of large dead standing and fallen trees; multiple canopy layers; canopy gaps and understory patchiness; elements of decay such as broken or deformed tops or trunks and root decay; and the presence of species characteristic of old growth.

**OPERATIONAL PLAN:** *Forest Practices Code of British Columbia Act* states that within the context of area- specific management guidelines, operational plans detail the logistics for development. Methods, schedules, and responsibilities for accessing, harvesting, renewing, and protecting the resource are set out to enable site-specific operations to proceed. Operational plans include forest development plans, range use plans, silviculture prescriptions, and stand management prescriptions.

**PROTECTED AREA:** A land designation for areas of land and water set aside to protect natural heritage, cultural heritage or recreational values (may include national park, provincial park, or ecological reserve designations).

**PROTECTED AREAS STRATEGY (PAS):** The Provincial government strategy in place to meet BC's commitment to develop and expand the protected areas system to protect 12% of the province by the year 2000. The goals of the strategy are to protect viable, representative examples of natural diversity in the province, and special natural, recreational and cultural heritage features.

**RANGE:** Any land supporting vegetation suitable for wildlife or domestic livestock grazing, including grasslands, woodlands, shrublands and forest lands.

**RANGE USE PLAN:** An operational plan that describes the range and livestock management measures that will be implemented to ensure that range resources are protected and that the management objectives for other identified resource values are achieved.

**RECREATION:** Any mental or physical revitalization and the voluntary pursuit of leisure activities. Outdoor recreation is recreation that takes place out-of-doors, and forest recreation takes place in a forest or wildland setting.

**RED-LISTED SPECIES:** Threatened or endangered species as identified by the Ministry of Environment, Lands and Parks. The taxa on the red list are either extirpated, endangered or threatened, or are being considered for such status. Any indigenous taxon (species or sub-species) threatened with imminent extinction or extirpation throughout all or a significant portion of its range in British Columbia is endangered. Threatened taxa are those indigenous species or sub-species that are likely to become endangered in BC if factors are not reversed.

**REFERRAL:** The process which by applications for permits, licenses, leases, etc., made to one government agency by an individual or industry are given to another agency for review and comment.

**REGIONAL PROTECTED AREAS TEAM (RPAT):** The inter-ministry committee in each region that is responsible for conducting the technical inventories and analyses required to identify gaps in the protected areas system, identify areas of interest, consult with the public and propose study areas.

**RESOURCE ANALYSIS:** The critical examination of resources and environment so as to support planning and decision-making. Resource analysis consists of:

- gathering, examining and interpreting relevant resource-related information;
- organizing and integrating information to assist in developing scenarios; and
- assessing the impacts of a proposed course of action (scenario).

**RESOURCE MANAGEMENT ZONE (RMZ) — FROM REGIONAL OR SUB-**

**REGIONAL PLAN:** A division or zone of the planning area that is distinct from other zones with respect to biophysical characteristics, resource issues or resource management direction. Resource management zones may be drawn on a map to describe general management intent. The zones are usually further defined using descriptive objectives and strategies to explain future land use and resource management activities.

**RESOURCE VALUE:** Values on Crown land which include but are not limited to biological diversity, fisheries, wildlife, minerals, oil and gas, energy, water quality and quantity, recreation and tourism, natural and cultural heritage, timber, forage, wilderness and aesthetic values.

**RIPARIAN:** The land adjacent to the normal high water line in a stream, river or lake and extending to the portion of land that is influenced by the presence of the adjacent ponded or channeled water. Riparian areas typically exemplify a rich and diverse vegetative mosaic reflecting the influence of available surface water.

**RIPARIAN HABITAT:** Vegetation growing close to a watercourse, lake, swamp, or spring that is generally critical for wildlife cover, fish food organisms, stream nutrients and large organic debris, and for streambank stability.

**RIPARIAN MANAGEMENT AREA:** Defined in the *Forest Practices Code of British Columbia Act* Operational Planning Regulation as an area, of width determined in accordance with Part 10 of the regulation, that is adjacent to a stream, wetland or lake and consists of a riparian management zone and, depending on the riparian class, a riparian reserve zone.

**ROAD DEACTIVATION:** Measures taken to stabilize roads and trails during periods of inactivity, including the control of drainage, the removal of sidecast where necessary, and the re-establishment of vegetation for permanent deactivation.

**Temporary deactivation** includes measures to control drainage and reduce risk of erosion, repair or removal of bridges, and removal of sidecast, where necessary.

**Semi-permanent deactivation** includes removing stream culverts, enhanced measures to control drainage and erosion, repair or removal of bridges, and removal of sidecast, where necessary.

**Permanent deactivation** includes removal of stream culverts and restoration of channel and bank stability, removal of bridge superstructures, enhanced measures to control drainage and erosion, removal of sidecast, and establishment of vegetation.

**ROAD RECLAMATION:** see Permanent deactivation under ROAD DEACTIVATION.

**ROTATION:** The planned number of years between the formation or regeneration of a forest stand and its final cutting at a specified stage of maturity.

**SCENIC AREA:** Any visually sensitive area or scenic landscape identified through a visual landscape inventory or planning process carried out or approved by the district manager.

**SERIAL STAGES:** The stages of ecological succession of a plant community. e.g., from young stage to old stage. The characteristic sequence of biotic communities that successively occupy and replace each other by which some components of the physical environment become altered over time.

**SILVICULTURAL SYSTEM:** A planned program of treatments throughout the life of the stand to achieve stand structural objectives based on integrated resource management goals. A silvicultural system includes harvesting, regeneration and stand-tending methods or phases. It covers all activities for the entire length of a rotation or cutting cycle.

The Forest Practices Code *Silvicultural Systems Guidebook* identifies six major categories of silvicultural system: five even-aged systems and one uneven-aged system. Even-aged categories include the clearcut, patch-cut, coppice, seed tree and shelterwood systems. Uneven-aged systems are termed selection silvicultural systems.

**SILVICULTURE:** Silviculture is the art and science of controlling the establishment, growth, composition, health and quality of forests and woodlands. Silviculture entails the manipulation of forest and woodland vegetation in stands and on landscapes to meet the diverse needs and values of landowners and society on a sustainable basis.

**STAND:** A community of trees sufficiently uniform in species composition, age, arrangement, and condition to be distinguishable as a group from the forest or other growth on the adjoining area, and thus forming a silviculture or management entity.

**STRATEGIC LAND USE PLANNING:** Planning at the regional, sub-regional and, in some cases, at the local level which results in land allocation and/or resource management direction. Strategic land use planning at the regional and sub-regional level involves the preparation of resource management zones, objectives and strategies.

**STRATEGIES:** Specific management instructions to achieve an objective.

**STRUCTURAL ATTRIBUTES:** Components of a forest stand (including living and dead standing trees, canopy architecture, and fallen dead trees) which together determine stand structure.

**SUBALPINE:** Situated in the higher slopes of mountains, just below the timber line.

**SUITABILITY:** A measure of the current condition of an area to meet the needs of a resource value (e.g., wildlife habitat) or use (e.g., recreation, timber harvesting).



**SUSTAINABILITY:** A state or process that can be maintained indefinitely. The principles of sustainability integrate three closely interlinked elements — the environment, the economy and the social system — into a system that can be maintained in a healthy state indefinitely.

**TECHNICAL SUPPORT TEAM (TST):** Committee of local resource planners from government agencies and the Tahltan First Nation who provided technical support for the Cassair Iskut-Stikine Land and Resource Management Plan

**TIMBER:** In terms of industrial logging, any trees or stands of trees that are commercially valuable.

**TIMBER SUPPLY AREA (TSA):** An integrated resource management unit established in accordance with Section 6 of the *Forest Act*. TSAs were originally defined by an established pattern of wood flow from management units to the primary timber-using industries.

**TOURISM:** The aggregate of all business that directly provides goods or services to facilitate business, pleasure or leisure activities away from the home environment.

**TRADITIONAL USE SITE:** A geographically defined site that has been traditionally used by one or more groups of people for some types of activity. These sites will often lack the physical evidence of human-made artefacts or structures and maintain cultural significance to a living community of people. Traditional use sites are usually documented with the assistance of oral historical or written archival sources. Examples include: sacred sites, resource gathering sites such as berry-gathering grounds and culturally modified trees, and the site of a legendary or past events of cultural significance (See CULTURAL HERITAGE RESOURCE).

**VISUAL LANDSCAPE INVENTORY:** The identification, classification, and recording of the location and quality of visual resources and values.

**VISUAL QUALITY:** The character, condition, and quality of a scenic landscape or other visual resource and how it is perceived, preferred or otherwise valued by the public.

**VISUAL QUALITY OBJECTIVE (VQO):** A resource management objective established by the district manager or contained in a higher level plan that reflects the desired level of visual quality based on the physical characteristics and social concern for the area. Five categories of VQO are commonly used: preservation; retention; partial retention; modification; and, maximum modification.

**WATERSHED:** An area of land that collects and discharges water into a single main stream through a series of smaller tributaries.

**WATERSHED ASSESSMENT:** Defined in the *Forest Practices Code of British Columbia Act* Operational Planning Regulation as an evaluation of the cumulative impact that proposed activities and developments would have on stream flows, suspended sediment, landslide and stream channel stability within the watershed.

**WETLAND:** A swamp, marsh or other similar area that supports natural vegetation that is distinct from adjacent upland areas.

**WILDLIFE:** Defined in the *Forest Practices Code of British Columbia Act* as

- (a) a vertebrate that is a mammal, bird, reptile or amphibian prescribed as wildlife under the *Wildlife Act*,
- (b) a fish, including
  - (i) any vertebrate of the order *Petromyzoniformes* (lampreys) or class *Osteichthyes* (bony fishes), or
  - (ii) an invertebrate of the class *Crustacea* (crustaceans) or class *Mollusca* (mollusks) from or in the non-tidal waters of the Province, and
- (c) an invertebrate or plant listed by the Minister of Environment, Lands and Parks as an endangered, a threatened or a vulnerable species, and includes the eggs and juvenile stages of these vertebrates, invertebrates and plants.

**WILDLIFE HABITAT:** Areas of land and water that support specific wildlife or groups of wildlife.

**WILDLIFE TREE PATCH:** A stand of trees and other habitat features (e.g., wetland, lick, etc.) deferred from harvest to maintain some habitat requirement for wildlife (e.g., hiding/security cover, thermal cover, nesting, perching, forage, etc.). The size and shape required for a wildlife tree patch will depend on the habitat requirement being provided.

**WILDLIFE TREE:** Defined in the *Forest Practices Code of British Columbia Act* Operational Planning Regulation as a tree or group of trees that are identified in an operational plan to provide present or future wildlife habitat. A wildlife tree is a standing live or dead tree with special characteristics that provide valuable habitat for the conservation or enhancement of wildlife. Characteristics include large diameter and height for the site, current use by wildlife, declining or dead condition, value as a species, valuable location and relative scarcity.

**Cassiar Iskut-Stikine  
Land and Resource Management Plan**

**Appendices**

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## **Appendix 1: Cassiar Iskut-Stikine LRMP Recommended Economic Strategy**

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## 1. Introduction

**This economic strategy is one of several products developed by participants in the Cassiar Iskut-Stikine LRMP. Its purpose is to identify an overall vision and goals for the LRMP and a set of economic objectives and action plans for achieving economic and social goals.**

The strategy documents opportunities and constraints for a full range of sectors and lists a series of actions – programs and projects – for addressing issues and realizing opportunities. The strategy also provides a valuable reference for the development of resource management zones and objectives and strategies for managing the land and resources in the plan area.

When completed and approved, the strategy will provide direction to government and the private sector regarding the types of projects and activities that should be supported to achieve economic development objectives and the steps and procedures that need to be followed to ensure that the strategy is properly implemented.

A key priority of the Cassiar Iskut-Stikine Economic Strategy is to ensure that resource development activities in the area provide local benefits such as jobs, business development and stable economic growth. That strategy also encourages development of improved infrastructure and services such as transportation and communication, education and training and community facilities. It emphasizes initiatives that attract people and investment to the area on a permanent basis rather than those that bring temporary workers and contract services from outside businesses.

## 2. Regional Overview

The Cassiar-Iskut-Stikine plan area totals 5.2 million hectares and extends from Ningunsaw Pass in the south to Dease Lake in the north and from the Alaska border in the west to the Chukachida River in the east. The area includes three communities – Iskut, Dease Lake and Telegraph Creek – and has an estimated total population of 1,230.

The wilderness quality of the Cassiar-Iskut-Stikine area is one of its most predominant features – 73 percent of the plan area is in a wilderness or semi-wilderness state.<sup>10</sup> As wilderness becomes more scarce on a world-wide basis, the wilderness features of the Cassiar-Iskut-Stikine will become a valuable legacy for future generations.

Contained within the wilderness of the Cassiar-Iskut-Stikine is a rich endowment of natural resources including minerals, forests, fish and wildlife, wilderness and outstanding scenic resources. It also has high quality cultural resources including the heritage and culture of the Talhitan First Nation, and historic values associated with mining, fur-trading and river navigation.

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<sup>10</sup> See CIS Socioeconomic and Environmental Base Case (p. 11)

The economy of the area is based primarily on its natural resources and on public administration. The main source of employment is the public sector followed by mining, tourism, retail and construction. Forestry, fishing and agriculture also provide employment and business opportunities, but at a much smaller scale.

One of the key cultural characteristics of the Cassiar-Iskut-Stikine is the strong attachment that people have to the land – whether as a means to earn their livelihood, pursue recreational activities or make a spiritual connection. Many people in the area work outside of the mainstream economy in activities like mushroom picking, trapping and bartering and trading. Subsistence activities like hunting, fishing and gathering are also an important way of life and economic benefit for many people. The area is the traditional homeland of the Tahltan people whose way of life is strongly connected to the land.

### ***Competitive Advantages***

- Availability of high quality natural resources
- Area has exceptional scenic and wilderness resources, providing opportunities for tourism (especially wilderness, adventure, nature-based and eco-tourism)
- One of the most highly mineralized areas in the province
- Excellent outdoor recreation opportunities
- High quality hunting and fishing opportunities
- Clean air and water and plenty of open space
- Availability of affordable housing in Dease Lake
- Rich culture and heritage

### ***Competitive Disadvantages***

- Small domestic market
- Lack of available skilled workforce
- Limited supply of entrepreneurs
- Boom/bust cycle of resource dependent economy
- Low economic diversity
- Lack of infrastructure (power, transportation, telecommunications)
- Difficult to raise investment capital
- Difficult to attract/maintain professional and technical staff to the region
- Health and other community services not comparable to provincial standards
- High cost of living
- Highway 37 in need of upgrading
- Poor air access
- Severe winter weather



## **Communities**

### **Iskut**

Iskut – which is located 252 kilometres north of Meziadan Junction on Highway 37 – serves as a staging area for the Spatsizi Wilderness Park and Mount Edziza Park. It is also in close proximity to Kineskan Park and a number of guest ranches and wilderness resorts located in the surrounding area.

### **Dease Lake**

Dease Lake is located 234 kilometres south of the BC-Yukon Border. The town site originally served as a Hudson's Bay Company trading fort between 1838 and 1841. Dease Lake, because of its central location, is now a service centre for traffic along Highway 37. It is also a regional centre for many government services including a health centre, RCMP detachment, Northern Lights College and BC Government offices including Government Agent, Highways, Parks, Forests, Social Services and Family and Children.

### **Telegraph Creek**

Telegraph Creek is situated 113 kilometres southwest of Dease Lake on a small terrace overlooking the Stikine River. Telegraph Creek is a historic townsite with several well-preserved heritage buildings. The town was originally built as the head of navigation for river traffic on the Stikine River. It still serves as a staging area for river recreation and commercial salmon fishing as well as for other types of wilderness tourism activities.

## **3. Vision and Goals**

### ***Vision Statement:***

***The Cassiar-Iskut-Stikine LRMP will contribute to a healthy, productive and sustainable wilderness environment, a thriving and diverse economy, and strong communities supporting a wide range of local employment and lifestyle opportunities.***

### ***Goals:***

A healthy environment including:

- ❑ sustainable natural ecosystems
- ❑ abundant fish and wildlife populations
- ❑ wild places that are valued for themselves

Vibrant and secure communities that provide:

- ❑ community based decision-making
- ❑ 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 opportunities
- ❑ local benefits from resource development and extraction
- ❑ communication between native and non-native communities

A sustainable economy<sup>11</sup> with:

- ❑ a diversified economic base
- ❑ job opportunities for local people
- ❑ sustainable, balanced utilization of resources
- ❑ activities that respect local cultures and lifestyles
- ❑ development that provides optimal returns to local communities and the province
- ❑ access to technology and capital
- ❑ infrastructure to support local entrepreneurial potential
- ❑ minimum environmental footprints from all sectors
- ❑ local financial capacity to support ongoing development

Effective planning and management of natural resources that include:

- ❑ meaningful public participation and mechanisms for conflict resolution
- ❑ good communication between all stakeholders
- ❑ integration and balance among competing interests
- ❑ clearly developed procedures for implementation and monitoring
- ❑ adaptive management techniques

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<sup>11</sup> In this report the term “sustainable economy” is defined as economic development that provides economic benefits without compromising the environment or opportunities for future generations.

## **4. Forestry**

### ***Overview***

The forest industry is not a large part of the economy in the Cassiar-Iskut-Stikine. It employs about 15 people and accounts for 8% of the economy's basic employment and 9% of its basic income.

At present there is virtually no commercial harvesting in the plan area. Residents employed in forestry are working elsewhere in the Cassiar Timber Supply Area (primarily in logging and related activities such as log hauling, road building and silviculture). Although there are several small, portable mills that periodically supply lumber for local projects, virtually all of the harvest in the Cassiar Timber Supply Area is exported to sawmills in the south. The lack of an existing forest industry base means there is no local access to necessary services and supplies.

The timber harvesting land base is about 111,000 hectares or about 2.2% of the total plan area. Wood profile is a saw log/pulp log split that occurs primarily in pine/spruce and mature hemlock stands respectively.

If the entire timber harvesting land base was available for harvest, it would support an annual harvest of roughly 200,000 cubic metres. This level of harvest could potentially support up to 90 timber harvesting and processing jobs and related small businesses. However, only a portion of these jobs would likely accrue to residents of the Plan Area. An annual harvest of 200,000 cubic metres may be enough to support a small processing facility; however this is unlikely due to a lack of capital and infrastructure, and other obstacles such as distance to markets.

At present there appears to be little demand to harvest the timber that is available in the plan area. However, demand for timber and the relative importance of the forest sector in economy is likely to increase as world lumber prices recover and annual allowable cuts in other parts of the province fall.

### ***Opportunities***

- Develop a forest industry that meets local employment needs
- Promote small scale harvesting and processing to serve local building needs
- Utilize small scale wood processing technology such as portable mills and band saws
- Create capacity for a community forest tenure
- Grade lumber locally for use in local construction projects
- Utilize high pulpwood content in mature hemlock forests during peak market cycles
- Develop wood products and skills related to needs in other sectors (e.g., high-end lodge facilities for backcountry tourism)
- Open up access for other activities (e.g., snowmobiling, skiing, hiking, etc.)
- Promote value-added manufacturing in low cost, low volume enterprises that do not rely on fibre from outside the region (e.g., roundwood products)

### ***Constraints***

- Lack of a major processing facility
- Minimal infrastructure (power, transportation and communication)
- Distance to markets
- Poor investment climate
- Insufficient timber supply to support development of a large scale processing facility
- Small timber harvesting land base dispersed widely across the region
- No established forest industry base
- Lack of local capacity to support a community forest tenure
- Small local demand for construction materials
- Lumber grading is required before CMHC will approve mortgages on new house
- Shortage of skilled labour
- Shortage of local services (e.g., equipment maintenance, forestry engineering, etc.)
- Difficult to develop a viable value-added sector without a major processing facility to provide cost effective sorting and selection of wood

### ***Goals***

- Forest industry providing significant local jobs and benefits
- Small scale, local processing based on market opportunities
- Balanced and sustainable use of forest resources
- Local capacity and infrastructure to support the forest industry

### ***Recommended Strategies***

- Create local business and job opportunities in the forest industry
- Increase local capacity
- Promote local, small scale harvesting and production linked to market opportunities

### ***Action Plans***

**Strategy 1:** Promote local business and job opportunities in the forest industry

- |                  |  |
|------------------|--|
| <b>Actions:</b>  | <ul style="list-style-type: none"><li>• Issue forest tenures with a “local content” (employment, subcontracting) requirement</li><li>• establish a community forest tenure as a means of generating revenue and pursuing local forest management goals</li><li>• encourage government to award SBFEP sales to local operators</li><li>• encourage Forest Renewal BC and the Forest Service to increase their investments in silviculture</li></ul> |
| <b>Outcomes:</b> | <ul style="list-style-type: none"><li>• Increase in the number of local businesses and jobs related to the forest industry</li></ul>   |

## **Strategy 2:** Increase local capacity

- Actions:**
- Identify the types of future business and job opportunities available in the forest sector
  - Undertake a training needs analysis
  - Provide access to required training, apprenticeship and skill development programs
  - Provide training in entrepreneurship and small business skills
  - Identify opportunities to develop small scale, high end value-added processing to meet local and specialty market needs (e.g., timber frame construction for backcountry tourism lodges, local woodcraft, etc.)
  - Establish a local forestry council to share information, resolve issues, support and sponsor local forestry development initiatives
- Outcomes:**
- Increase in number local entrepreneurs (businesses) and workers qualified to work in the forest sector

## **Strategy 3:** Promote local, small scale harvesting and production linked to market opportunities

- Actions:**
- Determine market opportunities for timber products (e.g., construction industry, mining companies, backcountry lodges, etc.)
  - Identify wood profile and processing specifications
  - Make timber available to local operators to support small scale, specialty and local market production
  - Examine the feasibility of value-added processing of roundwood products (e.g., poles, posts and rails)
- Outcomes:**
- Establishment of local businesses and jobs in specialty harvesting and manufacturing

## **5. Mining**

### **Overview**

The Cassiar-Iskut-Stikine is one of the richest mineral potential areas in BC, with one operating mine (Eskay Creek) and several proposed mines. The Golden Bear Mine which is located just outside the plan area also contributes benefits to communities within the LRMP area. The following table shows the output and employment generation for each of these mines in 1997.

### 1997 Mining Activity in the Cassiar-Iskut-Stikine LRMP and Adjacent Area

Mine	Output (tonnes)	Percent Capacity	Days of Mill Operation	Average Employment
Eskay Creek	115,299	100%	365	102
Snip*	149,555	86%	365	181
Golden Bear	360,000	68%	116	29

\*Snip Mine closed in May 1999 with closure/reclamation activities to follow.

Approximately 14% of the people working in the mines are local residents.

### **Opportunities**

- Increase the level of exploration and development
- Build upon established mining and exploration industry
- Achieve land use certainty through land use planning
- Create benefits for local communities (jobs, businesses and income)
- Strengthen local communities through investments in infrastructure, services and facilities

### **Constraints**

- Rugged topography and climate
- Lack of access
- Lack of infrastructure (transportation, power, communication)
- Shortage of locally available, trained workforce
- Mining and exploration activities are heavily influenced by external factors (e.g., world commodity prices)
- Community impacts from boom/bust cycles in the resource sector
- Lack of detailed information on mineral potential (surveys, geotechnical analysis)

### **Goals**

- An economically sound mining industry providing long term benefits to the local community
- Clearly established land use direction with well defined guidelines for access and environmental management
- Public awareness of the geological values in the area and understanding of industry practices (exploration and development)

### ***Recommended Strategies***

- Support sustainable growth of the mining industry
- Increase local benefits from the mining industry
- Improve local capacity (workforce, business sector and prospectors) to work in the mining industry

### ***Action Plans***

#### **Strategy 1:** Support sustainable growth in the mining industry

- Actions:**
- Encourage the provincial government to invest in infrastructure development (e.g., electricity, transportation access, etc.)
  - Identify priority areas for the Ministry of Energy Mines to conduct surveys and geotechnical analysis
  - Increase public awareness of the value of the mining industry through mine tours and open houses and the development interpretive signs (e.g., at rest stops), brochures, etc.
- Outcomes:**
- Increase in mineral exploration and development

#### **Strategy 2:** Increase local benefits from the mining industry

- Actions:**
- Encourage mining companies to increase the amount of hiring and servicing done in local communities (e.g., establish a brokering service to bring local service providers and mining companies together or establish and promote a centralized labour pool)
  - Encourage the provincial government to reinvest a portion of mining tax revenues back into community (e.g., grant in lieu of taxes)
  - Work with mining companies to identify local servicing and employment opportunities
  - Encourage mining companies to invest in surrounding communities through civic projects, employment training and education, etc.
- Outcomes:**
- Increase in benefits flowing to local communities from the mining industry

#### **Strategy 3:** Improve local capacity (workforce, business sector and prospectors) to work in the mining industry

- Actions:**
- Work with mining companies to identify local servicing and employment opportunities
  - Undertake a training needs analysis
  - Provide access to required training, apprenticeship and skill development programs
  - Provide training and identify opportunities for prospecting
  - Provide training in entrepreneurship and small business skills
  - Monitor key events and project developments and communicate these locally

- Establish a brokering service to bring local service providers and mining companies together
- Determine the feasibility of establishing and promoting a centralized labour pool

**Outcomes:** • Increase in the number of locally based mining industry jobs and businesses

## 6. Tourism

### Overview

Tourism is a key sector the economy of the Cassiar-Iskut-Stikine plan area accounting for approximately 28 percent of the area's basic employment and 14 percent of basic income. Tourism provides about 200 jobs split equally between residents and non-residents. Most of the employment is related to backcountry<sup>12</sup> tourism activities.

The BC Visitor's Study<sup>13</sup> indicates that in 1997, the Northwest<sup>14</sup> region accounted for approximately 7 percent of the total provincial visitor volume and 5 percent of total revenues. Among the total visitors to the region, 73 percent were BC residents and 27 percent were from outside of British Columbia. This compares with 61 percent BC residents and 39 percent from outside BC for the province as a whole. These numbers indicate that the Northwest relies heavily on the BC resident market for its tourism

The Cassiar-Iskut-Stikine is renowned for its pristine wilderness<sup>15</sup> including:

- spectacular scenery
- wild rivers
- abundant wildlife offering some of the best wildlife viewing and big game hunting in North America.

These wilderness resources offer a significant competitive advantage for growth in backcountry tourism activities. (Wilderness tourism is a fast growing market with ecotourism growing at 20-25% per year.) It has been estimated that, in the longer term, the local wilderness tourism sector

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<sup>12</sup> The term "backcountry tourism" refers to activities and related facilities and services that occur in remote, natural settings. Examples include: hiking, hunting, fishing, mountaineering, river rafting, kayaking, canoeing, ski touring, snowmobiling, etc.

<sup>13</sup> This study is based on a survey of resident and non-resident visitors conducted in 1995 and 1996.

<sup>14</sup> The Northwest region extends from the Cariboo-Chilcotin region in the south, the BC/Yukon Border in the north and is bounded by the Alaska Panhandle and Pacific Ocean on the west and by the Omineca-Skeena Mountain ranges on the east, with the exception of the Highway 16 corridor, which extends to the BC/Alberta border.

<sup>15</sup> Approximately 73 percent of the plan area is defined as wilderness (See the CIS Socio-Economic and Environmental Base Case p.10).



could gradually generate 300 additional jobs over current levels, with likely about half of these jobs held by local residents.<sup>16</sup>

Guide-outfitting provides valuable tourism benefits to the region. There are currently 13 guide-outfitting businesses that operate in the plan area. Most focus on the hunting sector, however, several are expanding into fishing and adventure tourism packages.

Development in other sectors (e.g., mining forestry) could impact the long term growth potential of wilderness tourism. Extensive road development for mining and timber harvesting would likely result in erosion of wilderness recreation and tourism values over time. However, certain types of tourism activities may also benefit from road development (e.g., backcountry touring, recreational hunting and fishing, etc.).

Front country tourism<sup>17</sup> which is less strongly linked to land use changes than backcountry tourism, will continue to grow as a result of increasing through traffic, resource development and maturation of the local economy. One indication of this growth is the significant growth in the number of bus tours over the past few years.

### **Opportunities**

- Internationally significant wilderness and wildlife resources
- Diversify and expand the tourism industry
- Capitalize on the growing adventure tourism/ecotourism market
- Integrate local knowledge (e.g., Tahltan ethnobotany and cultural ecology) as a feature of the ecotourism product
- Diversify the guide-outfitting product to include non-consumptive activities
- Capitalize on the growing bus tour market
- Provide local jobs and business opportunities
- Increase the size and number of service businesses (restaurants, accommodation, transportation, souvenirs, etc.)
- Develop shuttle service from Dease Lake to Telegraph Creek

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<sup>16</sup> See *Cassiar Iskut-Stikine LRMP Economic Opportunities Study*, Nicol and Copeland, 1998. This estimate is based on a survey of existing tourism operators and takes into account the growth potential of these operators, as well as the estimated carrying capacity of the areas in which they operate.

<sup>17</sup> The term “front country tourism” refers to tourism facilities, attractions and services that are located in the vicinity of communities or major travel corridors. Examples include: motels, campgrounds, restaurants, museums, etc.).

### ***Constraints***

- Area is remote, expensive to get to and poorly serviced
- Short tourism season
- Difficult to hire and retain qualified employees
- Difficult to access international markets
- Insufficient communication and transportation infrastructure (e.g., Highway 37)
- Difficult for local operators to obtain capital
- Shortage of locally available trained workforce
- Lack of a clearly defined vision for tourism in the area
- No local tourism association
- Potential carrying capacity constraints in sensitive areas (i.e. wilderness resources are highly sensitive and need to be carefully managed in terms of use)
- Difficult for local people to work through government approval processes when resources are located in Smithers
- Ministry of Small Business, Tourism and Culture does not have the resources to support land use planning and tourism development

### ***Goals***

- Locally based, economically viable tourism industry
- Sustainable tourism industry with minimal environmental impact
- Well developed tourism infrastructure (e.g., Highway 37, trained workforce)
- Effective management of tourism resources (e.g., visual quality, wilderness values, etc.)

### ***Recommended Strategies***

- Develop a regional tourism strategy
- Promote backcountry tourism development such as wildlife viewing, nature photography, natural history, fishing, hunting, hiking, river rafting, river boating, canoeing, kayaking
- Promote front country tourism development to tap into the growing bus tour and RV markets
- Improve tourism transportation and communication infrastructure
- Provide employee training and skill upgrading to support growth and improve service quality in the tourism industry
- Develop resource management zones, objectives and strategies to support adventure and wilderness-based tourism potential in the area

## **Action Plans**

### **Strategy 1:** Develop a regional tourism strategy

- Actions:**
- Identify tourism product and market opportunities
  - Prepare a long term vision for the tourism industry in the area
  - Develop goals and objectives for achieving the vision
  - Improve local capacity
  - Encourage the establishment of a local tourism association
  - Develop a website to increase awareness of tourism opportunities and facilities
  - Develop partnerships with other government organizations (e.g. Tourism BC, Ministry of Small Business Tourism and Culture, Northern Development Commissioner, etc.) and private organizations
- Outcomes:**
- A comprehensive, long term tourism strategy

### **Strategy 2:** Promote front country tourism development

- Actions:**
- Identify market potential and compatible attractions and facilities for front country tourism (tour bus, motor homes, vehicles, etc.)<sup>18</sup>
  - Identify areas best suited for front country tourism products
  - Identify opportunities for year round tourism
  - Apply heritage designation to the entire Telegraph Creek townsite
  - Identify Crown land for new product development through a process that emphasizes local involvement (businesses and workers)
  - Promote tourism market and investment opportunities
- Outcomes:**
- Market assessment of front country tourism potential
  - Inventory of front country tourism attractions and features
  - Heritage designation for Telegraph Creek
  - Identify land and business opportunities for tourism development
  - Strategy to promote development potential of front country tourism

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<sup>18</sup> Examples include Iskut Hotsprings, Cascade Falls, Tahltan Cultural Interpretive Centre, Tahltan arts and craft production, Telegraph Creek Port improvements (including removal of snags from the Lower Stikine), etc.

**Strategy 3: Promote backcountry tourism development**

- Actions:**
- Identify activities and market potential for backcountry tourism<sup>19</sup>
  - Identify areas best suited for various backcountry tourism activities
  - Determine the carrying capacity of sensitive areas
  - Identify opportunities for year round tourism
  - Identify Crown land for new product development through a process that emphasizes local involvement (businesses/workers)
  - Develop Telegraph Trail as a heritage backpacking product
  - Encourage diversification of guide-outfitting into fishing and adventure tourism
  - Support continued participation of guide-outfitters in managing fish and wildlife habitats and populations
  - Promote tourism market and investment opportunities
  - Manage the land base to preserve the quality of tourism resources (e.g., wilderness, visual quality, wildlife, river corridors, etc.)
- Outcomes:**
- Market assessment of backcountry tourism potential
  - Emphasis areas (resource management zones, objectives and strategies) for backcountry tourism
  - Identified areas and business opportunities for tourism development
  - Strategy to promote development potential of backcountry tourism

**Strategy 4: Improve tourism transportation and communication infrastructure**

- Actions:**
- Continue to upgrade and maintain Highway 37
  - Improve air and bus access to the area
  - Encourage the establishment of a car rental operation to support fly/drive vacation packages
  - Develop a shuttle service from Dease Lake to Telegraph Creek
  - Develop a tourism website highlighting tourism attractions and business opportunities in the area and linking to tourism operators and other websites
- Outcomes:**
- Good quality highway system
  - Improved air and bus access supporting fly/drive packages
  - Internet communications highlighting tourism opportunities

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<sup>19</sup> Possible activities include: expansion of guide outfitting to include non-consumptive activities; development of lodges and staging areas for wilderness activities; increase the number of river tours; guided adventure tours; skiing (backcountry ski touring, heliskiing); Ski mountaineering and rock climbing; and snowmobiling.

**Strategy 5:** Provide employee training and skill upgrading

- Actions:**
- Conduct a tourism needs assessment
  - Undertake a tourism labour market assessment to identify skills gaps
  - Provide access to training programs to fill gaps
  - Promote ongoing training and skills upgrading in the tourism industry
  - Train guides on Tahltan ethnobotany and cultural ecology
- Outcomes:**
- Skilled workforce meeting the needs of the industry

## 7. Fisheries

### **Overview**

The Stikine River commercial fishery provides important economic benefits to the area. As an inland fishery with a limited number of area-based licenses, it is unique in its ability to provide local benefits. The fishery provides employment for about 50 people, half of whom live permanently in the plan area. The salmon resources in the Stikine and its tributaries also support an important Native food harvest.

One of the notable features of the Stikine is the spawning of sockeye in the main stem of the river, which could serve as a benchmark for future scientific research.

According to Fisheries and Oceans Canada catch figures for 1999, sockeye and chinook catches have declined from 1997 highs to levels that are below the long-term average. Broodstock and escapement figures for sockeye at Tahltan Lake have also been significantly below target since 1997. These figures reflect serious concerns over stock levels for chinook and sockeye, which could negatively impact the long term potential for the commercial fishery in the Stikine system. One of the key management issues for the fishery is the allocation of salmon between Canada and the US. The allocation is supposed to be based on a fifty/fifty formula, however, if the US over-fishes, the Canadian fishery is left with a shortfall.

An excellent opportunity exists for creating local economic benefits through the development of the sport fishing sector. The plan area offers outstanding sport fishing potential – both salmon and freshwater species – in a spectacular wilderness setting.

Fisheries resources could be negatively impacted by development (through damage to water quality and spawning habitat) unless carefully managed. As well, increased road development could lead to increased impacts from sport fishing.

### ***Opportunities***

- Generate increased local benefits
- Develop value-added processing of salmon (e.g., packaged smoked salmon)
- Develop specialized markets for Stikine River salmon
- Enhance the productive capacity of the Tuya River by putting in a fish ladder
- Increase benefits provided by sports fishing (freshwater and salmon species)

### ***Constraints***

- Tension and division among fishers on the river
- Lack of suitable drift fishing sites
- Uneven fishing effort by US and Canadian fishers
- Reactive rather than proactive management by DFO
- Decrease in population of wild fish stocks

### ***Goals***

- Sustainable wild fish stocks
- Healthy spawning and rearing habitat and migratory routes
- Thriving commercial fishery
- Thriving sport fishery

### ***Recommended Strategies***

- Conserve and rehabilitate fish stocks and habitat
- Maintain and enhance commercial fishing opportunities
- Promote value-added salmon processing
- Encourage further development of the sports fishing sector

### ***Action Plans***

#### **Strategy 1: Conserve fish stocks and habitat**

- Actions:**
- Identify critical spawning and rearing habitat
  - Promote management of wild fish stocks
  - Develop resource management zones, objectives and strategies to conserve key habitat
  - Rehabilitate damaged habitat
  - Encourage proactive management of fishery by DFO, Tahltan and local stakeholders

- Outcomes:**
- Healthy fish stocks and habitat
  - Healthy populations of wild fish stocks
  - Proactive management of the fishery by DFO, Tahltan and local stakeholders

**Strategy 2:** Maintain and enhance commercial fishing opportunities

- Actions:**
- Develop additional drift fishing sites within sustainable limits
  - Increase the productive capacity of the Tuya by installing a fish ladder
  - Look for more cost effective ways to harvest Excess Salmon to Spawning Requirement (ESSR) fish

- Outcomes:**
- Increase in the size and value of the commercial fishery

**Strategy 3:** Promote value-added salmon processing

- Actions:**
- Identify value-added processing options (packaged smoked salmon, traditional First Nation smoking, etc.)
  - Identify potential markets (tour market, specialty food outlets and restaurants, etc.)
  - Explore options for developing a secondary processing facility in Telegraph Creek

- Outcomes:**
- Local value-added processing of fish
  - Additional income and jobs from the commercial fishery

**Strategy 4:** Encourage further development of the sports fishing sector

- Actions:**
- Determine current size of the sector (benchmark)
  - Inventory lakes and rivers to determine capacity for sports fishing (freshwater and salmon species)
  - Identify areas best suited for sports fishing
  - Develop conservation strategies to ensure a sustainable fishery
  - Promote business and tourism opportunities for sports fishing

- Outcomes:**
- Increase in the size and value of the sports fishery

## **8. Agriculture**

### **Overview**

#### **Agriculture**

The Cassiar-Iskut-Stikine area provides good potential for agricultural production in certain areas. The greatest concentration of suitable agriculture land (Class 3 to 5 soils) is along the Stikine River from the confluence of the Tuya, west to the confluence of the Chutine. Good arable land exists on the fluvial terraces along the valley, with parcels ranging in size from 5 to 50 hectares. The area offers a relatively good growing season, averaging 101 frost-free days per

year. Soils are generally gravelly/silty loam and sandy loam. Irrigation is generally required to improve growing capability.

There is a long history of agriculture in the plan area dating back nearly 100 years when the first seeds were brought in by gold miners. Since that time, the Tahltan people have engaged in horticultural activities with varying degrees of success. By the 1950s, interest in agriculture began to wane and by the 1960s, agricultural activity had all but disappeared. Over the past few years, however, there has been a renewed interest in agriculture. Census data for 1996 indicates that 10 people were employed in agriculture versus none in 1981.

### **Ranching and Livestock Grazing**

There are a number of smaller areas suitable for livestock grazing scattered throughout the plan area. Current activities include small-scale cattle ranching and range for guide horses. Most of the range units in the plan area are presently uncommitted.

### ***Opportunities***

- Develop high quality agricultural land in the Stikine Valley
- Grow and sell agricultural products in the local area and points north
- Create small scale, locally based employment
- Implement certified organic agricultural production
- Combine agriculture potential with tourism (i.e., agri-tourism)

### ***Constraints***

- Access to agricultural lands
- Policies restricting the acquisition of agricultural lands
- Lack of settlement lands in close proximity to agricultural lands
- Remote area with poor market access
- Lack of infrastructure (e.g., storage facilities)
- No established distribution system
- Lack of critical mass (e.g., network of farmers, suppliers, markets, etc.)
- Lack of financial investment

### ***Goals***

- Viable, small scale agricultural industry

### ***Recommended Strategies***

- Create opportunities for small scale, intensive farming
- Identify and promote other types of agriculture opportunities
- Develop local capacity to support a small scale agriculture sector



## **Action Plans**

### **Strategy 1: Create opportunities for small scale, intensive farming**

- Actions:**
- Identify high potential agriculture lands (Class 3-4)
  - Develop resource management zones, objectives and strategies compatible with agricultural use
  - Identify crop potential and market opportunities
  - Provide information on agriculture opportunities
  - Make Crown land available for agricultural production
  - Encourage support for agricultural development from the provincial government
  - Promote development of small scale farms
- Outcomes:**
- Development of small scale farming operations in the Lower Stikine

### **Strategy 2: Identify and promote other types of agriculture opportunities**

- Actions:**
- Identify potential range lands to support small scale ranching and guided horseback riding activities
  - Develop resource management zones, objectives and strategies compatible with agricultural use
  - Identify opportunities to combine agriculture and tourism (i.e., agri-tourism)
  - Promote development of these opportunities
- Outcomes:**
- Increase in the number of small scale ranching and agri-tourism operations

### **Strategy 3: Develop local capacity to support a small scale agriculture sector**

- Actions:**
- Identify and promote agricultural opportunities to local residents
  - Form an association of local producers
  - Identify and pursue locally appropriate products, processes and technologies (e.g., organic certification)
  - Develop and promote local markets for farm gate products
- Outcomes:**
- Viable, small scale farming community

## **9. Botanical Forest Products and Medicinal Plants**

### **Overview**

The plan area offers some localized economic opportunities in botanical forest products through the harvesting of pine mushrooms, wild berries and herbs and medicinal products.

Pine mushroom potential exists in the south of the plan area along the Eskay Mine Road. Wild mushroom harvesting in B.C. is largely unregulated which has led to concerns about the sustainability of harvest levels and potential environmental impacts associated with harvesting practices.

There is good potential for wild berry picking throughout the plan area, particularly in areas with recent forest fire activity. Most berry picking is carried out for local consumption, however, there are increasing opportunities to market wild berry products into specialty markets.

The Tahltan First Nation is actively involved in all aspects of botanical forest products from mushroom harvesting, to wild berry picking to harvesting various indigenous plants (i.e., Cariboo weed, Devil's club, Labrador tea and wild mint) for medicinal purposes.

### ***Opportunities***

- Good pine mushroom potential in the hemlock forests along Eskay Mine Road
- Abundance of wild berries (blueberries, huckleberries, saskatoon, soap berries, etc.)
- Potential to market wild berry jam to tourists and other markets
- Abundance of medicinal plants including Caribou weed, Devil's club, Labrador tea and wild mint

### ***Constraints***

- Mushroom ecosystem is fragile and easily destroyed
- Potential for conflict among mushroom pickers
- Lack of regulation in the botanical forest products industry could lead to overharvesting
- Open forest canopy needed to maintain suitable growing conditions for wild berries

### ***Goals***

- Sustainable botanical forest products and medicinal plants sector

### ***Recommended Strategies***

- Identify opportunities for commercial harvesting/production of botanical forest products and medicinal plants

### ***Action Plans***

**Strategy 1:** Identify opportunities for commercial harvesting/production of botanical products and medicinal plants

- |                  |  |
|------------------|--|
| <b>Actions:</b>  | <ul style="list-style-type: none"><li>• Identify areas best suited to botanical forest product and medicinal plant harvesting (pine mushrooms, wild berries and others)</li><li>• Develop resource management zones, objectives and strategies compatible with botanical forest products use</li><li>• Provide information to local residents on botanical forest product and medicinal plant harvesting opportunities</li></ul> |
| <b>Outcomes:</b> | <ul style="list-style-type: none"><li>• Increase in the size and value of the botanical forest product and medicinal plant sector</li></ul>  |

## **10. Government**

### ***Overview***

The government sector includes services such as health, education, and local, provincial and federal government administration. This sector is an important component of the Cassiar-Iskut-Stikine economy accounting for 22 percent of basic employment and 24 percent of basic income.

Government sector employment has declined over the past three years as a result of provincial government downsizing and a consolidation of regional services in Smithers.

### ***Opportunities***

- Provide training and capacity building for local workers
- Create local employment
- Develop facilities and services to attract long term residents
- Improve transportation and communication infrastructure
- Make Crown land available for settlement, agriculture, tourism development, and natural resource development
- Incorporate local knowledge and advice into decisions affecting the plan area

### ***Constraints***

- Permitting processes are complex and time consuming
- Most government decisions are made outside the area without the benefit of local input
- Poor access to information
- Ministry of Small Business, Tourism and Culture and Tourism BC do not have the capacity to adequately represent and protect the interests of the tourism industry

### ***Goals***

- Government service delivery that meets the needs of the area
- Local participation in the government workforce
- Local access to government information
- Local participation in government planning processes

### ***Recommended Strategies***

- Provide government services to address local needs
- Increase the number of local people employed by government
- Establish a Tahltan/multi-stakeholder round table to oversee implementation of the economic strategy and create stronger and more influential local governance

## **Action Plans**

### **Strategy 1: Provide government services to address local needs**

- Actions:**
- Identify local service delivery gaps (e.g., forest practices compliance, silviculture, conservation officers, access to and participation in resource decision-making processes)
  - Develop strategies for addressing local service delivery gaps
  - Establish a linkage with the Northern Development Commissioner
  - Establish a local coordinating mechanism for economic/resource development agencies
  - Foster improved communication with government representatives outside of the local area (e.g., video conference link, etc.)
  - Implement strategies to improve local service delivery
- Outcomes:**
- Improved quality and effectiveness of government service delivery

### **Strategy 2: Increase the number of local people employed by government**

- Actions:**
- Conduct a skills and needs analysis of existing government positions
  - Conduct a skills inventory of the local workforce
  - Identify training needs and potential employment opportunities
  - Provide training and skill development (short and long term)
  - Develop and support mentoring programs
  - Create liaison/coordination positions to help incorporate local views into government decision-making and develop local capacity
  - Encourage local hire
- Outcomes:**
- Increase in the number of local people employed by government

### **Strategy 3: Establish a Tahltan/multi-stakeholder round table to oversee implementation of the economic strategy and create stronger and more influential local governance**

- Actions:**
- Utilize Tahltan Nation expertise and access to the government referral processes
  - Establish liaison between the round table and the Northern Development Commissioner and the Kitimat/Stikine Regional District
  - Provide local technical/electronic capacity for inventory and mapping work
  - Provide training and skill development (short and long term)
  - Identify funding sources
- Outcomes:**
- Improved local governance

## 11. Infrastructure and Capacity Building

### **Overview**

Infrastructure and capacity building are two key ingredients in an economic development strategy and the lack of these ingredients in the Cassiar-Iskut-Stikine area, not surprisingly, serves as a significant constraint to economic development.

Most of the electrical power in the plan area is provided by diesel generators (although, a small hydroelectric facility is under construction in Dease Lake.) Diesel-generated electricity is very expensive relative to power provided through the provincial electrical grid. The development of a wood processing facility and additional mines in the area may be constrained by the high cost of power.

Communication infrastructure is also an important factor in supporting economic development. A satellite earth station with wireless telephone and internet access is being installed in Telegraph Creek. A similar high-speed telecommunications system has also been installed in Dease Lake and is planned for Iskut. This communication technology should help overcome some of the barriers of carrying on business in a remote location. It may also help to make the area more attractive for settlement by outsiders.

Highway 37 is another important infrastructure component. The current condition of the highway (combination of asphalt, sealcoat and gravel surface) is considered a significant transportation impediment. Upgrading the highway would improve prospects for resource development, local manufacturing and rubber tire tourism (e.g., bus tours, RVs and automobile traffic).

Building capacity in the labour force, business skills and local services is another key requirement for economic development in the area. At present, education levels in the plan area are significantly lower than the provincial average. The proportion of the population over 15 years of age without high school graduation is 42 percent compared to an average of 34 percent in the province and the proportion with a completed post secondary degree is 11 percent compared to a provincial average of 33 percent.<sup>20</sup>

### **Opportunities**

- Improve transportation access
- Provide lower cost energy and power
- Increase utilization of new communication technologies
- Increase local hiring by major resource companies, government agencies and tourism operators
- Create and expand local businesses
- Provide access to training and skill development programs

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<sup>20</sup> BC Stats 1991 Census data.

- Improve quality of life in local communities
- Develop products based on unique wilderness features such as a working natural resources laboratory to provide students with applied training in ecosystem based management, test sites to develop best practices for mining, etc.

### ***Constraints***

- Poor transportation infrastructure
- High energy costs
- Expensive and unreliable telecommunication services
- Lack of available skilled workforce
- Lack of access to financial capital
- Lack of local services
- Lack of entrepreneurial skills
- Lack of local business services

### ***Goals***

- Infrastructure suitable to support a viable and diverse local economy
- Skilled local workforce and well established local business community
- Local communities with a diverse range of services and a high quality of life

### ***Recommended Strategies***

- Improve infrastructure (transportation, electricity, communication)
- Develop a local training strategy
- Support local business development
- Maintain and improve quality of life

### ***Action Plans***

#### **Strategy 1: Improve infrastructure**

- Actions:**
- Promote Highway 37 upgrade
  - Encourage development of alternative, cost effective power sources (e.g., small scale hydroelectric, extension of the provincial electrical grid, etc.)
  - Support continued upgrades and improvements to the local communications infrastructure
  - Encourage major resource development companies to contribute to a local infrastructure legacy fund
- Outcomes:**
- Improved transportation, power and communications infrastructure

**Strategy 2:** Develop a local training and employment strategy

- Actions:**
- Identify future labour force needs
  - Conduct a training needs assessment to determine skill levels, career inclinations and training needs of the local population
  - Identify training priorities and provide access to suitable training programs including:
    - ⇒ Northern Forest Worker Program (Northern Lights College)
    - ⇒ naturalist training for wilderness guides
    - ⇒ mining and mining exploration
  - Develop a library of information on available training in forestry, mining, construction and tourism
  - Determine barriers to local hiring by major employers and develop a strategy to overcome these barriers
  - Integrate the Tahltan Nation Development Corporation labour pool with other local sources of available skills and make available to potential employers
  - Implement training strategy
- Outcomes:**
- Skilled and qualified workforce

**Strategy 3:** Support local business development

- Actions:**
- Provide training in business skills and entrepreneurship
  - Identify sources of financial assistance for business
  - Make Crown land available for local business development
  - Develop and maintain a community economic development website
- Outcomes:**
- Improved environment for local business development

**Strategy 4:** Maintain and improve quality of life

- Actions:**
- Manage resources to preserve the quality of life in the area
  - Improve quality of local services (e.g., upgrade Dease Lake Health\_Centre and provide extended care facility)
  - Expand culturally and community compatible early childhood education program
  - Encourage development of local recreation facilities (recreation centre, community parks, gardens, etc.)
  - Undertake heritage restoration in Telegraph Creek
  - Make Crown land available to support local housing needs
- Outcomes:**
- Improved quality of life

## 12. Implementation and Monitoring

To ensure that the vision, goals and objectives of the economic strategy are met, it is essential that it be incorporated as part of the implementation and monitoring process for the LRMP. With this in mind, the LRMP table identified the following projects as priorities for implementation:

- establish a Tahltan/multi-stakeholder economic development round table to oversee implementation of the strategy
- develop a regional tourism strategy
- develop a community-based forestry strategy
- develop a commercial and recreational fishing strategy
- develop a Highway 37 North Corridor strategy
- develop a strategy for training and skill development.

### ***Tahltan/Multi-Stakeholder Economic Development Round Table***

#### **Description:**

At present there is not a local government body or other sponsoring organization in the plan area to assume responsibility for overseeing the implementation of the economic strategy. To address this gap, the LRMP table recommended that a Tahltan/multi-stakeholder economic development committee be established. The table also recommended that a part time economic development officer be hired to assist with the implementation of the strategy. The role of the economic development committee will be to:

- develop a vision for long term economic growth in the Cassiar-Iskut-Stikine
- hire an economic development officer to:
  - ⇒ prepare a detailed action plan for delivery of the economic strategy
  - ⇒ coordinate delivery of the programs and priorities in the economic strategy
  - ⇒ encourage enrollment of local population in training and skill development programs
  - ⇒ prepare an evaluation framework to assess progress and effectiveness of the economic strategy
  - ⇒ provide administrative support to the economic development committee
- communicate the goals and objectives of the economic strategy to local communities
- prepare strategies to promote economic development opportunities and investment in the area
- evaluate progress on the implementation of the economic strategy.

#### **Outcome:**

Effective delivery of the Cassiar-Iskut-Stikine Economic Development Strategy

#### **Potential Sponsoring Organization(s):**

Northern Development Commissioner, Ministry of Community Development, Volunteers.



**Timeline:**

March 31, 2001

***Regional Tourism Strategy***

**Description:**

Tourism is a key sector of the area's economy and offers significant potential for economic growth consistent with the principles outlined in the economic strategy. A regional tourism strategy will identify the tourism opportunities in the area and the success factors necessary to realize the opportunities. The strategy will be developed in consultation with local tourism operators and other interested community groups and will include the following components:

- biophysical capability analysis identifying the types and scale of activities that could be supported in the area
- suitability analysis to determine whether the necessary, skills, services and infrastructure are available to support the development and expansion of various tourism activities
- market analysis to determine demand and competition factors for tourism activities suited to the area
- identification of feasible tourism activities/projects
- action plans developed for each feasible activity/project.

**Outcome:**

A vision and action plan for developing viable tourism products.

**Potential Sponsoring Organization(s):**

Ministry of Small Business, Tourism and Culture, Tourism BC, BC Assets and Land Corporation, Non-government organizations, Foundations.

**Timeline:**

Strategy completed by December 2001.

## ***Community-Based Forestry Strategy***

### **Description:**

The timber harvesting land base is approximately 110,000 hectares or 2.2 percent of the plan area. At present there is no commercial harvesting; however there are several small, portable mills that occasionally supply lumber for local projects.

Given the small volume of timber in the area and the lack of demand for larger scale commercial harvesting, it makes sense to explore opportunities for developing a community-based forest sector aimed at harvesting timber to meet local demands and specialty wood markets.

The community-based forestry strategy will identify opportunities and steps for developing a locally based forest industry and will include the following components:

- an inventory of the timber species and volumes available in the timber harvesting land base
- an inventory of existing harvesting capacity (equipment, operators and workforce)
- training programs to improve community capacity to manage tenures and forest-related businesses and meet labour requirements
- an analysis of market opportunities
- a description of suitable tenure and licensing options
- identification of viable community forest opportunities
- strategies for achieving opportunities.

### **Outcome:**

An action plan for developing a viable, community-based forest industry.

### **Potential Sponsoring Organization(s):**

Ministry of Forests, Forest Renewal BC, Non-government organizations, Foundations.

### **Timeline:**

Strategy completed by March 2002.

## ***Commercial And Recreational Fishing Strategy***

### **Description:**

The Stikine River supports an important commercial fishery. As well, the salmon resources in the Stikine and its tributaries are a vital part of the Native food harvest. The plan area also offers outstanding recreational fishing potential in a spectacular wilderness setting.

The commercial and recreational fishing strategy will explore opportunities for increasing benefits from the fisheries resource in the area — both salmon and freshwater species. It will include the following components:

- assessment of the commercial fishery
  - ⇒ current situation
  - ⇒ strategies for conservation and enhancement of stocks and habitat
  - ⇒ opportunities for expansion (e.g., development of new drift fishing sites, increase the productive capacity of the Tuya River, etc)
- assessment of the recreational fishery
  - ⇒ determine current size of the sector
  - ⇒ inventory lakes and rivers to determine capability for recreational fishing (freshwater and salmon species)
  - ⇒ identify areas best suited for sports fishing
  - ⇒ identify commercially viable opportunities for sports fishing
- strategies for maintaining and enhancing fisheries stocks and habitats
- action plans for increasing the size of the commercial fishing sector and developing viable recreational fishing operations.

**Outcome:**

Action plans for increasing the size of the commercial salmon harvest and developing a viable recreational fishing sector.

**Potential Sponsoring Organization(s):**

Ministry of Fisheries, Department of Fisheries and Oceans, Fisheries Renewal BC.

**Timeline:**

March 2002.

## ***Highway 37 North Corridor Strategy***

### **Description:**

Highway 37 North traverses the Cassiar Iskut-Stikine LRMP area from south to north. It is the only ground access into and through the plan area. Highway 37 has been identified as a key component to promoting and enhancing economic development in the area.

Funding for ongoing maintenance and upgrading must be provided in order to ensure the economic and infrastructure potential for the LRMP area.

### **Strategy:**

- Confirm existing plans for upgrading of maintenance and infrastructure;
- Confirm a commitment to program funding for long term maintenance and development that will provide stability and improvement to Highway 37 North with the goal of achieving total upgrade within a 15 year time frame;
- Establish funding for the first 5 year maintenance and upgrading plan, sufficient to meet the objectives of the approved plan;
- Communicate programmed work plans to the various user groups locally, provincially, nationally, and internationally; and
- Promote and seek funding for the corridor as an inter-provincial/international transportation corridor vital to provincial interests.

### **Outcome:**

Within 15 years, provide for a safe, efficient, enjoyable, and well-maintained two-lane hard-surfaced transportation corridor. This outcome will be achieved in five-year segments, meeting existing design standards that will provide for maximum economic development opportunities in the plan area.

### **Potential sponsoring Organizations:**

Ministry of Transportation and Highways, Transportation Financing Authority, Ministry of Small Business, Tourism and Culture, Northern Development Commissioner, Tourism BC, North by Northwest Tourism, Chamber of Commerce, Regional District of Kitimat-Stikine, Tahltan Nation Development Corporation, maintenance contractors, BC Government Employees Union.

### **Timeline:**

Strategy completed by March 2002.

## ***Training and Skill Development Strategy***

### **Description:**

One of the key principles of the economic strategy is to provide jobs and business opportunities for local people. To ensure that new economic development initiatives provide these opportunities, an available skilled workforce is required. The lack of a skilled workforce and the lack of entrepreneurial skills were identified as constraints to economic development in for several of the sectors in the economic strategy. The training and skill development strategy is intended to overcome this constraint by determining future labour force needs related to the economic strategy and providing the appropriate programs and services to help address these needs. The strategy will include:

- an assessment of future labour force needs
- a training needs assessment to determine skill levels, career inclinations and training needs of the local population
- identification of training and skill development priorities and programs and resources to achieve priorities
- an action plan and timetable for delivery of training and skill development services
- an evaluation to determine the effectiveness of the training and skill development strategy.

### **Outcome:**

A locally available workforce with the labour market and entrepreneurial skills needed to achieve the goals in the economic strategy.

### **Potential Sponsoring Organization(s):**

Ministry of Social Development and Economic Security, Ministry of Community Development and Volunteers, Human Resources Development Canada.

### **Timeline:**

December 2002.

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## **Appendix 2: Terms of Reference for the Cassiar Iskut-Stikine LRMP Planning Process**

### **1. Introduction**

This document will guide the preparation of the Cassiar Iskut-Stikine Land and Resource Management Plan (LRMP). It establishes how the process will be carried out and what issues the plan will address. All participants must understand and accept the Terms of Reference before the planning process can proceed. These Terms of Reference are consistent with provincial policy on LRMPs.

### **2. Purpose of LRMP**

The Cassiar Iskut-Stikine LRMP will give an opportunity to interested groups and people, including government agency representatives, to negotiate recommendations on land use, and to submit these recommendations to the provincial government for approval.

The Cassiar Iskut-Stikine LRMP will provide strategic land and resource management direction for activities on Crown land and water within the planning area. The approved LRMP will represent the priorities of the provincial government, local communities and First Nations for the use and management of the plan area. The approved plan will therefore guide subsequent resource management activities on Crown land, including landscape unit planning and operational planning under the *Forest Practices Code*, and will be considered in project reviews under the *Environmental Assessment Act*.

### **3. Plan Area**

The LRMP will cover approximately five million hectares of Crown land, corresponding roughly to the watershed of the Stikine River (Figure 1). Other major rivers include the Iskut, Tahltan, Spatsizi, Klappan and Tuya rivers. For administrative reasons, the area also includes parts of the Unuk watershed in the Southwest. Communities inside or directly adjacent to the plan area include Telegraph Creek, Iskut and Dease Lake.

### **4. Provincial Legislation and Policy**

The provincial government has the legal obligation to manage and conserve natural resources on provincial Crown land. As such, all land use and resource management objectives and strategies must be consistent with provincial legislation and regulations, like the *Forest Practices Code*, for example. Also, provincial policies on land use must be considered, particularly:

- Land and Resource Management Planning: A Statement of Principles and Process;
- Protected Areas Strategy.

If existing policy becomes a barrier for participants to reach consensus in the LRMP, the opportunity will be provided to recommend change to policy.

## **5. Products**

The final plan will consist of a map showing resource management zones with different objectives for land use and resource management. For consistency with other planning processes, the LRMP will apply the following zoning categories: 1) Protected, 2) Special Management, 3) General Resource Management, 4) Enhanced Resource Development, 5) Settlement, 6) Agriculture (See Table 1).

Recommendations will be developed on the following:

- a vision of future land use and economic development for the plan area;
- social, economic and environmental objectives and strategies for the entire plan area;
- resource management objectives for each zone and strategies for achieving the objectives;
- social, economic and environmental impacts of the plan;
- recommendations on implementation, monitoring and review of the identified strategies; and
- recommendations for research, policy change and priorities for more detailed planning.

Once Cabinet approves in principle the recommendations, a Plan will be prepared for final Cabinet approval.

## **6. Time Frame For Completion**

A target of April 1999 has been established for completing the LRMP after it officially begins. This time frame attempts to address the following points:

- government's desire to have an efficient process that produces timely results; and
- participants' concerns about the amount of personal time required to participate in the process.

Experience from other processes shows that deadlines are useful tools to focus discussions and encourage progress on difficult issues. If significant progress has been made, or if the process is nearing completion, the LRMP Table may request an extension to allow further work on text or detail.

**Table 1: Resource Management Zones in LRMPs**

<b>Resource Management Zone</b>	<b>Purpose</b>
<b>Protected</b>	Protect natural, cultural, and/or recreational values. Timber harvesting, exploration and mining and hydro projects are not permitted.
<b>Special Management</b>	Maintain or enhance specified resource values; for example scenery, recreation, wildlife habitat. Special restrictions will apply on proposed resource developments to conserve the specified values.
<b>General Resource Management</b>	Full range of resource uses is acceptable subject to existing requirements of <i>Forest Practices Code</i> and other legislation and policies.
<b>Enhanced Resource Development</b>	Areas where investments such as intensive silviculture or infrastructure development are appropriate to enhance economic development. Activities in this zone are also subject to existing requirements of <i>Forest Practices Code</i> and other legislation and policies.
<b>Settlement</b>	Areas required for existing and future residential and commercial development of communities
<b>Agriculture</b>	Agriculture is the primary use.

## **7. Public Participation and Planning Organization**

### **7.1 Objectives**

The planning process should reflect the needs of all interested people and groups, and should be consistent with principles of fair process. In keeping with this, the following objectives will guide the public participation process:

- anyone directly affected by the outcome or interested in the plan must have the opportunity to participate including members of the public, First Nations, local government and provincial agencies;
- because consequences of land use and resource management decisions are most directly felt by local residents, the process should be designed to address local needs;
- decisions in LRMPs are without prejudice to land claim negotiations and constitutionally protected aboriginal rights;
- the LRMP is a consensus-based process. The definition for consensus is described in the Ground Rules developed by the planning Table;
- participants, including the public, aboriginal groups and government agencies must reach agreement on the objectives and methods of public participation at the start of the LRMP. Agreement will be sought on:



1. Terms of Reference;
2. Ground Rules (conduct of Table members, representation at the Table, establishment of the Working Group, procedures for scheduling meetings, developing agendas, meeting summaries, criteria for allowing new Table members, etc.); and
3. Work Plan (detailed schedule for completion of major planning tasks).

## **7.2 Public Participation Approach**

A Table with government and non-government members representing a wide range of social, economic and environmental interests will develop recommendations on land use and resource management (Figure 2).

People who are not Table members may become involved by observing or making presentations to the Table, and reviewing and commenting on the progress of the LRMP through newsletters and open houses. This will give people, who do not have the time or resources to participate directly, a chance to express their views. Also, this will provide a way to determine whether the solutions being proposed by the Table address the interests of the general public.

### **7.2.1 Planning Table**

The Table will hold a series of workshops to identify issues and develop recommendations for government. The following principles will guide the Table:

- the Table is open for participation by all interested parties, including government agencies;
- participants must commit to work co-operatively and in good faith with other members;
- participants must confirm their involvement at the beginning of the process and agree to abide by the “Ground Rules”;
- procedures for accepting new members to the Table are outlined in section 5.5 of the “Ground Rules”;
- financial assistance will be available for participants who would otherwise be unable to participate (procedures are outlined in the “Ground Rules”);
- professional, neutral facilitation will be available;
- decisions will be made by consensus; and
- to promote efficiencies of smaller groups, the Table may form committees to complete tasks and make recommendations to the Table on specific issues. Procedures for establishing committees are outlined in the “Ground Rules”.

## **7.3 First Nations**

First Nations are recognized as an order of government, and their active participation is encouraged to ensure land use planning decisions are sensitive to aboriginal interests. It is also recognized that First Nations have a special interest in land use planning because of future treaties, the existence of constitutionally protected aboriginal rights, not to mention the long history of occupancy and use of land and resources within the plan area.

### *7.3.1 Tahltan*

Traditional territory of the Tahltan First Nation encompasses the majority of the plan area. A separate document will be prepared to outline Tahltan participation in the Cassiar Iskut-Stikine LRMP. The approach will respect Tahltan desires to build community consensus on land and resource management planning .

### *7.3.2 Other First Nations*

Other First Nations claim traditional territory either directly adjacent to or partly within the LRMP area. This includes members of the Kaska, Tlingit and Nisga'a nations. Interest by these nations will be respected in the following ways:

- First Nations will be welcome as participants or observers at the Table;
- meeting summaries and newsletters on the LRMP process will be sent to these First Nations;
- formal opportunities will be provided throughout the process to bring interests and information to the attention of the Table; and
- a formal opportunity will be provided to comment on the package of recommendations developed by the Table for the Table's and government's consideration before the plan is submitted for approval.

## **7.4 Local Government (Municipal, Regional District)**

Local governments are recognized as an order of government and their participation is encouraged to ensure land use decisions are sensitive to community interests. Participation will be guided by the *Policy for Local Government Involvement in Land and Resource Management Plans*. In addition to Table membership, local governments will be given formal opportunity to review and comment at key stages of the LRMP process. Also, technical staff from the Regional District of Kitimat-Stikine will be given the opportunity to participate on the Technical Support Team.

## **7.5 Provincial Government**

This section summarizes the roles of provincial government staff who will be involved in the LRMP process.

### *7.5.1 Process Coordinator*

The Process Coordinator will provide leadership and support on procedural items to facilitate effective discussion of land use issues at the Table. The coordinator reports to the Inter-agency Management Committee and has no direct responsibilities to any one agency.

The Process Coordinator is also responsible for preparing and implementing a communications plan for the LRMP so the general public can receive information and give input to the planning process. Finally, the Process Coordinator will coordinate the work of the Technical Support Team to ensure technical input and support are provided to the Table as needed.

The coordinator will receive assistance from agency staff for logistical tasks such as distributing information, providing meeting summaries, etc. Private contractors may be hired to provide expertise in facilitation and meeting management, or provide other expertise that may be required to support the Table. Finally, staff with process management experience may be called on to provide advice and assistance.

#### *7.5.2 Government Table Members*

Representatives from the following provincial government agencies should participate as Table members:

- BC Energy and Minerals
- BC Environment
- BC Forest Service
- BC Parks
- BC Tourism

The Inter-agency Management Committee will make every effort to ensure that all of these agencies participate as full Table members.

The role of agency representative will be to:

- provide agency information necessary for the planning process
- provide technical expertise
- provide the Table with support on provincial legislation and policy
- as future implementors of the plan, ensure planning recommendations can realistically be carried out.

Representatives from other agencies will be involved on an as-needed basis to provide information on their interests and mandates for the Table's consideration.

#### *7.5.3 Technical Support Team*

Under the direction of the Process Coordinator, the Inter-agency Management Committee will establish a Technical Support Team consisting of agency Table members and technical specialists. The Technical Support Team will provide technical advice, conduct analysis and develop map products for the Table.

#### *7.5.4 Inter-agency Management Committee*

This committee consists of senior regional managers of government agencies with land or resource management responsibilities. The committee is responsible for setting priorities and implementing land use planning in north-western BC. For the Cassiar Iskut-Stikine LRMP, the role of the committee will be to:

- establish the planning area boundary
- approve the Terms of Reference

- ensure resources are available to complete the process
- maintain communication and consultation with the Table through the Process Coordinator and government Table members
- participate in the approval process (see Section 8.).

#### *7.5.5 Land Use Coordination Office*

With respect to the Cassiar Iskut-Stikine LRMP, this agency has the following roles:

- develop provincial land use policies which must be considered by the Table, the Protected Areas Strategy for example
- coordinate the approval process at the senior government level
- ensure adequate resources are in place to support the process, including preparation of the final Plan after Cabinet approval-in-principle of the Table's recommendations.

### **8. Decision Making**

#### *8.1 Table Recommendations*

At the Table, a final package of recommendations will be developed by consensus. The definition of consensus adopted by the Table is outlined in Section 3 of the "Ground Rules."

If consensus cannot be reached, the Table will follow the dispute resolution process outlined in the Ground Rules. If consensus is still not reached, the Table will submit options to the Inter-agency Management Committee, who will add its comments before submitting the options to the next level for decision.

#### *8.2 Approval Process*

The Table will submit its final package of consensus recommendations to the provincial government. Cabinet Ministers have final approval responsibility for the Cassiar Iskut-Stikine LRMP.

Before submission to the Cabinet Ministers, the Inter-agency Management Committee and Assistant Deputy Ministers/Deputy Ministers will review the recommendations, and add their comments

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## Appendix 3: Participants at the LRMP Planning Table (May 2000)

Name	Group/Organisation
Aliya & Ariana Jacob	Lower Stikine Independent Fisheries Association
Calvin Quock	Tahltan Representative, Iskut Band Council
Dan Pakula	Riversong Cafe, Telegraph Creek
Eric Havard	Bob Quinn
Fred Oliemans	Ministry of Forests
Geoff Phillips	Terrace resident
Gerrit Apperloo	Dease Lake resident, Highways
Gil Arnold/Ann Jacob	Friends of the Stikine
Glenda Ferris	Tahltan co-ordinator
James Bourquin	Iskut
John Plummer	Smithers/Telegraph Creek
Mary Lou Malott	Ministry of Energy and Mines
Mitch Cunningham	Red Goat Lodge
Norm MacLean	BC Environment
Norman Day	Tahltan LRMP Community Rep., Telegraph Creek
Peter Levy	BC Parks
Ray Collingwood	Spatsizi Wilderness Vacations
Richard Klocker	Agriculture/Rancher & tourism, Iskut
Rob Saunders	BC Wildlife Federation, Smithers/Topley
Rosemary Fox	Smithers
Sally Havard	Tahltan LRMP Community Rep., Iskut
Stan Tomandl	Lower Stikine Independent Fisheries Association
Steve Quigley	Arctic Divide Inn, Dease Lake Chamber of Commerce
Marlin Murphy	Homestake Canada
Wayne McLeod	Dease Lake

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## **Appendix 4: Detailed List of Interests Developed by Members of the LRMP Planning Table**

### ***Access***

- Manage for motorized and non-motorized access
- Control access as appropriate to manage for wildlife
- Manage the use of ATVs to avoid destruction of sensitive habitats
- Maintain strategic access routes to prevent a proliferation of road development

### ***Agriculture***

- Preserve high capability agricultural lands
- Develop a commercially viable agriculture industry
- Encourage the development of a critical mass of agricultural producers to facilitate commercial and farm service support
- Provide locally grown produce to local communities at farm gate prices

### ***Botanical Forest Products***

- Recognize the economic potential of mushroom picking
- Preserve mushroom growing sites
- Provide access to mushroom growing sites
- Maintain opportunities for wild berry picking
- Maintain opportunities for harvesting medicinal plants

### ***Community***

- Maintain quality of life
- Maintain historical and traditional lifestyles
- Maintain and further develop a sense of identity and place
- Preserve unique cultural and community values
- Create jobs and business opportunities for local people
- Provide opportunities for youth, including jobs
- Recognize the interests of future generations
- Plan for growth and identify suitable settlement areas
- Preserve public access to the land
- Maintain wilderness quality

### ***Economic***

- Diversify and stabilize the economy
- Maintain access to natural resources (minerals, tourism, timber, recreation, fish, wildlife)
- Promote local employment and business opportunities

### ***Ecosystems/Biodiversity***

- Maintain ecological integrity (i.e., structural and functional processes)
- Maintain biodiversity at all levels (ecosection, landscape and stand)
- Manage key ecosystem features at landscape level (e.g., river corridors and ecosystem networks)
- Maintain large mammal predator-prey ecosystems
- Maintain ecological diversity and key habitats (movement corridors, unique plant communities)
- Preserve key ecosystems (rare plant communities, wetland and riparian areas, critical habitat, movement corridors)
- Apply knowledge and experience to improve environmental management (i.e., adaptive environmental management)

### ***First Nations Culture/Heritage***

- Maintain health of land to preserve way of life
- Protect heritage values (villages, legend sites, trails, burial sites, campsites, etc.)
- Preserve sustenance activities (fishing, trapping, hunting, gathering)
- Preserve spiritual values
- Maintain traditional lifestyles
- Preserve Aboriginal fishery (including fishing and drying sites)

### ***Fisheries***

- Maintain aquatic ecosystems
- Protect spawning and rearing habitat and migratory routes
- Maintain viable wild fish stocks and enhance habitat
- Manage the fishery as a sustainable resource
- Maintain and enhance commercial fishing opportunities
- Maintain and enhance sport fishing opportunities (anadromous and freshwater species)

### ***Forestry***

- Provide long term employment and economic benefits
- Provide access to high value timber stands
- Optimize timber values while minimizing impact on other resource values
- Promote locally based forestry opportunities

### ***Guide-outfitting/Wilderness guiding***

- Maintain wilderness values
- Maintain fish and wildlife populations
- Manage for sustainable ecosystems
- Preserve visual quality
- Maintain tenures
- Maintain traditional lifestyles

### ***Livestock and Grazing***

- Maintain access to grazing areas

### ***Mining***

- Recognize significance of mineral values in the area
- Recognize the hidden nature of the resource
- Provide long term employment and economic benefits
- Maintain access opportunities for exploration and development
- Maintain mineral tenure
- Recognize the evolving nature of mining technology and geoscience
- Provide clear management direction (certainty on zoning)
- Provide opportunities for recreational mining (placer, gold panning)
- Maintain access to gravel and quarry sites
- Recognize energy potential (coal, geothermal and hydroelectric)

### ***Pioneer Culture/Heritage***

- Preserve historic sites, trails, transportation routes, settlement areas



### ***Protected Areas***

- Protect representative ecosystems, habitats, hydrology and landforms
- Protect sensitive ecosystems (rare plant communities, endangered species habitat, highly productive habitat)
- Protect significant cultural, recreation and natural features
- Manage use of Protected Areas to provide recreation opportunities with minimal disturbance of natural and cultural features

### ***Recreation***

- Recognize significance of recreation potential in the area
- Maintain semi-primitive wilderness experience (wilderness features, natural features, wilderness lakes and rivers, hot springs, visual quality)
- Maintain spiritual quality (opportunity to commune with nature)
- Minimize conflict between recreation activities
- Maintain opportunities for local recreation use
- Maintain float plane access to lakes

### ***Tourism***

- Encourage locally based, sustainable tourism
- Maintain viability of existing tourism businesses
- Promote sustainable tourism and minimize environmental impacts
- Manage the area for a range of tourism activities (canoeing, kayaking, river rafting, jet boating, hiking, mountaineering, backcountry skiing, heliskiing, snowmobiling hunting, fishing, wildlife viewing, cultural heritage)
- Maintain and improve transportation access (e.g., Highway 37)
- Maintain visual quality along highway and river corridors

### ***Trapping***

- Maintain fur-bearer populations
- Preserve key fur-bearer habitats (riparian, old growth and sub-alpine)
- Provide security of tenure
- Maintain traditional lifestyles

### ***Water***

- Maintain water quality
- Maintain water flow regimes
- Maintain intact watersheds
- Maintain free-flowing rivers

### ***Wildlife***

- Manage habitat to support healthy populations
- Manage development and access to conserve wildlife values
- Maintain functional predator/prey system
- Maintain biodiversity through functional ecosystems
- Maintain habitat linkages with areas outside the plan area
- Minimize wildlife impacts associated with increased human use (recreation, mining, logging, etc.)
- Encourage habitat enhancement consistent with natural disturbance patterns
- Manage game animals and furbearers as a sustainable, renewable resource

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## Appendix 5: Policy Recommendations

### 1. Objectives and strategies for consideration as higher level plans

The LRMP objectives and strategies listed in the following Table are recommended for establishment as higher level plans under the *Forest Practices Code of British Columbia Act*. The Table recognizes that the selection, drafting and establishment of higher level plans is a technical exercise by agency staff in Victoria based on standard criteria. However, there is some management direction in the LRMP that is fundamental to the Consensus Recommendations Package and the Table would like Government to be aware that these should be considered for establishment as higher level plans. This is particularly important for key strategies in the document that might not otherwise be considered.

The following criteria were used to determine whether an objective or strategy should be recommended for consideration as a higher level plan:

- The direction applies to forestry-related activities (this includes the approval of roads outside of mineral tenures for the purposes of mining activity).
- The direction is incremental to existing policy. This is important because if the objective or strategy does not become a higher level plan, existing policy could prevail e.g., seral stage distribution, riparian best management.
- The direction is not already addressed through existing legislation and regulations.
- There are no disadvantages in the long term by entrenching the direction in law i.e., by reducing operational flexibility.
- There is an extremely low likelihood that the strategy will have to be changed later on e.g., as a result of research or new information (changing a higher level plan based on an LRMP requires signing by three ministers – it is a big deal).

The planning table recommends that the objectives and strategies listed in the following table under General Management Direction: Access Management be established as applicable higher level plans that apply to special use permits for the purposes of mineral access.

The following objectives and strategies are recommended for consideration as higher level plans:

<b>Section of the Recommended Management Direction</b>	<b>Objective/ Strategy</b>
<b>General Management Direction</b>	
Access Management	Objs 1 and 4: Access Mgmt.
	S2.1, Access Mgmt: Do not create circle routes.
	Obj 1: Plateaus: Minimize impacts of access on plateaus.
	S 5.3: Access Mgmt: Only use methods other than herbicides in vegetation management along road rights-of-way.
	Obj 6, Endangered Plants and Animals: Minimize roaded access to known bull trout congregation areas.
	S 6.4, Wildlife: Minimize roads near natal areas for mtn ungulates
	S 5.3 and 7.3 – Minimize impacts of access on mapped caribou and mtn ungulate winter range.
	Obj 4/ S 4.1, Rec/Tourism: Minimize impacts of access on the natural character of high value recreation features.
Aquatic/ Riparian	S 5.1: Best management practices for riparian areas.
	S 5.2: Increase riparian buffers over S 5.1, where needed.
Endangered plants and animals	S 1.2/1.3 – Minimize impacts to endangered plants and animals.
	S 3.1: Address fisher habitat during more detailed planning.
	S 4.4 and S 4.5: Raptors.
	S 5.2: Trumpeter swans.
	Obj 6: Maintain habitat conditions in known bull trout streams.
Natural disturbance patterns	S 1.1 – 1.4: Seral stage and patch size distribution.
	S 2.2: Wildlife tree retention.
	S 2.7: Identify and do not harvest rare forest stand types.

<b>Section of the Recommended Management Direction</b>	<b>Objective/ Strategy</b>
Plateaus	S 2.1: Provide areas of continuous mature and old forest linking plateaus and mountain ranges.
Wildlife	S 3.4: Moose winter range, S 4.2: caribou, S 6.6: Sheep and goats, S 6.3: Grizzly.
	Objs 3, 4, 5, 7, 8: Various objectives for wildlife
	S 6.2: Minimize activities in or near to known natal areas for mtn ungulates.
	S 8.2: Maintain old forests and fire-related mosaics in high value grizzly habitat.
	S 11.3: Marten.
Botanical Forest Products	Obj 1/ S 1.1: Integrate timber harvesting with pine mushroom growing period, where appropriate.
	S 4.2: Harvesting to minimize impacts to medicinal plants.
Cultural Heritage Resources	S 3.1: No harvesting within 100m to either side of mapped heritage trails.
Settlement/ Agriculture/ Range	S 6.1: Prohibit grazing of domestic sheep for silviculture.
Timber	S 1.7: Use non-chemical methods only for vegetation management.
	S 5.5: Do not use insecticides to treat forest pests.
Visual Quality	Overall objective – maintain visual quality within known scenic areas.
<b>Area-specific Management</b>	
Klappan	15 year deferral of commercial timber harvesting in the greater Klappan drainage.
	No logging in the Little Klappan.
Mt Edziza	Continue no commercial timber harvesting in the zone.
Kakkidi/Nuttlude/Mowdade	Maintain water quality and fisheries values, including values within Mt Edziza Park.
Middle Iskut	100 m no-harvest reserve on the Middle Iskut.

<b>Section of the Recommended Management Direction</b>	<b>Objective/ Strategy</b>
Lower Iskut	No commercial timber harvesting on the active floodplain.
Unuk	No commercial timber harvesting on the active floodplain.
	Strategies for timber harvesting in grizzly habitat, e.g., seral targets, connectivity.
Lower Stikine-Iskut	No commercial timber harvesting.
Chutine	No commercial timber harvesting on the active floodplain.
Various	Designate scenic areas to areas identified for visual management (McBride, Klappan, Iskut Lakes, Kakkidi/Mowdade, Middle Iskut, Lower Iskut, Unuk, Stikine-Iskut, Chutine, Tuya).

## 2. General policy recommendations

The following issues have been identified by Table members as potential constraints to meeting the Table's land use or economic interests. Because it is outside of the official mandate of the LRMP to make recommendations on these issues, they have been included as policy recommendations separate to the main body of the LRMP Recommendations package.

### **PROTECTED AREAS:**

#### **Stikine Grand Canyon PA:**

- Develop guidelines to manage impacts of helicopter use on mountain goats and public safety.

### **AREA-SPECIFIC MANAGEMENT:**

1. Recommend designating the Todaginzone, not including the Red Chris property, as a Wildlife Management Area (WMA), with the following conditions:
  - Mineral exploration and development and associated access continue to be recognized as appropriate activities.
  - Fully integrate the management of wildlife, mineral exploration, and mine development north of Todagin Creek. South of Todagin Creek, mineral exploration and mine development are acceptable activities, with maintenance of wildlife values as the primary consideration.
  - Current approval processes will continue i.e., there will still be a one-window approach to project approval with consultation between the Ministry of Energy and Mines and the ministry of Environment, Lands and Parks.
  - Add the Red Chris property to the Wildlife Management Area once mineral tenures lapse.

2. Recommend that permits for a road through Mount Edziza Provincial Park be issued in a timely manner in the event of mine development being approved in the Mount Edziza Resource Management Zone. For advanced mineral exploration e.g., bulk sampling, consider allowing roaded access through Mount Edziza Park where reasonable review determines that no practicable alternative exists. Any decision to put a road through the park should be accompanied by an appropriate public review process.

#### **GENERAL MANAGEMENT DIRECTION:**

- Provide additional resources for the Conservation Officer Service in the Cassiar to address poaching and illegal hunting and fishing.
- Encourage local government to carry out planning of pioneer heritage resources (including pursuing formal heritage designation) in consultation with local First Nations and non-aboriginal residents.
- Establish an advisory wildlife management board/committee consisting of First Nations, local residents, non-government groups (residents, BC Wildlife Federation, Guide Outfitters Association of BC, naturalist clubs, etc.) to review and provide input on the following:
  - ⇒ Monitoring and management of game species; and
  - ⇒ Annual review of wildlife regulations that pertain to the LRMP area.
- Promote effective fisheries management by coordinating management between regions and jurisdictions.
- Recommendation to the Department of Fisheries and Oceans to consider the needs of species and ecosystems dependent on salmon when managing the salmon resource.
- Make funding available to re-establish “orphaned” mining sites to productive end land use (this would be the responsibility of government).
- Provide adequate resources to allow timely and effective planning and management for Protected Areas.
- Establish management protocols between BC Parks and the Tahltan First Nation with respect to proposed protected areas and existing protected areas.
- Government documents relating to resource management and planning should be made available upon request, to government agents, citizens, and interest groups commissioned to undertake land use planning, implementation, and monitoring for the Cassiar/Iskut/Stikine LRMP area.
- Recommend that all levels of government make a concerted effort to involve and keep First Nations and the public informed of all management decisions. It is essential, due to the remoteness of northern communities in the plan area and general lack of conventional communication tools, that government provide detailed feedback of how local input into decision-making is incorporated into decisions. There is an ongoing need for accountability and transparency in resource management planning in northern communities, particularly where no local government offices are established that make public information regularly available.

- The remoteness of the area and distance from the regional Ministry of Energy and Mines office in Smithers creates challenges for local residents to access information on proposals for mineral exploration or mine development. Implement measures to ensure a similar level of access to public information in Dease Lake as in regional centers. Inform the local public of proposals for advanced mineral exploration and mine development (e.g., notices of work, mine development, mine closure, etc.) and provide opportunities for public review and input (e.g., through the Government Agents Office).

#### **ECONOMIC STRATEGIES:**

- Establish new forest tenures that emphasize the creation of local employment.
- Emphasize local business and employment opportunities in the award of forestry contracts.
- Emphasize local employment and business creation as criteria for awarding commercial recreation tenures.
- Include local employment and business creation as criteria for awarding commercial park use permits.
- Encourage setting of harvest levels to achieve an even flow supply of saw logs over the long term.
- Increase the capacity for local business development and employment related to the exploration and development industries.
- Encourage the processing of resources within the region.
- Encourage additional community services such as infrastructure and facilities which come from industry directly or through channeling of the taxation dollars paid by industry.
- Encourage additional employment and training opportunities in the mineral and energy sector.



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## **Appendix 6: Rare and Endangered Plant and Animal Species in the Cassiar Iskut-Stikine**

### **SECTION A: GENERAL INFORMATION**

#### **1. Rare and Endangered Plants and Animals – Conservation Data Centre (CDC) of British Columbia**

Accurate information on the rare elements of biodiversity is essential in order to manage and protect these entities.

In recognition of this fact, the Conservation Data Centre was established in 1991 as a joint project of the Ministry of Environment, the Nature Trust of BC, the Nature Conservancy of Canada and the Nature Conservancy (US). Initial funding came from a variety of sponsors including BC Parks, the BC Telephone Company, BC Hydro, Canadian Wildlife Service, Cariboo Lumber Manufacturers Association, UBC, the Council of Forest Industries, the Hamber Foundation and the Vancouver Foundation.

The Centre is now a permanent program of the Resource Inventory Branch of the Ministry of Environment. Our goal is to assist in preserving the biodiversity of the province by providing accurate information on rare species and plant associations.

#### **WHAT THE CDC DOES**

Staff specialists at the Conservation Data Centre, in cooperation with scientists and experts throughout the province, have identified BC's most vulnerable vertebrate animals, vascular plants and plant associations. Invertebrate animals, mosses and lichens are currently being identified. Each of these rare and endangered species and plant associations is assigned a global and provincial rarity rank according to an objective set of criteria established by The Nature Conservancy (US).

Once identified, these rare elements of biodiversity are 'tracked' in the CDC's computerized database, the Biological and Conservation Database (BCD). Information on their biology, conservation status, and the individual locations or 'occurrences' for each are systematically collected.

The CDC also compiles records on protected areas in the province such as National Parks, Provincial Parks, Ecological Reserves, Nature Trust Properties and Wildlife Management Areas. When an endangered species or plant association occurs within a protected area, the records are linked, so that it is possible to determine if this rare entity is in need of conservation action, or if it is already adequately protected.

The CDC also focuses on identifying areas where there are concentrations of rare species and/or communities. Once identified, these ecologically sensitive ‘sites’ can be used to assist in establishing land protection priorities for the province.

The staff specialists at the Conservation Data Centre, in cooperation with scientists and specialists throughout the province, have identified those vertebrate animals, vascular plants and plant associations in the province which have become most vulnerable. Each of these rare and endangered species and plant associations has been assigned a global and provincial rarity rank according to an objective set of criteria established by the Nature Conservancy of the United States, and a status on the provincial Red or Blue lists.

## **2. Global Rank Definitions**

The global rank reflects the conservation status of a species from a global (i.e. rangewide) perspective, characterizing the relative rarity or imperilment of the species.

For discussion of additional factors used in determining species status ranks (including overall range, population trends, threats, inherent fragility, and protection status) see: L. L. Master. 1991. Assessing threats and setting priorities for conservation. *Conservation Biology* 5:559-563.

### **BASIC GLOBAL RANKS**

#### **GX = Presumed Extinct**

Believed to be extinct throughout its range. Not located despite intensive searches and virtually no likelihood that it will be rediscovered.

#### **GH = Possibly Extinct**

Known only from historical occurrences. Still some hope of rediscovery.

#### **G1 = Critically Imperiled**

Critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction. Typically 5 or fewer occurrences or very few remaining individuals (<1,000).

#### **G2 = Imperiled**

Imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000).

#### **G3 = Vulnerable**

Vulnerable globally either because very rare and local throughout its range, found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extinction. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals

#### **G4 = Apparently Secure**

Uncommon but not rare, and usually widespread. Possibly cause for long-term concern. Typically more than 100 occurrences globally or more than 10,000 individuals.

**G5 = Secure**

Common, typically widespread and abundant.

**VARIANT GLOBAL RANKS**

**G#G# = Range Rank**

A numeric range rank (e.g., G2G3) is used to indicate uncertainty about the exact status of a taxon.

**GU = Unrankable**

Currently unrankable due to lack of available information about status or trends.

**G? = Unranked**

Global rank not yet assessed.

**HYB = Hybrid**

**RANK QUALIFIERS**

**? = Inexact numeric rank**

Denotes inexact numeric rank.

**Q = Questionable taxonomy**

Taxonomic status is questionable; numeric rank may change with taxonomy.

**C = Captive or cultivated only**

Taxon at present is extant only in captivity or cultivation, or as a reintroduced population not yet established.

**Z = Moving**

Occurs in the province, but as a diffuse, usually moving population; difficult or impossible to map static occurrences.

**INFRASPECIFIC TAXON RANKS**

**T = Intraspecific Taxon (trinomial)**

The status of infraspecific taxa (subspecies or varieties) are indicated by a “T-rank” following the species’ global rank. Rules for assigning T ranks follow the same principles outlined above. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1.

### **3. Provincial Rank Definitions**

The Provincial or Subnational Rank reflects the conservation status of a species from a local perspective, characterizing the relative rarity or imperilment of the species within the province of British Columbia.

For discussion of factors used in determining species rarity ranks, see: Harcombe, A., Bill Harper, Sydney Cannings, David Fraser and William T. Munro. 1994. Terms of endangerment. Pages 11-28 *in* Harding, Lee E. and Emily McCullum, eds. Biodiversity in British Columbia: our changing environment. Environ. Canada, Can. Wildl. Serv., Pacific and Yukon Region, Vancouver. 425 pp.

### **BASIC PROVINCIAL RANKS**

#### **SX = Presumed Extirpated**

Believed to be extirpated. Not located despite intensive searches and virtually no likelihood that it will be rediscovered.

#### **SH = Possibly Extirpated**

Known only from historical occurrences. Still some hope of rediscovery.

#### **S1 = Critically Imperiled**

Critically imperiled provincially because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction. Typically 5 or fewer occurrences or very few remaining individuals (<1,000).

#### **S2 = Imperiled**

Imperiled provincially because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000).

#### **S3 = Vulnerable**

Vulnerable provincially either because very rare and local throughout its range, found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extinction. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals

#### **S4 = Apparently Secure**

Uncommon but not rare, and usually widespread. Possibly cause for long-term concern. Typically more than 100 occurrences provincially or more than 10,000 individuals.

#### **S5 = Secure**

Common, typically widespread and abundant.

### **VARIANT PROVINCIAL RANKS**

#### **S#S# = Range Rank**

A numeric range rank (e.g., S2S3) is used to indicate uncertainty about the exact status of a taxon.

#### **SU = Unrankable**

Currently unrankable due to lack of available information about status or trends.

#### **S? = Unranked**

Provincial rank not yet assessed.

#### **HYB = Hybrid**

## **RANK QUALIFIERS**

### **? = Inexact numeric rank**

Denotes inexact numeric rank.

### **Q = Questionable taxonomy**

Taxonomic status is questionable; numeric rank may change with taxonomy.

### **C = Captive or cultivated only**

Taxon at present is extant only in captivity or cultivation, or as a reintroduced population not yet established.

### **B = Breeding**

The associated rank refers to breeding occurrences of mobile animals.

### **N = Non-breeding**

The associated rank refers to non-breeding occurrences of mobile animals.

### **Z = Moving**

Occurs in the province, but as a diffuse, usually moving population; difficult or impossible to map static occurrences.

## **INFRASPECIFIC TAXON RANKS**

**T = Intraspecific Taxon (trinomial)** The status of infraspecific taxa (subspecies or varieties) are indicated by a “T-rank” following the species’ provincial rank. Rules for assigning T ranks follow the same principles outlined above. For example, the provincial rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1.

## SECTION B: VERTEBRATE, PLANT, AND PLANT ASSOCIATION LISTS, 1998-9

### 1. VERTEBRATE LIST – November 1998

SCIENTIFIC NAME	COMMON NAME PROVINCIAL	GLOBAL RANK	PROVINCIAL RANK	LIST
<b>*** BIRDS</b>				
ASIO FLAMMEUS	SHORT-EARED OWL	G5	S2N,S3B	BLUE
BARTRAMIA LONGICAUDA	UPLAND SANDPIPER	G5	S1S3B,SZN	RED
CALCARIUS PICTUS	SMITH'S LONGSPUR	G5	S3?B	BLUE
CLANGULA HYEMALIS	OLDSQUAW	G5	S3?B,SZN	BLUE
CYGNUS BUCCINATOR	TRUMPETER SWAN	G4	S3S4B,S4N	BLUE
FALCO PEREGRINUS ANATUM	AMERICAN PEREGRINE FALCON	G4T3	S2B,SZN	RED
FALCO PEREGRINUS PEALEI	PEREGRINE FALCON, PEALEI SUBSPECIES	G4T3	S3B,SZN	BLUE
FALCO RUSTICOLUS	GYRFALCON	G5	S3?B,SZN	BLUE
HALIAEETUS LEUCOCEPHALUS YELLOW	BALD EAGLE	G4	S4	
HETEROSCELUS INCANUS	WANDERING TATTLER	G5	S3S4B,SZN	BLUE
LIMNODROMUS GRISEUS	SHORT-BILLED DOWITCHER	G5	S2S4B,SZN	BLUE
LIMOSA HAEMASTICA	HUDSONIAN GODWIT	G4	S2B,SZN	RED
PHALAROPUS LOBATUS	RED-NECKED PHALAROPE	G5	S3S4B,SZN	BLUE
PLUVIALIS DOMINICA	AMERICAN GOLDEN-PLOVER	G5	S3S4B,SZN	BLUE
<b>*** FRESHWATER FISH</b>				
COREGONUS NASUS	BROAD WHITEFISH	G5	S1S2	RED
COREGONUS SARDINELLA	LEAST CISCO	G5	S2	RED
SALVELINUS CONFLUENTUS	BULL TROUT	G3	S3	BLUE
<b>*** MAMMALS</b>				
GULO GULO LUSCUS	WOLVERINE, LUSCUS SUBSPECIES	G4T4	S3	BLUE
MARTES PENNANTI	FISHER	G5	S3	BLUE
OVIS DALLI DALLI	DALL'S SHEEP	G5T5	S2S3	BLUE
SOREX TUNDRENSIS	TUNDRA SHREW	G5	S2	RED
URSUS AMERICANUS EMMONSII	GLACIER BEAR	G5T3?	S3?	BLUE
URSUS ARCTOS	GRIZZLY BEAR	G4	S3	BLUE
ZAPUS HUDSONIUS ALASCENSIS	MEADOW JUMPING MOUSE, ALASCENSIS SUBSPECIES	G5T4T5	S3	BLUE

# Cassiar Iskut-Stikine LRMP: Rare and Endangered Plant and Animal Species

## 2. PLANT LIST - April 1999

SCIENTIFIC NAME	COMMON NAME PROVINCIAL	GLOBAL	PROVINCIAL	
		RANK	RANK	LIST
APHRAGMUS ESCHSCHOLTZIANUS	ESCHSCHOLTZ'S LITTLE NIGHTMARE	G3	S1?	BLUE
ARABIS LIGNIFERA	WOODY-BRANCHED ROCKCRESS	G5	S2S3	BLUE
ARCTOPHILA FULVA	PENDANT GRASS	G5	S1?	BLUE
ARENARIA LONGIPEDUNCULATA	LOW SANDWORT	G3Q	S1?	BLUE
ARTEMISIA ALASKANA	ALASKA SAGEBRUSH	G4	S1?	BLUE
ARTEMISIA FURCATA VAR HETEROPHYLLA	THREE-FORKED MUGWORT	G4T?	S1?	BLUE
ASTRAGALUS UMBELLATUS	TUNDRA MILK-VETCH	G4	S2S3	BLUE
CALLITRICHE HETEROPHYLLA SSP HETEROPHYLLA	TWO-EDGED WATER-STARWORT	G5T5	S2S3	BLUE
CAREX BICOLOR	TWO-COLOURED SEDGE	G5	S2S3	BLUE
CAREX KRAUSEI	KRAUSE'S SEDGE	G4	S1?	BLUE
CAREX MARITIMA	CURVED-SPIKED SEDGE	G4G5	S2S3	BLUE
CAREX MEMBRANACEA	FRAGILE SEDGE	G5	S2S3	BLUE
CAREX MISANDRA	SHORT-LEAVED SEDGE	G5	S2S3	BLUE
CAREX RUPESTRIS SSP RUPESTRIS	CURLY SEDGE	G5T?	S1?	BLUE
CAREX TENERA	SLENDER SEDGE	G5	S2S3	BLUE
CASTILLEJA HYPERBOREA	NORTHERN PAINTBRUSH	G4	S1?	BLUE
CHAMAERHODOS ERECTA SSP NUTTALLII	AMERICAN CHAMAERHODOS	G5T5	S2S3	BLUE
CHRYSOSPLENIUM WRIGHTII	GOLDEN CARPET	G5?	S1?	BLUE
CICUTA VIROSA	EUROPEAN WATER-HEMLOCK	G4G5	S1?	BLUE
CNIDIUM CNIDIIFOLIUM	HEMLOCK-PARSLEY	G5	S1?	BLUE
CORNUS SUECICA	DWARF BOG BUNCHBERRY	G5	S1?	BLUE
DESCURAINIA SOPHIOIDES	NORTHERN TANSYMUSTARD	G5	S1?	BLUE
DIAPENSIA LAPPONICA	DIAPENSIA	G5	S1?	BLUE
DOUGLASIA ALASKANA	ALASKAN FAIRY-CANDELABRA	G2G3	S1	RED
DOUGLASIA GORMANII	GORMAN'S DOUGLASIA	G3	S1?	BLUE
DRABA CINEREA	GRAY-LEAVED DRABA	G5	S2S3	BLUE
DRABA CORYMBOSA	BAFFIN'S BAY DRABA	G4G5	S2S3	BLUE
DRABA FLADNIZENSIS	AUSTRIAN DRABA	G4	S2S3	BLUE
DRABA GLABELLA VAR GLABELLA	SMOOTH DRABA	G4G5T4	S2S3	BLUE
DRABA LACTEA	MILKY DRABA	G4	S2S3	BLUE
DRABA LONCHOCARPA VAR THOMPSONII	LANCE-FRUITED DRABA	G4T?	S2S3	BLUE
DRABA PALANDERIANA	PALANDER'S DRABA	G4G5	S1?	BLUE
DRABA PORSILDII	PORSILD'S DRABA	G3G4	S1?	BLUE
DRABA RUAXES	COAST MOUNTAIN DRABA	G3	S2S3	BLUE
DRABA STENOPETALA	STAR-FLOWERED DRABA	G3	S1	RED
DRABA VENTOSA	WIND RIVER DRABA	G3	S1?	BLUE
EPILOBIUM DAVURICUM	SWAMP WILLOWHERB	G5	S1?	BLUE
EPILOBIUM HALLEANUM	HALL'S WILLOWHERB	G5	S2S3	BLUE
EPILOBIUM HORNEMANNII SSP BEHRINGIANUM	HORNEMANN'S WILLOWHERB	G5T4	S1?	BLUE
EPILOBIUM LEPTOCARPUM	SMALL-FLOWERED WILLOWHERB	G5	S2S3	BLUE
ERIGERON UNIFLORUS VAR ERIOCEPHALUS	NORTHERN DAISY	G5T4	S1?	BLUE
ERIOPHORUM VAGINATUM SSP SPISSUM	SHEATHED COTTON-GRASS	G5T5	S2S3	BLUE
ERYSIMUM PALLASII	PALLAS' WALLFLOWER	G4	S1?	BLUE
EUPHRASIA DISJUNCTA	ARCTIC EYEBRIGHT	G5	S2S3	BLUE
EUTREMA EDWARDSII	EDWARD'S WALLFLOWER	G4	S2S3	BLUE
FESTUCA MINUTIFLORA	LITTLE FESCUE	G5	S1?	BLUE
GENTIANELLA TENELLA SSP TENELLA	SLENDER GENTIAN	G4G5T4	S1?	BLUE
GEUM ROSSII	ROSS' AVENS	G5	S1?	BLUE
GLYCERIA PULCHELLA	SLENDER MANNAGRASS	G5	S2S3	BLUE
GYMNOCARPIUM JESSOENSE SSP PARVULUM	NAHANNI OAK FERN	G5T4	S1?	BLUE
HELICTOTRICHON HOOKERI	SPIKE OAT	G5	S2S3	BLUE
JUNCUS ALBESCENS	WHITISH RUSH	G5	S2S3	BLUE
JUNCUS ARCTICUS SSP ALASKANUS	ARCTIC RUSH	G5T?	S1?	BLUE
KOENIGIA ISLANDICA	ICELAND KOENIGIA	G4	S1?	BLUE
LESQUERELLA ARCTICA VAR ARCTICA	ARCTIC BLADDERPOD	G4T4	S2S3	BLUE
LOMATOGONIUM ROTATUM	MARSH FELWORT	G5	S1?	BLUE
LUPINUS KUSCHEI	YUKON LUPINE	G3	S2S3	BLUE
LUZULA ARCTICA	ARCTIC WOOD-RUSH	G5	S2S3	BLUE
LUZULA GROENLANDICA	GREENLAND WOOD-RUSH	G4	S1?	BLUE
MINUARTIA ELEGANS	NORTHERN SANDWORT	G4G5	S2S3	BLUE
MINUARTIA MACROCARPA	LARGE-FRUITED SANDWORT	G4	S1?	BLUE

### 3. PLANT ASSOCIATION LIST – April 1999

This list is incomplete, especially with respect to wetland, alpine, and grassland plant associations. Please note that the ranks below reflect the rarity of plant association occurrences that have not been disturbed by humans or domestic animals, and are in a natural or "climax" state. Some plant associations are often confused with more common successional plant associations (e.g. *Pseudotsuga menziesii* / *Gaultheria shallon*), or they may occur commonly in degraded conditions (e.g. *Elymus spicata* - *Koeleria macrantha*), but undisturbed occurrences are rare.

SCIENTIFIC NAME	COMMON NAME	BEC UNIT*	PROV RANK	PROV LIST
ABIES LASIOCARPA - PINUS CONTORTA / CLADONIA	SUBALPINE FIR - LODGEPOLE PINE / CLADONIA	ESSFwv/02	S3	BLUE
ABIES LASIOCARPA / JUNIPERUS / CLADONIA	SUBALPINE FIR / JUNIPER / LICHEN	ESSFmc/02	S3	BLUE
ABIES LASIOCARPA / VACCINIUM MEMBRANACEUM / EMPETRUM	SUBALPINE FIR / BLACK HUCKLEBERRY / CROWBERRY	ESSFmc/03	S3	BLUE
AMELANCHIER ALNIFOLIA / ELYMUS TRACHYCAULIS	SASKATOON / SLENDER WHEATGRASS	SBSdk/81	S2	RED
LUZULA PIPERI		AT	S2	RED
PICEA MARIANA / VACCINIUM MEMBRANACEUM / PETASITES	BLACK SPRUCE / BLACK HUCKLEBERRY / COLTSFOOT	SBPSmc/03 SBSmc2/03	S3	BLUE
PICEA SITCHENSIS - THUJA PLICATA / OPILOPANAX HORRIDUS	SITKA SPRUCE - WESTERN REDCEDAR / DEVIL'S CLUB	CWHwm/04	S3	BLUE
PICEA SITCHENSIS - TSUGA HETEROPHYLLA / GYMNOCARPIUM DRYOPTERIS	SITKA SPRUCE - WESTERN HEMLOCK / OAK FERN	CWHwm/03	S3	BLUE
PICEA SITCHENSIS - TSUGA MERTENSIANA / CALAMAGROSTIS NUTKAENSIS	SITKA SPRUCE - MOUNTAIN HEMLOCK / REED GRASS	MHwh1/03 MHwh2/03	S3	BLUE
PICEA SITCHENSIS / LYSICHITON AMERICANUM	SITKA SPRUCE / SKUNK CABBAGE	CWHwm/09	S3	BLUE
PICEA SITCHENSIS / RUBUS SPECTABILIS WET MARITIME	SITKA SPRUCE / SALMONBERRY WET MARITIME	CWHwm/05	S2	RED
PINUS CONTORTA / JUNIPERUS COMMUNIS / ORYZOPSIS ASPERIFOLIA	LODGEPOLE PINE / JUNIPER / RICEGRASS	SBSdk/02	S3	BLUE
POA RUPICOLA		AT SWB/00	S2	RED
POA SECUNDA - ELYMUS TRACHYCAULIS	BLUEGRASS - SLENDER WHEATGRASS	SBSdk/82	S1	RED
POPULUS BALSAMIFERA SSP. TRICHOCARPA / CORNUS STOLONIFERA	BLACK COTTONWOOD / RED-OSIER DOGWOOD	CWHvm1/10 CWHwm/06* CWHws1/08* CWHws2/08*	S3	BLUE
POPULUS BALSAMIFERA SSP. TRICHOCARPA / CORNUS STOLONIFERA - ROSA WOODSII	BLACK COTTONWOOD / RED-OSIER DOGWOOD - PRAIRIE ROSE	SBSdk/08	S2	RED
PSEUDOTSUGA MENZIESII / PLEUROZIUUM - HYLOCOMIUM	DOUGLAS-FIR / FEATHERMOSS - STEPMOSS	SBSdk/04	S3	BLUE
TSUGA HETEROPHYLLA - PICEA SITCHENSIS / HYLOCOMIUM SPLENDENS	WESTERN HEMLOCK - SITKA SPRUCE / STEP MOSS	CWHwm/02	S3	BLUE
TSUGA HETEROPHYLLA / SPHAGNUM GIRGENSOHNII	WESTERN HEMLOCK / SPHAGNUM	CWHwm/08	S3	BLUE



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## Appendix 7: Integrated Management for Grizzly Bears

The following is a summary of the direction provided in the Cassiar Iskut-Stikine LRMP to manage for grizzly bears and their habitat needs.

### Introduction

One of the outstanding features of the Cassiar Iskut-Stikine area is its abundance of wildlife. There are five distinct grizzly bear population units throughout the plan area. All of these population units are currently considered viable and the habitat suitability and capability is high. The grizzly are part of the intact predator-prey systems in the Lower Stikine and Spatsizi areas. Maintaining healthy grizzly bear populations and the functional integrity of predator-prey systems is one of the primary goals of the LRMP.

The planning table of the Cassiar Iskut-Stikine LRMP has developed an integrated strategy for the conservation and management of grizzly bear populations and their habitat. This management direction is in keeping with the intent of the provincial Grizzly Bear Conservation Strategy (GBCS) and reflects the balance of social, economic and biological considerations that comprise the LRMP Recommendations.

The overall goal of the LRMP grizzly strategy is the long-term viability of grizzly bear populations, with objectives and strategies directed primarily at conservation of habitat values. There are three approaches to grizzly habitat management in the LRMP Recommendations:

- a. *General Management Direction* (GMD) applies to all areas mapped as having moderate-to-high and high grizzly habitat values. General Management Direction focuses on site-specific management to maintain critical habitat features where they occur, as well as direction to minimize human-bear interactions and disruption of habitat use by bears.
- b. *Area-Specific Management* has been applied to areas with notably high grizzly values. Area-specific management is more detailed in its requirements and more constraining than GMD. Strategies tend to be area-based (by landscape unit) rather than site-specific. Examples of area-specific strategies include detailed mapping of critical habitat areas where first priority is maintaining and enhancing habitat attributes; maintaining targets for old seral retention; limiting the amount of early seral forest; and managing access and development to maximize the amount of contiguous undisturbed forest at any one time.
- c. *Protected Areas* in the LRMP provide large contiguous areas of habitat undisturbed by industrial development. The protected areas proposed by the LRMP Table build on existing parks to provide complete and substantial ecosystems with a range of habitats that support intact predator-prey systems.

The LRMP also recognizes the importance of salmon to the health of grizzly populations. The plan contains numerous objectives and strategies under General Management Direction and

Area-Specific Management that direct no net loss of fish habitat and the maintenance of the structure and function of aquatic and riparian habitat.

### ***Specific Areas of Grizzly Management***

The Table has identified two main areas of focus for management of grizzly bears. These areas were selected because they contain large areas of contiguous high habitat values as identified through biophysical mapping and local knowledge, linkages to habitat/populations adjacent to the plan area, and low levels of roaded access. These areas are described below. All grizzly bear populations in the CIS LRMP area are currently classed as viable and the habitat suitability is generally considered high.

#### **1. Lower Iskut-Stikine area (including the Chutine and Unuk watersheds)**

This area includes the Chutine watershed, the Lower Stikine valley from the Chutine confluence to the border with Alaska, the Lower Iskut valley to Forrest-Kerr canyon, the Craig and Jekill River watersheds, and the Unuk River south of Sulphurets Creek. This overall area is recognized as provincially significant habitat for coastal grizzly bears and has been identified by the Ministry of Environment, Lands, and Parks as being the highest priority for management for grizzly in the Cassiar Iskut-Stikine LRMP. The watersheds have high biodiversity values associated with coastal valley bottom ecosystems. Fisheries values are very high, providing a vital food source for bear populations.

Other resource values are high in this area. The Lower Iskut and Unuk are two of the most highly mineralized areas in the province and there is a high level of mineral exploration and development potential throughout. In recognition of the high resource and wildlife habitat values in the area, the LRMP Table has recommended management that allows varying degrees of resource development activity, while specifying a number of strategies to maintain habitat values and minimize impacts to grizzly.

#### ***Lower Iskut-Stikine Coastal Grizzly/Salmon Management Area (incl the Craig and Jekill Rivers)***

In recognition of its notably high habitat values for grizzly and salmon, the entire Lower Iskut-Stikine area, including the Stikine River valley south of the Chutine confluence and the Lower Iskut River, has been identified as a Grizzly/Salmon Management zone. Commercial timber harvesting will not occur in this zone.

Management strategies for grizzly in the Lower Iskut-Stikine zone emphasize mapping and maintaining critical habitat features in the event of mineral development, access management to minimize impacts to wildlife, and monitoring hunting and recreational activities to assess impacts to grizzly populations and to take measures, where necessary, to mitigate problems.

Fisheries values are very high in this zone. All activities in the zone are to be carried out so that there is no net loss of fish habitat, with particular emphasis on sensitive habitats, such as wetland complexes and confluence areas.

### *Craig Headwaters Protected Area*

Because of its high grizzly and salmon values, the upper headwaters of the Craig River have been recommended as a protected area. Access is only permitted through this area if no practicable option exists and must be undertaken to minimize impacts on streams and wildlife values.

### *Unuk River*

This area is adjacent to Misty Fjords National Monument in Alaska. The LRMP Table has proposed a protected area from Alaska to Border Lake in recognition of the high fisheries and wildlife values.

Outside of the protected area, commercial timber harvesting and mineral exploration and development are permitted in the Unuk River zone, south of Sulphurets Creek. The management direction includes numerous strategies to maintain the functional integrity of high value grizzly habitat and to minimize disruption of bears. These include strategies to maintain site-specific habitat features as well as area-based strategies to maintain contiguous areas of high value grizzly habitat and linkages with habitat in adjacent areas. Strategies for access management are to minimize road density, manage public access, and to minimize impacts on key fish and grizzly habitat. There is to be no logging on the active floodplain of the Unuk River.

### *Chutine*

The forestry values in the Chutine zone are low, with only enough merchantable timber to allow harvesting to meet local needs. With its close proximity to Telegraph Creek and the high recreational values associated with Chutine River and Chutine Lake, most impacts to grizzly are likely to occur through human-bear interaction rather than through habitat loss. Strategies for the Chutine zone emphasize managing access and levels of recreational use, as needed, to minimize impacts to grizzly and other wildlife. There is to be no logging on the active floodplain of the Chutine River.

## **2. Spatsizi – Pitman area**

The northeastern portion of the LRMP has high value habitat for interior grizzly. Management for grizzly habitat in this area is provided through a combination of area-specific and protected areas.

### *Spatsizi Park, including recommended protected areas for the Pitman and Chukachida Rivers*

Spatsizi Plateau Wilderness Park, including Gladys Lake Ecological Reserve, is 705,345 ha in size and includes portions of Spatsizi Plateau and the Skeena Mountains. The park includes high capability habitat for a number of wildlife species, including grizzly, and supports the Spatsizi predator-prey system. The LRMP Table has recommended that park boundary be extended to include the Stikine River valley and the Pitman and Chukachida Rivers. Both the Pitman and the Chukachida provide important connectivity corridors for wildlife species comprising the predator-prey system up the rivers and their tributaries and into areas adjacent to the LRMP. As

protected areas, there will be no logging or mining in these areas. There are provisions for access across the Pitman and Chukachida Rivers where necessary to access mineral claims.

#### *Hottah-Tucho Lakes*

The Hottah-Tucho zone, northeast of Spatsizi park, has a wetter climate than surrounding areas, providing lush vegetation suited to the grizzly. The wildlife in the Hottah-Tucho zone are part of the predator-prey system for Spatsizi Plateau. The area provides connectivity from Spatsizi Park to protected areas and special management zones in the Fort Nelson and Mackenzie LRMPs.

The Hottah-Tucho zone is remote and undeveloped, having low values for timber and moderate potential for mineral development. Management direction for grizzly bears emphasizes maintaining critical habitat features for interior grizzly and planning new access to minimize impacts to wildlife.

#### *Other areas in the LRMP having high habitat values for grizzly*

The following areas have also been identified as having high habitat values for grizzly. The LRMP Table has not made specific recommendations for grizzly management in these areas. However, strategies in the General Management Direction and Area-Specific Management will contribute to the conservation of habitat values.

#### *Bob Quinn – Middle Iskut*

The habitat values in this area represent a transition from coastal to interior conditions. Timber harvesting has already occurred in this area. The road density is moderate. The projected short-term impacts from forestry and mining are moderate to high relative to other areas of the CIS LRMP.

There are two management zones in the Bob-Quinn-Middle Iskut area: GMD and the Middle Iskut RMZ. Management for grizzly bears in the Bob Quinn area is as per General Management Direction, with provisions to minimize disturbance of critical habitat features and to prevent human-bear interactions. The Middle Iskut RMZ has enhanced riparian management, with an extended riparian reserve zone on both sides of the Iskut River that encompasses wetland complexes and important habitat features. The zone also contains a strategy to restrict public access west of the Iskut River to minimize impacts to grizzly.

#### *Klappan*

The Klappan provides low elevation winter habitat for ungulates and grizzly in the Spatsizi predator-prey system.

There will be no timber harvesting in the Little Klappan watershed. Timber harvesting has been postponed in the greater Klappan watershed for 15 years. One of the objectives of the Klappan RMZ is to maintain functional habitat for wildlife species in the Spatsizi predator-prey system, including grizzly. The Table has recommended that, during the 15 year deferral period, inventories be conducted of wildlife habitat and populations in the predator-prey system, including grizzly, to provide a baseline of information for long-term management.

### ***Grizzly Research Areas***

The following two areas have been recommended as research areas for to study population ecology and habitat for grizzly bears (see Map 17). The research in these areas will provide information to allow updating of management approaches to allow effective management of resources in the plan area. The Grizzly Research Areas approximate, but are not the same as, the Area-Specific Resource Management Zones described under Specific Areas of Grizzly Management.

- A. Coastal Grizzly-Salmon Research Area**, including the Chutine, Lower Stikine, Lower Iskut, and Unuk areas to the extent of the salmon runs. Priorities for research in the Coastal Grizzly Salmon Research Area will be:
  - Grizzly-salmon interaction and impacts on bear ecology; and
  - Recruitment and cub survival.
  
- B. Interior Boreal Grizzly Research Area**, including the Hottah-Tucho Lakes area and the Pitman. Research in the Interior Boreal Grizzly Research Area will include:
  - a study of predator-prey interactions and impacts on bear ecology and ecosystem health; and
  - an inventory of critical patch habitats for interior grizzly species.

## Appendix 8: Direction to maintain natural disturbance patterns as per Section 2.3.2.5 in the Recommended Management Direction

Section 2.3.2.5 of the Recommended Management Direction provides strategies for maintaining natural disturbance patterns across the landbase during forestry activities as per the direction in the Landscape Unit Planning Guide. The following tables provide targets for meeting seral stage distribution, patch size distribution, and wildlife tree retention. The targets for seral stage distribution and patch size distribution are described for each Natural Disturbance Type in the plan area.

### Seral stage distributions and patch size distributions by Natural Disturbance Type

#### A. Natural Disturbance Type 1: ecosystems with rare stand-initiating events

Historically, these forest ecosystems were usually uneven-aged or multi-storied even-aged, with regeneration occurring in gaps created by the death of individual trees or small patches of trees. When disturbances such as wind, fire, and landslides occurred, they were generally small and resulted in irregular edge configurations and landscape patterns.

Table 1. Seral stage definitions by biogeoclimatic zone in NDT1 (Note: The mid-seral stage, between early and mature, is not included in this table)

Biogeoclimatic unit	Early seral stage	Mature seral stage	Old seral stage
CWH	< 40 yr	> 80 yr	> 250 yr
ICH	< 40 yr	> 100 yr	> 250 yr
ESSF	< 40 yr	> 120 yr	> 250 yr
MH	< 40 yr	> 120 yr	> 250 yr

Table 2. Target seral stage distribution for NDT1 (% of forest area within a landscape unit)

Biogeoclimatic unit	Early seral stage			Mature and old seral stage			Old seral stage		
	L	I	H	L	I	H	L	I	H
CWH	n/a	<30	<23	>18	>36	>54	>13	>13	>19
ICH	n/a	<30	<23	>17	>34	>51	>13	>13	>19
ESSF	n/a	<22	<17	>19	>36	>54	>19	>19	>28
MH	n/a	<22	<17	>19	>36	>54	>19	>19	>28

Table 3. Target distribution of patch sizes for NDT1

Patch size (ha)	% forest area within a landscape unit
< 40	30 – 40
40 – 80	30 – 40
80 - 250	20 - 40

## B. Natural Disturbance Type 2: ecosystems with infrequent stand-initiating events

Historically, these forest ecosystems were usually even-aged, but extended post-fire regeneration periods produced stands with uneven-aged tendencies, notably in the ESSF and SWB biogeoclimatic zones where multi-storied forest canopies result.

Wildfires were often of moderate size (20 to 1000 ha), with unburned areas resulting from sheltering terrain features, higher site moisture or chance. Many larger fires occurred after periods of extended drought, but the landscape was dominated by extensive areas of mature forest surrounding patches of younger forest.

Table 4. Seral stage definitions by biogeoclimatic zones in NDT2. (Note: The mid-seral stage, between early and mature, is not included in this table)

Biogeoclimatic unit	Early seral stage	Mature seral stage	Old seral stage
CWH	< 40 yr	> 80 yr	> 250 yr
ICH	< 40 yr	> 100 yr	> 250 yr
SBS	< 40 yr	> 100 yr	> 250 yr
ESSF	< 40 yr	> 120 yr	> 250 yr
SWB	< 40 yr	> 120 yr	> 250 yr

Table 5. Target seral stage distribution for NDT2 (% of forest area within a landscape unit)

Biogeoclimatic unit	Early seral stage			Mature and old seral stage			Old seral stage		
	L	I	H	L	I	H	L	I	H
CWH	n/a	<36	<27	>17	>34	>51	>9	>9	>13
ICH	n/a	<36	<27	>15	>31	>46	>9	>9	>13
SBS	n/a	<36	<27	>15	>31	>46	>9	>9	>13
ESSF	n/a	<36	<27	>14	>28	>42	>9	>9	>13
SWB	n/a	<36	<27	>14	>28	>42	>9	>9	>13

Table 6. Target distribution of patch sizes for NDT2

Patch size (ha)	% forest area within a landscape unit
< 40	30 – 40
40 - 80	30 – 40
80 - 250	20 - 40

### C. Natural Disturbance Type 3: ecosystems with frequent stand-initiating events

Historically, these forest ecosystems experienced frequent wildfires that ranged in size from small spot fires to conflagrations covering tens of thousands of hectares. Average fire size was likely 300 ha in some parts of the BWBS biogeoclimatic zone, but went as high as 6000 ha in other parts of the zone where topographic features did not limit fire spread. The largest fires in the province occur in this NDT, often exceeding 100 000 ha and sometimes even 200 000 ha.

Natural burns usually contained unburned patches of mature forest that were missed by fire. Consequently, these forests produced a landscape mosaic of even-aged regenerating stands ranging in size from a few to thousands of hectares and usually containing mature forest remnants.

Table 7. Seral stage definitions by biogeoclimatic zones in NDT3 (Note: The mid-seral stage, between early and mature, is not included in this table)

Biogeoclimatic unit	Early seral stage	Mature seral stage	Old seral stage
BWBS (dec) <sup>a</sup>	< 20 yr	> 80 yr	> 100 yr
BWBS (con) <sup>b</sup>	< 40 yr	> 100 yr	> 140 yr
SBS	< 40 yr	> 100 yr	> 140 yr
ICH	< 40 yr	> 100 yr	> 140 yr
ESSF	< 40 yr	> 120 yr	> 140 yr

(a) BWBS with deciduous prominent

(b) BWBS with coniferous prominent



Table 8. Target seral stage distribution for NDT3 (% of forest area within a landscape unit)

Biogeoclimatic unit	Early seral stage			Mature and old seral stage			Old seral stage		
	L	I	H	L	I	H	L	I	H
BWBS (dec)	n/a	<36	<27	>13	>23	>34	>13	>13	>19
BWBS (con)	n/a	<54	<40	>11	>23	>34	>11	>11	>16
SBS	n/a	<54	<40	>11	>23	>34	>11	>11	>16
ICH	n/a	<46	<35	>14	>23	>34	>14	>14	>21
ESSF	n/a	<46	<35	>14	>23	>34	>14	>14	>21

Note: In much of the BWBS, commercial species are found largely or entirely on alluvial sites. In such cases, seral stage objectives should be applied to those stands of commercial species separately from the adjacent upland forest.

Table 9. Target distribution of patch sizes for NDT3

Patch size (ha)	% forest area within a landscape unit
< 40	10 – 20
40 - 250	10 – 20
250 - 1000	60 - 80

Table 10. Recommended distribution of patch sizes (harvest units and leave areas) for alluvial ecosystems in the BWBS biogeoclimatic zone in NDT3

Patch size (ha)	% forest area within a landscape unit
< 20	30 – 50
20 - 40	30 – 50
40 - 80	10 - 30

***Retention of Wildlife Tree Patches***

Table 11. Percentage of a cutblock area required in wildlife tree retention for cutblocks &lt; 60 ha

% of the area available for harvesting that has already been harvested without recommended wildlife tree retention	% of the biogeoclimatic subzone within the landscape unit available for harvest				
	90	70	50	30	10
10	10	8	6	4	3
30	12	10	8	6	4
50	14	12	10	8	6
70	16	14	12	10	8
90	18	16	14	12	10

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## Appendix 9: General guidelines for resource and recreational use within Protected Areas<sup>21</sup>

**I**n June 1993, the Government of British Columbia released *A Protected Areas Strategy for British Columbia – the protected areas component of B.C.’s land use strategy*. This policy sets forth a vision for a comprehensive protected areas system in British Columbia and a set of policies related to system goals, definitions and criteria to meet this vision; sets forth a process and associated guidelines for identifying candidate protected areas; defines linkages to land use planning processes; addresses transitional issues such as existing land and resource use tenures and the compatibility of some existing designations with the definition of protected areas; and commits the government to increase the percentage of the provincial land base dedicated to protected areas from 6% to 12% by the year 2000.

**T**he Protected Areas Strategy identifies the broad framework within which protected areas will be examined and protected. It does not, however, explicitly address resource use issues or the appropriateness of a variety of recreation and tourism activities and services within protected areas, causing uncertainty among resource users and others participating in land use processes or potentially impacted by the designation of new protected areas.

**T**he management of protected areas differs markedly from that of other lands and waters. The maintenance of ecological integrity, consistent with supporting recreational and cultural experiences where and when appropriate, will be the primary factor in management decisions while respecting government’s land use plan commitments.

**T**he protected areas management principles are intended to provide overall management guidance and to serve as a decision-support framework for determining appropriate uses in protected areas. The principles and accompanying policies on allowable activities within protected areas should be viewed as guidelines rather than absolutes. They are intended to provide the necessary flexibility to respond to practical realities, incorporate Cabinet directions stemming from earlier land use decisions and provide increased certainty respecting the long-term management of protected areas.

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<sup>21</sup> This appendix is a reproduction of the document: Resource and Recreation Use Guidelines for Protected Areas (Province of British Columbia, August 1995)

## Protected Areas Management Principles

The protected areas system comprises a family of protected areas. The system, rather than individual areas, provides for the diversity of ecosystems, special features and outdoor recreation opportunities and experiences sought. As such, not all allowed uses are appropriate within every protected area.

An allowed activity may not be appropriate within all areas of a protected area. Individual protected areas may be zoned to provide optimum protection to protected area values. Zones within protected areas should range from areas which exclude public access in order to protect fragile and vulnerable ecosystems and sensitive, rare and endangered species, to zones which accommodate and/or enhance recreational and cultural opportunities and experiences.

Protected areas are established in perpetuity so that the ecological systems they encompass can continue to evolve with minimum of intervention. Active management/habitat manipulation may be allowed when the structure of formation of ecosystems is seriously altered and manipulation is the only possible or best alternative available to restore ecological integrity.

Use of protected areas will be encouraged, where appropriate and consistent with the principle of maintaining ecological integrity, in order to realize the spiritual, recreational, educational, cultural, tourism and health benefits that protected areas can provide. Allowable activities and uses should draw their meaning from association with and direct relation to the natural and cultural resources of the protected area. All uses of protected areas must be assessed in regard to their impact on the ecological systems and the key natural, cultural and recreational values of particular areas.

Land use activities and traditional cultural uses that have changed a landscape and have acquired significance in their own right, may be recognized and respected.

The Protected Areas Strategy respects the treaty rights and Aboriginal rights and interests that exist in British Columbia. Aboriginal peoples may use protected areas for sustenance activities and traditional ceremonial and spiritual practices, subject to conservation objectives.

Developments within protected areas should be fully compatible with the principles of maintaining ecological integrity and minimum intervention with natural processes. Developments should directly complement and be integral to the opportunities being provided and complement the purpose, objectives and role of the particular protected area. Whenever possible, intensive recreational and tourism developments should occur in adjacent areas outside the protected area boundaries.

Recognition and special consideration will be given to existing tenures, licences, authorizations and public use where uses are compatible with the objectives for which the area was established. Uses which have been approved for continuation in protected areas will be fully respected.

### Protected Areas Management Principles cont'd

Protected areas are not islands; they exist as part of larger ecosystems and cultural landscapes. Therefore, management decisions, both inside and outside the protected areas, should be coordinated and integrated to the greatest extent possible while recognizing that resource development activities outside of protected areas are appropriate and necessary.

Protected areas are a public trust and opportunities for the public to provide input into the planning and management of the protected areas system and individual areas must not be abridged. Planning and management should be done in partnership with key public stakeholders and government resource agencies.

Protected area management plans will be established through an open public process.

### COMPATIBILITY OF SELECTED ACTIVITIES, SERVICES AND USE IN PROTECTED AREAS

Activity/Use/Facility	Allowed/Not Allowed	Comments
<b>Logging</b>	Not Allowed	As approved by Cabinet (PAS)
<b>Mining</b>	Not Allowed	As approved by Cabinet (PAS)
<b>Hydroelectric Development</b>	Not Allowed	As approved by Cabinet (PAS)
<b>Grazing</b>	Allowed Subject to the Management Plan	As approved by Cabinet. Existing tenures are normally replaceable and transferable. No new tenures to be issued except for expressed management purposes as defined by a protected area management plan.
<b>Hunting</b>	Allowed Subject to the Management Plan	
<b>Fishing</b>	Allowed Subject to the Management Plan	
<b>Fish Stocking and Enhancement</b>	Allowed Subject to the Management Plan	The use of species or stocks not native to the watershed will not be allowed.
<b>Trapping</b>	Not allowed/ Existing tenures grandparented	May be permitted for expressed management purposes as defined by Protected Area Management Plan. Existing tenures are normally renewable and transferable.
<b>Horse Use</b>	Allowed Subject to the Management Plan	Limited to designated zones and/or trails.

<b>Activity/Use/Facility</b>	<b>Allowed/Not Allowed</b>	<b>Comments</b>
<b>Pack animal use</b>	Allowed Subject to the Management Plan	Limited to designated zones and/or trails.
<b>Water control structures</b>	Allowed Subject to the Management Plan	Only in intensive recreation zones to enhance recreational opportunities or for expressed management purposes as defined by management plan. Infrastructure existing at the time of area establishment normally allowed to remain.
<b>Powerline/Transmission Line and Other Rights-of-way</b>	Not allowed	Allowed if there are no practical and feasible alternatives. If present at time of area establishment, normally allowed to continue.
<b>Communication Sites</b>	Not allowed	Allowed for essential protected area management communication needs or if there are not practical or feasible alternatives. If present at time of area establishment, normally allowed to continue.
<b>Commercial Guiding:</b> <b>Hunting</b> <b>Fishing</b> <b>Nature Tours</b> <b>River Rafting</b>	Allowed Subject to the Management Plan	Permits from managing agency will be required.
<b>Commercial Oyster and Marine Plant Harvesting</b>	Not Allowed/Existing Licences Grandparented	Existing licences are normally renewable and transferable.
<b>Recreational Shellfish and Marine Plant Harvesting</b>	Allowed Subject to the Management Plan	
<b>Finfish, Shellfish and Marine Plant Farming</b>	Not Allowed/Existing Licences Grandparented	Existing licences are normally renewable and transferable.
<b>Commercial Fishing:</b> <b>Non-Tidal Waters</b> <b>Marine Waters</b>	Not Allowed	Subject to agreement by DFO.
<b>Tourism-Related Infrastructure:</b> <b>Resorts</b>	Not Allowed	As Approved by Cabinet (PAS) Facilities existing at the time of area establishment allowed to remain.

<b>Activity/Use/Facility</b>	<b>Allowed/Not Allowed</b>	<b>Comments</b>
<b>Tourism-Related Infrastructure:</b>  <b>Lodges/Cabins</b> <b>Guest Ranches</b> <b>Backcountry Huts</b>	Allowed Subject to the Management Plan	As Approved by Cabinet (PAS) Facilities existing at the time of area establishment allowed to remain.
<b>Marinas</b>	Not allowed	Infrastructure existing at the time of area establishment allowed to remain.
<b>Roads within Protected Areas</b>	Allowed Subject to the Management Plan	New road developments must be identified in management plan.
<b>Off-Road Activities:</b>  <b>Snowmobiling</b> <b>Mechanical Activities</b> <b>(vehicles which are not motorized, e.g. mountain bikes)</b>	Allowed Subject to the Management Plan	Limited to designated zones and/or trails.
<b>Off-Road Activities:</b>  <b>Motorized Activities</b> <b>(vehicles with motors)</b>	Not allowed	
<b>Water: Motorized activities</b>	Allowed Subject to the Management Plan	
<b>Aircraft access</b>	Allowed Subject to the Management Plan	For destination access purposes only (drop visitors off).
<b>Heli-skiing</b>	Allowed Subject to the Management Plan	
<b>Heli-hiking</b>	Allowed Subject to the Management Plan	
<b>Cat-assisted skiing</b>	Allowed Subject to the Management Plan	

Activity/Use/Facility	Allowed/Not Allowed	Comments
<b>Fire Management:</b> <b>Wildfire Management</b> <b>Prescribed Fire Management</b> <b>Prevention and Preparedness</b>	Allowed Subject to the Management Plan	<p>Wildfires are a naturally occurring ecological process. Policy recognizes need to protect public safety/facilities, values on adjacent lands, etc.</p> <p>Only for expressed management purposes as defined by a protected area management plan.</p>
<b>Insect/disease control</b>	Allowed Subject to the Management Plan	<p>Indigenous insect/disease outbreaks are naturally occurring phenomena. Policy recognizes the need to prevent unacceptable damage to values on adjacent lands, prevent damage to significant recreation features or values etc.</p> <p>Commercial logging to remove infected trees <u>MAY</u> be allowed.</p>
<b>Exotic organisms control</b>	Allowed Subject to the Management Plan	
<b>Scientific research</b>	Allowed Subject to the Management Plan	<p>Manipulative activities normally not allowed. Specimen collections only allowed if results in information providing increased scientific knowledge (e.g. geology, forestry, etc.) or protection and/or understanding of protected area values. Permits from managing agency will be required.</p>
<b>Ecosystem and Habitat Enhancement</b>	Allowed Subject to the Management Plan	



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## Appendix 10: Summary of Strategies for Public Education

The following is a list of strategies recommended by the LRMP planning table to increase the awareness of the public or specified user groups about issues related to resource use and management in the LRMP area. These strategies are taken from throughout Recommended Management Direction in the LRMP Recommendations Package.

### **GENERAL MANAGEMENT DIRECTION:**

#### *Access Management*

- Inform local pilots of known natal areas for Stone sheep and mountain goats and provide information on flying practices that minimize disturbance of wild goats and sheep.
- Provide information to non-commercial helicopter and plane users (local pilots, exploration companies, etc) about areas of potential conflict with remote recreation and tourism activities and encourage them to avoid those areas where possible.

#### *Botanical Forest Products*

- Promote the availability and sustainability of botanical forest products as they are identified and as markets develop and new information is gained.
- Promote the availability and sustainability of mushroom harvests as marketable mushrooms are identified and as markets develop and new information is gained.
- Encourage responsible, environmentally sustainable mushroom harvesting practices.

#### *Hunting, Trapping, Guide Outfitting, Fishing*

- Encourage trapline license holders and First Nations trappers to incorporate best management practices for trapping marten, lynx, muskrat and beaver.
- Encourage use of humane trapping techniques as appropriate to the species and periodically update information.

#### *Mineral and Energy Resources*

- Increase public awareness of geological features and the value of the mining industry through interpretive signs, brochures, maps, and mine tours.
- Encourage rock and mineral collecting, fossil viewing, recreational gold-panning, and hot spring use by providing public information in the form of maps, brochures and by opportunities to access public lands.

*Recreation and Tourism*

- Increase awareness among sport fishers on the identification of bull trout and promote responsible catch and release practices for bull trout and other species.
- Promote environmentally and culturally sensitive tourism and recreation by educating user groups on low impact camping and trekking practices.
- Work with local tourism operators and communities to ensure that information on recreation opportunities in protected areas is available and accurately described consistent with values in protected areas.

*Settlement, Agriculture, Range*

- Provide information to local landowners on the potential for disease transfer to wildlife from domestic livestock, including domestic sheep, goats and exotics such as llamas.
- Provide information to local landowners on the potential impacts of grazing in areas with rare and endangered plant communities.

*Timber*

- Increase public awareness of ecosystem-based forest management in areas with forestry operations e.g., McBride, Bob Quinn.

**AREA-SPECIFIC DIRECTION:**

*Todagin*

- Provide information to local residents and tourism operators about the potential dangers of disease transmission from domestic sheep, goats, and llamas to wild sheep and goat populations in the Todagin Wildlife Management Area.
- Increase public awareness of wildlife and First Nations values on Todagin Plateau e.g., by creating a highway viewing stop and information kiosk.
- Provide guidelines to aircraft companies to inform pilots about avoiding critical lambing and kidding areas in the Todagin Wildlife Management Area and Todagin Protected Area during sensitive periods (generally between May 15 and June 15).

*Unuk*

- Encourage low-impact recreation and tourism activities in the Unuk River zone that minimize impacts on wildlife, sensitive ecosystems, and cultural/heritage values.

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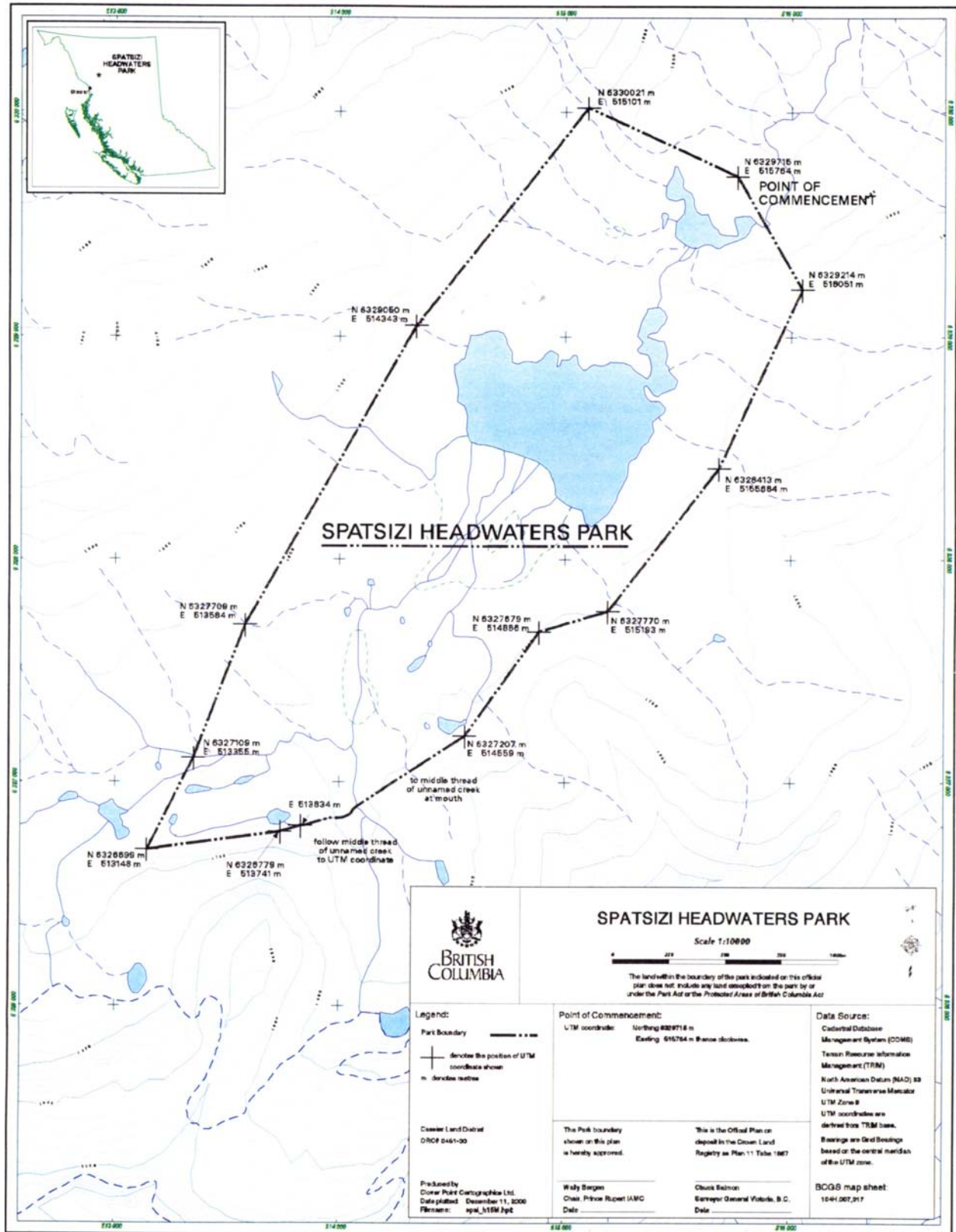
## Appendix 11: Inventories Used in Cassiar Iskut-Stikine LRMP

Mapping support for the Cassiar Iskut-Stikine LRMP was provided by the Ministry of Environment, Lands and Parks (MELP) with assistance from the Ministry of Forests. The majority of maps are available digitally and were produced using a geographic information system (GIS).

<b>Inventory</b>	<b>Source Agency</b>
<b>General</b>	
Satellite Imagery	MELP
1:250,000 Base Mapping	MELP
1:20,000 TRIM Mapping	MELP
Existing Land Use Zones	MELP
<b>Agriculture and Range</b>	
Agriculture Capability and Existing Agricultural Land Reserve	Ministry of Agriculture, Fisheries and Food
Range Capability	Ministry of Forests
Range Tenures	Ministry of Forests
<b>Aquatic Resources</b>	
Fisheries Information Summary System	MELP
Lake Inventory	MELP
Watershed Atlas	MELP
<b>Biodiversity/Wildlife</b>	
Biogeoclimatic Ecosystem Classification	MELP
Ecoregion Classification	MELP
Habitat Suitability—Grizzly	MELP
Habitat Suitability—Caribou	MELP
Habitat Suitability—Moose	MELP
Habitat Suitability—Mountain Goat	MELP
Habitat Suitability—Stone's Sheep	MELP
Habitat Suitability—Marten	MELP
Trapline Boundaries	MELP
Guide Outfitter Territories	MELP
Regional Protected Areas Team:	MELP
Approved Study Areas and High Ranking Areas of Interest	
<b>Cultural Heritage</b>	
Archaeological Overview	Archaeology Branch
Tahltan Traditional Use Study	Tahltan Joint Councils/MOF

<b>Inventory</b>	<b>Source Agency</b>
<b>Local Knowledge</b>	
Wildlife	MELP
Recreation	MELP
Hunting	MELP
Fishing	MELP
Cabins and Campsites	MELP
Tahltan Local Knowledge	Tahltan Joint Councils
<b>Mineral</b>	
Coal Assessment	Ministry of Energy and Mines
Geothermal Assessment	Ministry of Energy and Mines
Industrial Mineral Assessment	Ministry of Energy and Mines
Metallic Mineral Assessment	Ministry of Energy and Mines
Natural Gas Assessment	Ministry of Energy and Mines
Oil Assessment	Ministry of Energy and Mines
Recorded Mineral Activity (tenures, Minfile, ARIS)	Ministry of Energy and Mines
<b>Recreation/Tourism</b>	
Recreation Opportunity Spectrum	Ministry of Forests
Recreation Features Inventory	Ministry of Forests
Visual Landscape Inventories	Ministry of Forests
Existing Tourism Use	Ministry of Small Business, Tourism and Culture
<b>Timber</b>	
Forest Cover	Ministry of Forests
Timber Feasibility	Ministry of Forests

## Cassiar Iskut-Stikine LRMP – Appendices





## Appendix 11: Inventories Used in Cassiar Iskut-Stikine LRMP

