



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

Dawson Creek Land and Resource Management Plan



**LRMP
DAWSON CREEK**



**BRITISH
COLUMBIA**

MARCH 1999



File: 31090-25-01

March 30, 1999

Dear Reader:

**Re: Approval and Direction to Implement
The Dawson Creek Land and Resource Management Plan**

On behalf of Cabinet, we are pleased to approve the Dawson Creek Land and Resource Management Plan (LRMP) and direct participating ministries to implement the plan.

The LRMP is intended to guide ongoing resource management activities including designation of new provincial parks and planning for forest development. The Omineca-Peace Interagency Management Committee is charged with ensuring that the plan is implemented, monitored and reviewed.

We would like to thank members of the LRMP table for the considerable dedication and effort that they brought to the table in developing this plan for the management of land and resources in the Dawson Creek LRMP area. The table has demonstrated that diverse interests can work together to develop consensus on future management of land and resources. Their cooperative approach and commitment in negotiation at the community level are exemplary for other land use planning processes. We encourage table members to continue to participate in plan monitoring.

Your ongoing interest and involvement will ensure that the Dawson Creek LRMP continues to guide resource management activities and provide sustainable development in the Dawson Creek LRMP area.

A handwritten signature in dark ink, appearing to read "Dan Miller", is written over a horizontal line.

Dan Miller
Minister of Energy and Mines

A handwritten signature in dark ink, appearing to read "Cathy McGregor", is written over a horizontal line.

Cathy McGregor
Minister of Environment, Lands and Parks

A handwritten signature in dark ink, appearing to read "David Zirnhehl", is written over a horizontal line.

David Zirnhehl
Minister of Forests

Executive Summary

Overview

The Dawson Creek Land and Resource Management Plan (LRMP) incorporates the principles of integrated resource management into a long-term plan for Crown land and resource development within the planning area, the Dawson Creek Forest District.

Many residents of this area value the economic opportunities provided by natural resource development, and the outdoor and wilderness recreation experiences that are readily available in this area. These two important values have been incorporated into the vision for the plan:

The vision of this planning process is to produce a land and resource management plan to:

- *serve as a land and resource use strategy for Crown lands within the planning area*
- *provide guidance for the management and use of resources within the planning area based on the broad principles of sustainable development*
- *be the result of a consensus-based planning process that directly involves stakeholders representing industry, interest groups, First Nations, the public, and government agencies*

The Dawson Creek LRMP provides a stable strategic planning framework for resource development and ensures continued access to these natural resources outside of Protected Areas. At the same time, the plan incorporates the protection of environmental and recreation resource values through the development and implementation of objectives and strategies to manage and maintain these values over the planning area. With ratification and adoption by government, implementation of the plan should provide greater environmental and economic stability for residents and communities within the planning area.

Planning Area Description

The planning area includes all Crown land within the Dawson Creek Forest District excluding the Kakwa Recreation Area. The planning area encompasses approximately 2.9 million hectares in northeastern British Columbia, and is bounded to the north by the Fort St. John Forest District, to the west by the Mackenzie Forest District, to the south by the Prince George Forest District, and to the east by Alberta.

The Dawson Creek planning area is unique in that it supports all of the major resource uses, with the exception of commercial fisheries, in B.C.

- Oil and gas exploration and development have occurred throughout most of the planning area over the past few decades. The planning area contains the largest coal-bed methane resource in the province and is an important future energy source.
- The mineral resources of the area are dominated by coal developments in the District Municipality of Tumbler Ridge. Significant potential exists in the western and southern portions of the planning area near the Rocky Mountains.
- The W.A.C. Bennett Dam on the Peace River creates Williston Lake, B.C. Hydro's largest storage reservoir. Energy developments on the Peace River produce approximately one third of B.C. Hydro's electrical energy.
- Forest harvesting and management forms a major part of the current local economy with four major wood processing facilities using either deciduous or coniferous timber supplies.

- The eastern and northeastern portions of the planning area are predominantly used for agriculture and have a high concentration of privately-held lands.
- The historic Alaska Highway is a major tourism feature within the planning area.
- Private and commercial outdoor recreation activities, including guide outfitting, occur throughout the planning area.
- Nationally and internationally significant wildlife resources are an important feature of the planning area.

Process

The Land and Resource Management Planning process is an integral part of the Province's Land Use Strategy. This process differs from previous or other land use planning processes in that:

- The general public and a wide selection of interest groups were invited and encouraged to participate in the planning process
- The plan's recommendations are an outcome of the deliberations of the Dawson Creek Planning Table (the Table) - private citizens, stakeholders (industrial sectors, environmental groups, local governments, etc.) aided by government agency representatives - who live, work, and have an interest in the way in which Crown lands and resources are managed in the planning area
- The Dawson Creek LRMP process incorporated a sector model of consensus-based decision-making. The overall planning objective was to identify land and resource management issues and then develop consensus solutions and recommendations. General agreement was thus reached on all issues

The Dawson Creek LRMP is an organized set of recommendations for the management of Crown land and resources in the planning area. Recommendations include: General management directions, resource management zone boundaries, resource management zone objectives and strategies, Protected Areas, and implementation. The overall resource management direction or regime for any area outside of Protected Areas is defined by the General Management Direction plus any resource management zone and subzone level direction.

The Table has recommended measures for managing biodiversity, visual quality, cultural and natural heritage, First Nations values, and other values. In addition, this plan includes a comprehensive set of management objectives and strategies to address access concerns on Crown land.

Policy change recommendations have been included for those issues for which the Table wishes to send a strong message to government. Once approved by government, the entire plan or portions thereof will provide strategic direction to land and resource management planning, management and development for a period of ten years.

An important aspect of government approval is the way in which the LRMP fits within the strategic planning framework of the *Forest Practices Code of British Columbia Act (FPC)*. Appropriate portions of the LRMP may be declared a Higher Level Plan under the *FPC* which will provide strategic direction for forest management activities and more detailed plans (i.e., Forest Development Plans, Range Use Plans, etc.).

Key Features of the Plan

- The planning area is divided into 12 resource management zones (RMZ's) based on resource values, existing economic activity, environmentally important areas, and Agricultural Land Reserve boundaries.
- Broad Provincial Land Use Categories are used to categorize each RMZ within the planning area according to its general management regime: Agriculture/Settlement - 13.1%, Enhanced Resource Development - 21.8%, General Resource Management - 44.8%, Special Management - 12.9%, Protected Areas - 6.75%, and First Nations Reserves - 0.17%.
- Treaty 8 covers the planning area in entirety.
- Industrial activity is permitted in all RMZ's with the exception of the Protected Areas. Although resource development and access may be limited or restricted in some RMZ's, the plan provides appropriate strategic direction for more detailed planning to allow responsible resource development within the planning area.
- Resource developers and users will be required to manage for environmental and conservation values using a range of management strategies.
- Access management is critical to maintaining wildlife, recreation, wilderness and biodiversity values, especially in environmentally sensitive areas. This plan includes specific access management objectives and strategies to achieve the objectives for each RMZ.
- Opportunities for agricultural expansion (including grazing) are a priority for areas identified as having significant agricultural potential. Appropriate strategies have been developed to achieve this objective.
- The Table has recommended acceptable uses within Protected Areas. Recommended acceptable uses include existing uses such as trapping, hunting, fishing, guide outfitting, and livestock grazing.
- Directional drilling for petroleum and natural gas under the Peace River/Boudreau Lake, Kiskatinaw River, and Klin-se-za Protected Areas is an allowable use, where it does not compromise other resource values.

Implementation

As approved by government, the plan will be generally implemented as follows:

- The plan will guide land and resource development on Crown lands for a period of ten years.
- Resource managers will incorporate appropriate strategic direction from the plan into more detailed strategic and operational plans. These plans may include a wide range of existing and improved regulatory processes including interagency planning, referral, and joint management provisions.
- Resource management agencies will monitor the implementation of the plan to ensure that resource management objectives are met.
- Public concerns regarding specific operational practices within the planning area will be directed to the appropriate resource management agency.
- Government agencies will use information in the plan to guide budget deliberations, especially where resource inventory gaps have been identified.
- An appropriate time frame, method and format will be developed to ensure that Table members and the public are informed of the plan's progress. Special circumstances and/or scheduled update meetings may require that Table members are reconvened to try to resolve plan interpretation issues or any new issues.
- Concerns or conflicts related to overlapping mandates of government agencies, or different interpretations of the plan by industry or one or more agencies, will first be forwarded to the line manager for clarification. The line manager may consult with the Interagency Planning Team (IPT) or the LRMP Table for clarification on major issues. Conflicts not resolved will be elevated to the Omineca-Peace Inter-Agency Management Committee (IAMC) for resolution.

Summary Recommendations

I Plan Approval

The B.C. Government:

1. Approves the Dawson Creek LRMP document as general policy and guidance to strategic Crown land and resource management planning for the planning area
2. Approves and adopts the areas recommended for Goal 1 and 2 Protected Area status (approximately 6.75% of the land base) as required under the *Protected Areas Strategy (PAS)*

II Policy & Implementation Recommendations

The Dawson Creek LRMP recommends that the B.C. Government:

1. Designate Crown lands within the Peace River/Boudreau Lake Protected Area under the *Environment and Land Use Act* to accommodate the Site C flood reserve and opportunities for directional drilling
2. Consider timber harvesting within the flood reserve adjacent to the Peace River if government endorses the Site C project
3. Consider advising B.C. Hydro to re-evaluate their hydro-electric development proposals on the Peace River prior to the onset of a future LRMP process within an eight year time frame
4. Designate Crown lands within the Pine/LeMoray Protected Area that are required for transportation and utility corridor maintenance under the *Environment and Land Use Act (ELUA)*
5. Conduct a detailed spatial analysis of short-term timber supply within the Timber Harvesting Landbase to meet fibre-flow commitments
6. Reach a settlement with the mineral tenure holder within the Wapiti Protected Area to relinquish that portion of the tenure within the Protected Area
7. Involve the Dunne Za people and other First Nations as partners in future plan development and implementation for the Klin-se-za Protected Area
8. Allow grandparenting of existing oil and gas tenures under Protected Areas
9. Allow the sale of subsurface rights and drilling for petroleum resources (without surface access) in the Peace River/Boudreau Lake, Kiskatinaw River, and Klin-se-za Protected Areas
10. Endorse the recommended principles for managing seismic activity and natural gas exploration and development activity within Protected Areas
11. Incorporate the various recommendations for management of Protected Areas into the Protected Area Management planning process
12. Allow trapping as an acceptable use in Protected Areas, maintaining existing full rights
13. Administer trapping tenures within Protected Areas through B.C. Environment
14. Designate appropriate Crown land outside of Agriculture Land Reserve (ALR) boundaries under the Forest Land Reserve (FLR)
15. Coordinate the implementation of an Access Management Area for Twin Sisters RMZ through B.C. Environment
16. Consider designating the Sukunka Lousewort Bog and the Pine River Dunes as Sensitive Areas under the *FPC* to protect locally significant resources
17. Review the structure and mandate of the Peace River Problem Wildlife Advisory Committee

18. Endorse the establishment of funding for the Dawson Creek LRMP planning area to meet the grazing objectives of the plan
19. Consider that the cost of infrastructure required to protect one or more resource values should not be borne by the tenure holder where a change in *status quo* resource use has been recommended
20. Consider cost allowances to encourage the use of selection silviculture systems where ecologically appropriate but not currently economically feasible
21. Consider a provision in the B.C. Ministry of Forests' Appraisal System to allow for recognition of costs associated with road reclamation, rehabilitation, and/or recontouring when these activities are required by the Dawson Creek LRMP (*Intent: Government to recognize that these activities increase operating costs to tenure holders*)
22. Consider a provision to allow for recognition of costs associated with road reclamation, rehabilitation, and/or recontouring when these activities are required by the Dawson Creek LRMP
23. Confirm that the introduction and implementation of the Commercial Backcountry Recreation Policy shall fully consider non-commercial recreation in the adjudication of commercial backcountry proposals so that historic and traditional non-commercial recreational use is maintained
24. Adopt a methodology for identifying and incorporating public/resource users' interests into integrated resource management planning processes, including the development and testing of Visual Quality Objectives (VQO's)
25. Implement more effective and efficient processes for inter-agency coordinated planning and management, communication and consultation, regulation and administration, proactive program implementation, comprehensive dispute resolution, and resource inventory
26. Consider directing resource managers to adopt a comprehensive public consultation process where access control gates that are required for reasons other than safety are a realistic and preferred option used to regulate access on Crown lands
27. Consider the LRMP's identified inventory and research needs as a high priority
28. Endorse the LRMP's schedule for annual monitoring and biennial reporting

Interpretation and Appeal

Where a concern is raised over land use objectives and strategies, the concern will be addressed directly to the affected agency(s). The responsible manager(s) will respond to the concern in writing. If the matter is not satisfactorily resolved, the concern will be forwarded to the Omineca-Peace IAMC for resolution recommendations.

Where the public or agencies raise concerns with specific resource management practices that are occurring in the LRMP planning area, they will raise the issue directly with the affected agencies. Where there is an existing review or appeal process, the concern will be dealt with through it. Where there is not an existing appeal process, the local manager will respond to the affected party in writing. If the matter is not satisfactorily resolved, the concern will be forwarded to the Omineca-Peace IAMC for resolution recommendations.

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1.0 Introduction

The Dawson Creek Land and Resource Management Plan (LRMP) has been prepared to ensure sustainable, integrated land and resource management on Crown lands within the planning area (i.e., within the boundaries of the Dawson Creek Forest District).

The Dawson Creek LRMP is one of several underway in the province. It has been developed to meet a major component of the Provincial Land Use strategy. The LRMP planning process directly involves a number of local, regional and provincial stakeholders. The plan is the outcome of the combined efforts of industry, resource sector representatives, government agencies and the public working together to arrive at consensus-based solutions to land and resource management concerns, issues and problems. Upon ratification by government, the plan should help to reduce land and resource use conflicts and provide increased economic security for resource development.

The plan addresses and integrates a number of major environmental, social and economic concerns. It provides strategic direction for land and resource management through the identification of resource values and the development of land and resource management objectives and strategies to maintain those values. The Dawson Creek LRMP is ultimately a set of recommendations to the B.C. Government that will guide land and resource management within the planning area for a period of ten years.

1.1 *The Planning area*

1.1.1 Physical Description

The Dawson Creek LRMP planning area is approximately 2.9 million hectares and consists of all Crown land within the boundaries of the Dawson Creek Forest District. The District is bounded to the north by the Peace River and to the east by the Alberta border. To the south and west, the planning area boundary is the Rocky Mountains. A map showing the planning area is attached to this report (Appendix A).

The planning area contains a wide range of physical and biological characteristics. These attributes provide the basis for several resource-based activities which form a major component of the area's economy.

1.1.1.1 *Water*

The Peace River is the largest river in the planning area, and is part of the Mackenzie River basin. Major tributaries of the Peace River draining the planning area include the Pine, Moberly, Sukunka, Murray, and Kiskatinaw rivers. The other major tributaries originating in the planning area and joining the Peace River in Alberta include the Redwillow, Wapiti and Narraway rivers.

Several lakes exist in the Dawson Creek Forest District. Williston Lake is the largest water body in Northeastern B.C. It is the second largest man-made lake in Canada and was created by the W.A.C. Bennett dam. The entire lake covers an area of nearly 175,000 hectares and only a portion of the Peace Arm is within the planning area. Smaller lakes of note within the planning area include; Moberly Lake, Gwillim Lake, Swan Lake, Wapiti Lake, Hook Lake and Monkman Lake.

1.1.1.2 Climate

The climate of the planning area is continental in origin. Eastward travelling weather systems originating in the Gulf of Alaska shed most of their moisture west of the Rocky Mountains before they reach the Peace River area. A portion of the planning area is subject to the "rain shadow effect" provided by the Rocky Mountain range. Air masses moving easterly over the mountains often descend and subside providing generally drier and windier conditions.

The planning area is subject to prolonged cold weather originating in the Arctic. Summers are warm and relatively short. Mean minimum temperatures are below zero degrees Celsius from October to April and above five degrees Celsius from June to August. The Dawson Creek weather station has recorded averages +15.1 degrees Celsius in July and -18.2 degrees Celsius in January.

1.1.1.3 Biophysical Description

Biophysical features can be described by identifying the broad ecosystem classes within the planning area using two different but complementary methodologies: the Ecoregion Classification system and the Biogeoclimatic Ecosystem Classification (BEC) system. The major practical difference between the two systems is that, in mountainous terrain, Ecoregion Classification stratifies the landscape into geographical units taking into account elevational differences whereas the BEC system delineates altitudinal belts of ecological zones within geographic units. Both methods provide a framework for an ecological approach to resource management.

The Ecoregion Classification system describes broad regional ecosystems based on the interaction of climate and landforms. Ecoregions are areas with *major* landform and *minor* climate variation. Ecoregions are further subdivided into ecosections that have *minor* landform and climate variations. This system is mainly used for wildlife management and for conservation purposes.

The planning area is primarily within two ecoregions: the Boreal Plains in the east, and the Central Canadian Rocky Mountains in the west. A small portion of the Eastern Continental Ranges ecoregion covers the extreme southern portion of the planning area. Six ecosections occur within the planning area: the Peace Lowlands, Kiskatinaw Plateau, Hart Foothills, Peace Foothills, Hart Ranges and Front Ranges.

The BEC system delineates ecological zones by vegetation, soils and climate and is more commonly used for forest management applications. This ecosystem classification system subdivides the planning area into zones with similar dominant climax vegetation. Of the fourteen biogeoclimatic zones in British Columbia, four are present within the planning area: Boreal White and Black Spruce; Engelmann Spruce-Subalpine Fir; Sub-Boreal Spruce, and; Alpine Tundra. These are described as follows.

Boreal White and Black Spruce (BWBS) Zone: This zone is part of an extensive belt of boreal coniferous forest occurring across northern Canada. It occupies the gently rolling topography, part of the Alberta Plateau. In this area, winters are long and cold and the growing season is short; the ground remains frozen for much of the year. Numerous fires have created extensive successional forests of trembling aspen and lodgepole pine. Large areas are forested with white or black spruce. High capability agricultural land has been developed particularly within the Peace Lowlands and Kiskatinaw Plateau ecosections. Common understorey plants are highbush cranberry, prickly rose, tall bluebells, creamy peavine, coltsfoot, bluejoint, and step moss. Snow depths are low to moderate.

Engelmann Spruce-Subalpine Fir (ESSF) Zone: This zone occurs at higher elevations along the western, mountainous portions of the district. The climate is characterized by short, cool growing seasons and long, cold winters. High snow depths are common. Only those trees capable of tolerating extended periods of frozen ground exist in this zone. The landscape in the upper elevations has clustered trees interspersed with

meadow, heath and grassland. Engelmann spruce and subalpine fir are the dominant tree species. White rhododendron and false azalea are common understorey shrubs.

Sub-Boreal Spruce (SBS) Zone: This zone occupies the valley bottoms in the Foothills ecosections. Forest productivity is moderate. Spruce and subalpine fir are the dominant trees and extensive fire-origin stands of lodgepole pine occur in the drier portions of the zone. Wetlands are abundant in poorly drained areas. The climate can be described as severe; winters are shorter, and the growing season longer, than in the Boreal White and Black Spruce Zone.

Alpine Tundra (AT) Zone: This zone is a near treeless region characterized by a severe climate. It is found at high elevations along the western portion of the planning area. The long, cold winters and short, cool growing seasons create conditions too severe for the growth of most woody plants, except in dwarf form. This zone is dominated by dwarf shrubs, herbs, mosses and lichens which grow in the shallow soils.

1.1.1.4 Geology

Three physiographic regions, lying in a northwest direction, are found in the planning area: The Hart Ranges, the Northern Rocky Mountain Foothills, and the Alberta Plateau. The Hart Ranges (Rocky Mountains), in the southwest part of the district, is underlain by Cambrian to Jurassic sedimentary rocks. This physiographic region is flanked on the northeast by the Northern Rocky Mountain Foothills, and the Alberta Plateau in the northeast part of the district. The latter two regions are underlain by lower and upper Cretaceous strata.

1.1.1.5 Soils

Soils in the planning area have developed on parent materials derived from two glacial events and one interglacial which formed an immense lake. The Cordilleran ice sheet carried a variety of materials from the Rocky Mountains in a northeasterly direction, while the Laurentide (continental) ice sheet carried more uniform materials from the northeast. The glacier-dammed lake between these two, known as Glacial Lake Peace, is thought to have stretched some 100 km to the east-southeast of the large kame moraine near the W.A.C. Bennett Dam. In some areas the gravelly shorelines are apparent at elevations between 800 m and 830 m.

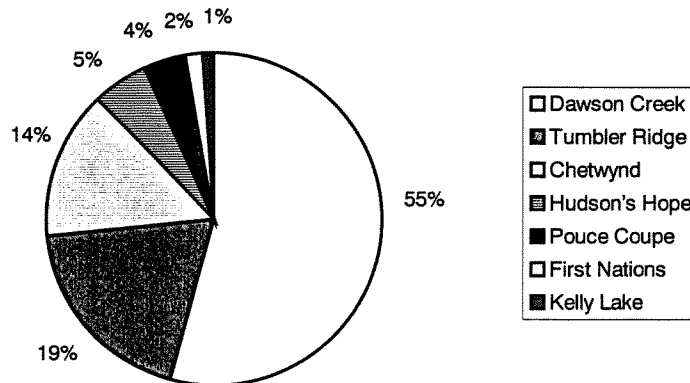
Due to the parent materials and the boreal forest climate and vegetation, the soils that have formed are predominantly of the Luvisolic Order. These soils, also known as the Grey-wooded or Parkland zone, are characterized by moderately acid pH of the A and B soil horizons with an alkaline C horizon with relatively low organic matter.

1.1.2 Socioeconomic Summary

The socioeconomics of the planning area are described and discussed in the *Dawson Creek LRMP Base Case* (April 1996) prepared by the ARA Consulting group, Keystone Wildlife Research and the Interagency Planning Team (IPT). A summary of the socioeconomic and environmental assessment appears in Appendix B. Some of the major socioeconomic features being considered within the LRMP planning framework can be summarized as follows:

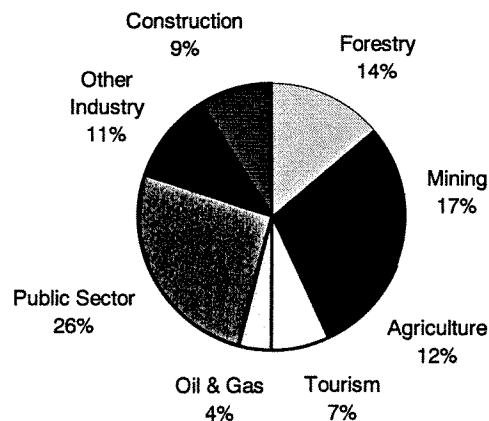
- The current population of the planning area is over 30,000. In 1994, major communities in the area had populations as follows: the City of Dawson Creek - 11,380; District of Tumbler Ridge - 4,016; District of Chetwynd - 3,040; District of Hudson's Hope 1,090; and, Village of Pouce Coupe - 879. The 1998 populations for First Nations (FN) communities (i.e., on reserves) are as follows: West Moberly First Nations - 74 and Saulteau First Nations - 358 people. The Kelly Lake Metis Community has a population of 238. Nearly one third of the residents in the planning area reside in rural areas, nearly 8,800 people based on 1994 data.

**Population of Major Communities (1994),
First Nations & Metis Communities (1998)**



- Major employment sectors (from 1991 data) include mining (17%), forestry (14%), agriculture (12%), tourism (7%) and oil and gas exploration and development (4%). The balance of employment is the public sector (26%), other industry (11%) and construction (9%).

Major Employment Sectors (1991)



- Coal currently dominates mining activity in the planning area. Two major mining operations are located in the District Municipality of Tumbler Ridge. Tumbler Ridge houses many of the coal mine employees and provides goods and services to both the Quintette Coal and Bullmoose mines.

- Four major wood processing operations exist in the LRMP area. An oriented-strand board (OSB) plant is located in Dawson Creek and a bleached-chemi-thermo-mechanical (BCTM) pulp mill operates near East Pine; both mills use deciduous timber supplies. Two sawmills are in Chetwynd produce coniferous dimension lumber and wood chips. Up to 150 additional local jobs are supported by the harvesting and processing of privately owned coniferous timber stands.
- Agricultural production of grains such as wheat, oats and barley, and oilseeds including canola, flax and sunflower have traditionally dominated agriculture within the planning area. In recent years, growth has been strong in beef and forage crops. Other agricultural commodities include dairy, field vegetables, honey, swine and poultry. The Peace River area also boasts Canada's largest bison herd, and the largest intensively farmed reindeer herds.
- Northeastern British Columbia remains the only part of the province to produce oil and gas. Exploration and development of reserves has progressed since the 1950's. The discovery of large natural gas reserves in the Foothills has spurred exploration and development of natural gas resources within the planning area. The outlook for the energy sector is for steady growth.
- The planning area contains the largest coal-bed methane resource in the province and is an important future energy source. Technology for recovering this resource is still in the early stages of development.
- Dawson Creek, Chetwynd and Tumbler Ridge have well-developed infrastructures to supply goods and services to the energy sector. A major natural gas processing plant is located west of Chetwynd and several smaller natural gas and petroleum processing and transmission facilities have been established at other locations.
- The historic Alaska Highway is major tourism feature within the planning area. It is a common sight in the summer to see campers, cars and trucks with license plates from as far away as Florida or Newfoundland. Visitors may be travelling all the way up the highway, through the Yukon to Alaska, or just travelling part of the highway to camp at one of the many parks along the way. The number of travellers using the Alaska Highway has increased steadily over the last few years. In addition to Alaska highway tourism, overnight and extended stays at planning area vacation properties, resorts and lodges have also shown steady growth.
- Private and commercial outdoor recreation activities include hiking, hunting, trail riding, wildlife viewing, fishing, canoeing, jet boating, cross country skiing, ATV'ing and snowmobiling. There are 14 guide outfitting tenures in the area. Additional outdoor, nature-based businesses generate direct employment for a small number of residents.
- It is recognized that many business travellers use the same services as tourists. Oil and gas, construction, forestry and general business sectors all contribute to business travel volume and tourism statistics. It is estimated that up to 800 individuals worked in the tourism sector in 1991. This estimate includes all accommodation employment as well as some segments of food and beverage services, transportation, retail trade and other sectors.
- Trapping areas cover the entire planning area. Trapping adds to the local and provincial economies, and also to the national economy since it generates foreign exchange revenue. Trappers manage and harvest a renewable resource on an annual basis. In addition, in some instances, harvesting from trapping helps other resource users by reducing predation and property damage.

2.0 The Planning Process

2.1 Goal

The overall goal of the Dawson Creek LRMP is to provide; a stable strategic plan balanced between (1) resource development industries with continued access to natural resources outside of Protected Areas, and (2) the protection of environmental and recreational resource values. This goal is achieved through the development and implementation of objectives and strategies to manage and sustain these values over the planning area.

2.2 Vision

The vision for this planning process is to produce a land and resource management plan that will:

- serve as a land and resource use strategy for Crown lands within the planning area,
- provide guidance for the management and use of resources within the planning area based on the broad principles of sustainable development, and
- be the result of a consensus-based planning process that directly involves stakeholders representing industry, interest groups, government agencies, First Nations and the public.

2.3 Objectives

To achieve this vision, the following planning process objectives were identified in the LRMP Table's *Terms of Reference*:

1. Provide stakeholders with opportunities to participate throughout the planning process as equal partners;
2. Assemble, evaluate and incorporate the best available biophysical and socioeconomic information in the planning exercise;
3. Identify data gaps and any additional information requirements as outcomes of the plan;
4. Practice integrated resource management planning principles to identify resource values, and, to develop resource management objectives and strategies to maintain those values;
5. Develop recommendations to the B.C. Government on the management and use of Crown land and resources based on consensus-based decision making at the LRMP Table. Where consensus cannot be reached, areas of disagreement will be documented and resolved through a dispute resolution process.
6. Develop a planning process with enough flexibility to allow for incorporation of new directions and needs as identified by government, stakeholders and the public;
7. Incorporate provincial and regional, land and resource management goals and objectives into the planning process; and
8. Identify mechanisms for ensuring that the final plan will be implemented, monitored and updated as required.

2.4 Public Participation

Public participation in the planning process was designed to ensure appropriate and fair public involvement. The objectives were developed to:

- include the public in all phases of the planning process, from the *Terms of Reference* to the final plan recommendation to the B.C. Government

- ensure public involvement in identifying resource values and concerns within the planning area, and
- develop and implement a methodology for resolving conflicts
- provide limited funding to LRMP Table members to offset travel costs required to attend meetings
- provide all participants with equal access to information
- involve LRMP Table members in the information gathering process
- ensure consistency with the *LRMP Public Participation Guidelines*
- encourage First Nations to participate throughout the planning process

2.5 Planning Team Participants

The combined efforts of industry, interest groups, public and government agency representatives at the LRMP Table ultimately form a set of land and resource management recommendations to the B.C. Government. The LRMP Tables are guided and facilitated throughout the planning process by a government-agency appointed Interagency Planning Team (IPT) and the regional Omineca-Peace Inter-agency Management Committee (IAMC).

The Dawson Creek LRMP Table included representatives from industry, interest groups, government agencies, First Nations, resource users and the public. The interests of these stakeholders were incorporated into the planning process. Sectors represented at the Table included: outdoor recreation, tourism, trapping, forestry, labour, mining, environmental conservation, oil and gas development, small business, utilities and transportation, agriculture and ranching and First Nations. A complete list of participants is included in Appendix C.

2.6 First Nations

The province of British Columbia has a legal obligation to prevent infringement of treaty and aboriginal rights in areas where resource management activities are proposed. Government agencies consult with First Nations to encourage them to become involved in planning processes. The Dawson Creek LRMP Working Group (also referred to as 'the Planning Table' or 'the Table') encouraged First Nations to participate in the planning process to ensure that land and resource management recommendations were sensitive to their interests.

There are two First Nations communities located within the planning area: West Moberly First Nations and Saulteau First Nations, both of whom are signatories of Treaty 8. First Nations peoples living on reserves are estimated to comprise 1.5% of the plan area's current population with at least 1.5% living off reserves. In addition, the Kelly Lake Metis Community is estimated to comprise 1.2% of the planning area's current population. These three communities are involved in a variety of natural resource based economic activities. The Lheidli T'enneh and McLeod Lake First Nations have also traditionally used portions of the planning area.

A representative from the Kelly Lake community participated at LRMP meetings on an intermittent basis throughout the process. In the spring of 1993, representatives from the two First Nations communities from Moberly Lake area attended a LRMP Working Group meeting. The October 1995 LRMP meeting, hosted by the Saulteau First Nation saw the informal participation of the Saulteau First Nation on a fairly regular basis. Previously, a letter had been sent by the Chief of the West Moberly First Nations to the LRMP Working Group, advising that their participation in the planning process could result in prejudicing aboriginal and treaty rights. Further, he stated that there was no statutory protection within LRMP's that expressly recognized the need to act "without prejudice" to First Nations. He concluded the letter by stating that the West Moberly First Nation was working towards a consultation protocol agreement with the Ministry of Forests (MoF) and, upon completion of this process, they would consider full participation at the LRMP Table on a technical level.

In summary, there has been intermittent involvement by First Nations in the LRMP. Throughout the process, First Nations in the planning area were notified of meetings and activities associated with the plan and continually encouraged to participate at meetings. The Dawson Creek LRMP Working Group incorporated known First Nations values wherever possible.

2.7 Planning Process Summary

The land and resource management planning process for Dawson Creek began in the spring of 1992 when representatives from several regional and provincial government agencies met to discuss the formation of an Interagency Planning Team. In June of that year, public information sessions were held in the four main communities of the District followed by a two-day workshop held in October, 1992. These events were well attended (over 130 people at the public information sessions and nearly 50 people representing industry, interest groups, the general public and government agencies at the workshop).

The workshop was designed to allow for full and open discussion on the Terms of Reference for the LRMP including an action plan, guidelines for reaching decisions by consensus and LRMP Working Group membership. The first phase of the Dawson Creek LRMP process was completed when the IPT was finalized and representatives from ten interest sectors were formally selected as LRMP Working Group members.

The second phase came in the spring of 1993 when the Table began to meet on a monthly basis to become acquainted with the planning process (and each other), express their concerns with regard to land and resource management in the planning area, identify preliminary areas for Protected Area status and to begin delineating the planning area into smaller resource units (RU's). By August 1994, eleven RU's were identified and the planning emphasis shifted from RU's to more detailed resource management zones (RMZ's) within the RU's.

In the fall of 1994, public open houses were held in Hudson's Hope, Chetwynd, Tumbler Ridge and Dawson Creek to present the Table's progress on the plan. In the following year, the LRMP Working Group moved into phase three of the process. Protected Area candidates were debated and the boundaries refined. Resource values were identified within the RMZ's. Based on the resource values identified, the LRMP Working Group began to develop objectives to maintain identified values, and general and specific strategies to achieve the objectives.

Phase four was initiated in 1995 when the LRMP Working Group began to finalize objectives and general and specific strategies to achieve the objectives. Areas of Interest (AOI's) were finalized and the process focused on negotiation of proposed Protected Areas from the list of AOI candidates. By the spring of 1996, a socioeconomic analysis was completed for the planning area by ARA Consulting Group and Keystone Wildlife Research. This analysis provided an assessment of the past, current and future socioeconomic and environmental trends in the planning area which could be expected in the absence of an LRMP. This "base case" assisted the LRMP Working Group in understanding the potential impacts of their land and resource management recommendations.

In October 1996, the IPT completed and presented an outline for the draft LRMP planning document to the LRMP Working Group. The preparation and completion of Draft 1 of the plan marked the beginning of phase 5 in January 1997. To assist the Table with its final deliberations, a socioeconomic analysis of the draft plan was prepared and presented to the LRMP Working Group in February, 1997.

The last phase of the process was focused on finalizing the planning document including negotiating consensus solutions to any outstanding concerns, finalizing the plan's format and wording, resolving any implementation issues, finally, after many years of hard work, approval and sign-off of the plan by LRMP Working Group members.

With the plan's adoption by the B.C. Government, implementation of the plan should provide greater economic stability for residents and communities within the planning area, and increased environmental awareness, management and protection.

Dawson Creek LRMP Planning Process Summary

Phase I (1992)

- Formation of Interagency Planning Team
- Public Information Sessions
- Workshop - identify land and resource issues, develop action plan, discuss planning process, draft *Terms of Reference*
- Formation of LRMP Working Group
- Finalize *Terms of Reference*

Phase II (1993 through 1994)

- Begin regular meetings of LRMP Working Group
- Identification of land and resource management concerns
- Identification of Resource Units
- Identification of preliminary Areas of Interest candidates for Protected Area status
- Identification of Resource Management Zones
- Preliminary development of Objectives and Strategies
- Public Open Houses

Phase III (1995)

- PAS Areas of Interest finalized
- Identification of resource values
- Continued refinement and development of objectives and strategies
- Negotiation of proposed Protected Areas

Phase IV (1996)

- Completion of "Base case" document
- Final negotiation of proposed Protected Areas
- Refinement of Objectives and Strategies
- Completion of framework for plan document
- Complete first draft of plan

Phase V (1997 through 1999)

- Present draft plan to LRMP Working Group
- Completion of Socioeconomic analysis of draft plan
- Finalize plan (including implementation and monitoring)
- LRMP Table Review and "Agreement-in-Principle"
- Public Review and Consultation
- Formal Table approval of Dawson Creek LRMP
- IAMC Approval
- B.C. Government review and approval of LRMP
- Implementation

3.0 General Management Direction

Guiding Principles

Several principles were established to provide guidance to the general management direction (GMD) for the Dawson Creek LRMP planning area. These principles are:

- Sustainable use of renewable natural resources
- Management of any one resource shall take into consideration other resource values, rights, tenures and development opportunities which recognize the biological and physical limitations of the land and resources
- Maintenance or enhancement of the quality of life, social and economic stability, employment opportunities including job creation, and the vitality of local communities
- Acknowledgement that communities located within the planning area should have the opportunity to benefit from the natural resources within the planning area. This can be achieved through, but is not limited to, the following: economic diversification, managed access to resources, and increased value-added manufacturing and processing (*Intent: To accommodate existing industry, wherever possible*).
- Land, water, air and all living organisms are integral parts of the ecosystem and should be sustained and accommodated by management plans

The following points are intended to clarify interpretation of the Dawson Creek LRMP:

- The Dawson Creek LRMP will not be incremental to the FPC and its Regulations. It will not incur incremental impact to the forest industry (e.g., it is not intended to increase operating costs, uncertainty, and risks from third party appeals, and it is not intended to reduce operating areas).
- This LRMP does not require joint approval beyond what is identified in the FPC and its Regulations.
- The Dawson Creek LRMP recognizes that the Chief Forester's determinations concerning AAC apportionment and fibre-flow within the planning area are final for the term of the respective Timber Supply Review AAC determination. This LRMP does not intend to constrain the Chief Forester's determinations.

Understanding the Dawson Creek LRMP

The overall resource management direction or regime for any area outside of Protected Areas is defined by the GMD plus any RMZ and subzone level direction. It is important to understand that all levels of direction, GMD- and RMZ- and subzone-specific, must be referenced together to determine the overall resource management direction or regime.

The GMD contains objectives and strategies, specific to each resource value. The following describes each value, and the objectives and strategies to manage and conserve the value. The GMD applies throughout the planning area and is not specific to a RMZ.

3.1 Biodiversity

Biodiversity is the diversity of plants, animals and other living organisms in all their forms and levels of organization. It includes the diversity of genes, species and ecosystems and the functional and evolutionary processes that link them. Biodiversity can be described at the genetic, species and ecosystem levels.

Genetic diversity refers to the different forms (alleles) of genes present in a particular population of living things. Many forms of a gene are present in a genetically diverse population. These populations are better able to adapt as local conditions change compared to less genetically diverse populations.

Species diversity refers to the number of different species living in a particular area. Each species has its own set of environmental conditions (habitat) under which it can live and reproduce. Species diversity depends on the number of different habitats present in a particular area. British Columbia has the highest diversity of wildlife species in Canada due to its habitat diversity.

Ecosystem diversity refers to the number of different habitats available within a particular ecosystem. Ecosystem diversity is directly reflected in species diversity. Human activities tend to split, isolate or eliminate certain types of habitat while creating others. Conserving ecosystem diversity means maintaining sufficient amounts of all naturally occurring habitats to allow species associated with those habitats to survive.

The planning area contains significant areas that are not presently roaded. These wilderness areas are an important component in the conservation of biodiversity, particularly for existing predator-prey systems.

Risks to biodiversity can be due to:

- loss of habitat due to fragmentation and alienation;
- habitat modification due to urban and residential development, road and linear corridor development, mining, agriculture and ranching, oil and gas exploration and development, and various forest use activities, and;
- direct impacts on specific plant and animal species through activities such as consumptive use.

Biodiversity conservation depends on:

- protection and connectivity of large areas as ecological benchmarks at the regional level (Protected Areas / parks);
- provision of habitat variety and connectivity at the landscape (watershed) level, and;
- management practices at the stand (site) level.

Assignment of the Biodiversity Emphasis Option (BEO) for landscape units will be done through the regional landscape planning strategy. This will follow Forest Practices Code and government directives for the recommended BEO distribution, and include an assessment of ecological, timber, and other values, and LRMP recommendations.

GMD #1 - Biodiversity

Objective

- Conserve the biodiversity of natural ecosystems

Strategies

- Continue to implement the *Forest Practices Code of British Columbia Act (FPC)*, regulations and government guidelines for conserving forest land biodiversity
- Apply government guidelines to evaluate and incorporate biodiversity conservation strategies for the conservation of biodiversity at both the stand and landscape unit levels (*Intent: Across the planning area, under the jurisdiction of MoF, licensees and the SBFEP to evaluate and incorporate biodiversity conservation strategies as per the FPC, jointly developed (i.e., licensees, BCE and MoF District) stand level biodiversity guidelines, Deputy Minister's and/or Chief Forester's policy, and biodiversity guidelines*)

GMD #1 - Biodiversity (cont'd)

Strategies (cont'd)

- Apply government guidelines to identify and map rare ecosystems, rare plant communities and rare habitat types and incorporate this information into landscape unit level and operational plans (*Intent: Government to undertake*)

3.2 Soil Conservation

Soils in the planning area are fundamental to the sustainability of both forest, forage and agricultural resources. Soil conservation measures must be incorporated into all levels of planning to ensure that the physical and biological development of soils is maintained. This will promote ecosystem integrity and the continued production of forest, forage and agricultural resources.

GMD #2 - Soil Conservation

Objective

- Conserve soil productivity of forest, range and agricultural lands

Strategies

- Implement practices identified in the Agriculture Land Reserve (ALR) guidelines and policies and the *Soil Conservation Act* on Crown ALR lands within the planning area
- Conserve forest soil productivity through the implementation of: the *FPC* and regulations, government guidelines for conserving forest soils, watershed and terrain stability assessments

3.3 Fish and Wildlife

The planning area has a wide spectrum and diversity of habitats for a number of fish and wildlife species including several species of ungulates, bears and other carnivores, furbearers, rodents, songbirds, raptors, game birds and water fowl. In addition, there are numerous species of insects, amphibians and reptiles.

A number of regionally important (yellow-listed), threatened (blue-listed) and endangered (red-listed) species have been identified for the Dawson Creek Forest District. In addition a number of rare, threatened or endangered plants, plant associations or plant communities have been identified for the planning area. Appendix D contains a list, provided by the Conservation Data Center of plant and animal species found within the planning area that are red- and blue-listed.

The conservation of fish and wildlife resources is directly linked to habitat supply, and harvesting pressure on fish and wildlife resources. The Dawson Creek LRMP is recommending a number of general management objectives and strategies directed at sustaining an adequate supply of suitable habitat for all species within the planning area. The *FPC* and regulations, and the implementation of biodiversity guidelines are the major tools used to manage adequate habitat supply for many species in the planning area.

Several species have been identified within the planning area as “key indicator” species because they are regionally important, threatened or endangered (i.e., “listed” species). Key indicator species include

ungulates (namely, white-tailed deer, elk, woodland caribou, mountain goat and Bighorn Sheep), grizzly bears, furbearers (namely, marten), bull trout, and passerine songbirds (namely, warblers). Sustaining the habitat for these species is necessary to sustain viable, genetically diverse wildlife populations. In addition to the general management directions, specific resource management objectives and strategies have been developed to sustain habitat for these species within appropriate resource management zones and subzones. It is assumed that management objectives and strategies intended to accommodate habitat requirements for key indicator species within the planning area will incidentally accommodate the habitat needs of many species.

Resource management objectives and strategies have been developed to assist in addressing potential conflicts/competition for range resources by native wildlife species and domestic livestock. This issue is addressed through the General Management Direction and more specifically, through objectives and strategies applied to RMZ's and subzones where conflict occurs, or where the potential for conflict has been identified.

3.3.1 Fish

Fish populations in the planning area are diverse in number and species. Twelve species of sport fish are present in the Peace River system. The most abundant species are mountain whitefish, Arctic grayling, rainbow trout and walleye. Smaller populations of bull trout, kokanee, northern pike, goldeye, yellow perch and burbot can also be found. Common non-sport species include the long nose sucker, largescale sucker, white sucker and northern squawfish.

Many of the fish populations are slow growing and late maturing. Although exploitation rates have been historically low, it is believed that both legal and illegal fish harvests are increasing. Of particular concern are declining populations of bull trout and Arctic grayling in many watersheds. Bull trout is "blue-listed" in B.C. Arctic Grayling in the Williston Lake drainage is red-listed.

Both hydroelectric reservoirs (Williston and Dinosaur Lakes) have substantial populations of natural fish and stocked species (kokanee). Twenty-eight other lakes have been stocked, many with rainbow, cut-throat or brook trout. Kokanee, cut-throat and brook trout are all introduced species in the planning area.

3.3.2 Wildlife

The need to manage and sustain habitat for wildlife across the planning area has been addressed as a GMD.

Habitat needs for many species of wildlife include site-specific needs which may vary seasonally but are essential for the maintenance of the species population or ecosystem processes. There are also many species which range over large areas. Critical habitat is defined as part or all of a specific place occupied by a wildlife species or population of such species and recognized as being essential for the maintenance of the population or ecosystem processes. These habitats are generally well defined and could include denning sites, nesting sites, and winter range.

Both Bighorn and Stone's sheep and mountain goat winter ranges are found in mountainous areas. Moose and white-tail deer winter ranges occur in forested upland areas, plateau and lowland portions of the planning area. Mule deer and elk winter ranges are found primarily on south- or southwest-facing river and stream valley slopes or "breaks". Caribou populations utilize two distinct habitat types. High elevation area of alpine and sub-alpine and low elevation pine stands and black spruce bogs prevalent on the Kiskatinaw plateau provide arboreal lichen food source. Low elevation caribou populations are known to winter in pine stands and larch/black spruce bogs prevalent on the Kiskatinaw Plateau in the eastern portion of the planning area.

The habitat needs for wider ranging wildlife species will be addressed through landscape unit objectives. These objectives may be species-specific (e.g., grizzly bear and caribou), or incorporated into the biodiversity objectives for landscape units.

Most regionally significant ungulate species are yellow-listed. A GMD has been developed to sustain an adequate habitat supply for ungulate species. In addition, objectives and strategies have been developed more specifically to RMZ's to identify, manage and sustain habitat for these species. The LRMP Working Group also recognizes that some resource development activities can enhance habitat for some species or provide surrogate habitat for other species.

Winter use or transient use of some habitats by elk, deer, and moose occasionally conflict with agricultural enterprises (including use by domestic livestock), especially in or adjacent to Agriculture/Settlement areas. The LRMP Working Group has provided direction through a broad management strategy intended to reduce or manage these conflicts. The strategy intends to utilize a complete range of options to reduce the conflicts and may include revisions of some wildlife objectives where appropriate.

In other parts of the planning area, particularly where wildlife-agriculture/range conflicts are insignificant, an overall management strategy has been developed where critical ungulate wintering habitat or winter range is identified, mapped and considered for wildlife habitat area (WHA) status under the FPC (*Intent: The Working Group is not recommending "who" is responsible for identifying and mapping habitat types.*)

GMD #3 - Fish and Wildlife

Objectives

- Sustain and manage wildlife habitat for red, blue and yellow-listed species
- Sustain and manage fish habitat and water quality for red, blue and yellow-listed species
- Provide opportunities for the sustainable harvest of fish and wildlife resources
- Sustain and manage wildlife and critical wildlife habitat to reduce wildlife-agriculture/range conflicts
- Sustain and manage habitat for resident and migratory wildlife species

Strategies

- Implement the FPC, regulations and appropriate government guidelines (*not incremental but important due to the history of this LRMP*)
- Implement government guidelines for the management of habitats for listed species as these guidelines are developed
- On a priority basis, identify, map and incorporate appropriate management strategies to sustain and manage rare, threatened or endangered habitats and/or plant communities in landscape unit level and operational plans (*Intent: Government to undertake*)
- Apply appropriate wildlife management strategies to address wildlife-agriculture/range conflicts in Agriculture/Settlement areas and in adjacent specified RMZ's by means of, but not limited to: Managing and monitoring wildlife populations and distributions, assessing conflicts, and through proactive consultation, recommending solutions concerning wildlife harvest strategies

GMD #3 - Fish and Wildlife (cont'd)

Strategies (cont'd)

- Apply appropriate fish and wildlife management strategies to address resource use conflicts by means of, but not limited to: Managing and monitoring fish and wildlife populations and distributions, assessing conflicts, and through proactive consultation, recommending solutions concerning fish and wildlife harvest strategies
- Apply government guidelines to identify and map critical ungulate wintering habitat in the planning area and consider these habitats for wildlife habitats area (WHA) status under the *FPC (Intent: Government to undertake)*

3.4 Air Quality

Air quality is fundamental to sustaining a healthy environment for human, animal and plant life. The GMD for this resource value states that air quality must be sustained or enhanced across the planning area.

GMD #4 - Air Quality

Objective

- Meet or voluntarily exceed the provincial air quality standards established and monitored by the Ministry of Environment, Lands and Parks (MELP)

Strategy

- Manage emissions to meet or voluntarily exceed air quality standards

3.5 Recreation and Tourism

The planning area supports a diverse range of public and commercial outdoor recreation and tourism opportunities. The recreation and tourism sector depends on: Scenic areas, water, fish, wildlife and, recreation facilities to attract resident and non-resident visitors, and business travel. Tourism provides 7% of the employment and 3% of the income in the planning area.

A considerable amount of highway tourist traffic from throughout North America converges at Mile Zero of the Alaska Highway located in Dawson Creek. Consequently, highway corridor viewscape values are important resources in the planning area.

Tourism is a growth industry within the planning area. This industry is expected to benefit from the development of commercial recreation opportunities, especially in the more remote portions of the planning area. The viability of outdoor, nature-based wilderness tourism is expected to increase with the anticipated growth of commercial recreation opportunities.

Popular recreation activities in the planning area include hunting, hiking, camping, scenic and wildlife viewing, cave exploring, kayaking, canoeing, fishing, jet-boating, mountain-biking, cross-country skiing, snowmobiling, and use of all terrain vehicles (ATV's). In remote areas, wilderness recreation activities are increasing.

Various inventories are used by the MoF to identify and map recreation opportunities, recreation features, visual landscapes and scenic areas within the planning area. Their respective classifications indicate the nature of resource management activities required to sustain or enhance their values. Recreation Opportunity Spectrum (ROS) classes are determined by considering the three basic criteria of remoteness, size and evidence of human activity. Conversely, management classes for recreation features are determined by considering the relative uniqueness of a given biophysical feature in the landscape. Visual quality and scenic areas are discussed in 3.6 *Visual Quality*.

The GMD for Recreation and Tourism provides for recreation values, opportunities and activities across the planning area using landscape inventory information to guide landscape unit level and operational plans.

GMD #5 - Recreation and Tourism

Objective

- Sustain and manage a complete spectrum of public, commercial and tourism-related recreation values, opportunities and activities

Strategies

- Identify, classify and manage existing recreational resource values and the physical features on Crown lands important to developing outdoor recreation opportunities (*Intent: Government to undertake*)
- Use the Recreational Opportunity Spectrum (ROS) inventory to develop and guide appropriate management strategies to sustain a range of recreation opportunities
- Use recreation inventories to develop and guide appropriate management strategies in landscape unit level and operational plans to sustain a range of recreation opportunities and features
- Plan new access routes to mitigate the negative impacts of resource use on outdoor recreational experiences
- Manage, maintain and develop public recreational facilities, including sites and trails
- Establish recreation sites and trails objectives (*Intent: Government to undertake*)
- Monitor to ensure public and commercial recreation activities do not exceed acceptable limits of use (*Intent: Government to undertake*)

3.6 Visual Quality

Scenic landscapes are a valuable and integral component of the forest and land resource. Scenic landscapes are managed by identifying 'scenic areas', making scenic areas 'known', and establishing visual quality objectives (VQO's) for known scenic areas. These objectives define levels of acceptable visible alteration and are prescribed in visually sensitive areas (also known as scenic areas) through a process of landscape inventory and analysis (refer to MoF's Visual Landscape Inventory). In general, scenic areas within the planning area include travel corridors, water routes, lakes, trails and recreation areas.

Broad visually sensitive areas are identified and mapped at 1:250,000 and further inventoried at 1:50,000. After being made known by the district manager of the MoF, thus becoming "scenic areas" as per the FPC, the visual values in these areas can be managed in one of two ways: (1) Established VQO's (set by the district manager or through a higher level plan) which activate the visual impact assessment sections of the FPC, or; (2) Without established VQO's which requires less stringent visual impact assessments (often called "visual simulations").

Although it is generally accepted that resource development drives the economy of the planning area, it is recognized that forest landscapes have scenic values that are important. Specific areas and sites have been

identified as scenic areas within the Dawson Creek LRMP. VQO's established in accordance with visual sensitivity can be used to guide resource development in the planning area.

GMD #6 - Visual Quality

Objective

- Manage scenic values in visually sensitive areas

GMD #6 - Visual Quality

Strategies

- Manage visual quality in identified scenic areas (including those areas adjacent to Protected Areas that are or may become identified scenic areas) through visual landscape inventories, established VQO's, visual impact assessments and monitoring
- Develop VQO's in consultation with the public. Where concerns exist, review VQO's through landscape unit level planning processes that include public consultation (*Intent: Government to undertake*)
- Apply VQO's (established by MoF) to guide timber harvesting and incidental harvesting, including that related to oil and gas, and mineral exploration
- Maintain up-to-date mapping of broad visually sensitive areas in the planning area (1:250,000) and incorporate this information into landscape unit level and operational planning processes
- At the landscape unit planning level, identify scenic areas that require the establishment of site-specific VQO's (*Intent: MoF to undertake in support of operational planning*)

3.7 First Nations

The West Moberly and Sauleau First Nations communities are both signatories to Treaty 8. This Treaty covers all of the Dawson Creek LRMP planning area as well as lands in other planning areas and other provinces.

Treaty rights are protected under Section 35 of the *Constitution Act* which states:

Section 35 (1) The existing aboriginal and Treaty rights of the aboriginal peoples of Canada are hereby recognized and affirmed.

Treaty rights in relation to natural resources are defined within the text of Treaty 8 as:

"And Her Majesty the Queen HEREBY AGREES with the said Indians that they shall have the right to pursue their usual vocations of hunting, trapping and fishing throughout the tract surrendered as heretofore described subject to such regulation as may from time to time be made by the Government of the country, acting under authority of Her Majesty, and saving and excepting such tracts as may be required or taken up from time to time for settlement, mining, lumbering, trading or other purposes".

In addition to the West Moberly and Sauleau First Nations communities, there are significant populations of people of aboriginal descent living in urban centres and rural areas throughout the planning area. A community of Metis people live at Kelly Lake on the eastern border of the planning area.

GMD #7 - First Nations

Objectives

- Recognize and avoid unjustifiable infringement of aboriginal and Treaty rights
- Provide opportunities for the pursuit of traditional uses
- Enhance First Nations participation in resource planning

Strategies

- Implement the B.C. Government's *Crown Land Activities and Aboriginal Rights Policy*
- Work closely with local First Nations to identify and incorporate their interests in all levels of resource planning, and; consider developing memoranda of understanding and/or protocol agreements, where appropriate, to facilitate this process
- Support Traditional Use Studies, and cultural and heritage resource inventories to facilitate information exchange with local First Nations
- Consult with local First Nations to identify cultural and heritage resource values, and to develop objectives and strategies for addressing treaty and aboriginal interests in landscape unit level and operational plans

3.8 Culture and Heritage

Both cultural and natural heritage resources are recognized within the Dawson Creek planning area. A heritage value is defined as the historical, cultural, aesthetic, scientific or educational worth or usefulness of a site or object (*Heritage Conservation Act*, Part 1 - Interpretation).

3.8.1 Cultural Heritage Resources

"Cultural heritage resources" refers to 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 (*The Forest Act*, Part 1 - Interpretation). Cultural heritage resources include aboriginal rights and aboriginal archaeological sites (Forest Development Plan Guidelines). Accordingly, the cultural heritage resources in the planning area reflect past and present uses of the land by aboriginal and non-aboriginal peoples.

Three categories of resources are evident:

- archaeological sites containing physical remains of past human activity;
- historical sites, which may be significant due to events which occurred there or due to structures which were built there, and;
- traditional use sites which often lack physical evidence of human artifacts or structures but maintain cultural significance to present communities.

The majority of archaeological sites within the planning area consist of surficially lain artifacts of stone tools and/or flakes which indicate where these tools were crafted or repaired. More complex sites may include other features such as the remains of cooking hearths and post moulds.

Historical sites of interest date from the early fur trade and homestead period (circa 1846). Several sites are found along the Peace River including Hudson's Bay Company forts, and early Northwest Mounted Police and RCMP outposts; and several known aboriginal sites occur in various locations throughout the South Peace.

Traditional use areas may include sacred sites (e.g., burial grounds) and spiritual sites, historical and contemporary ceremonial sites, gathering sites for resources such as berries and medicinal plants, hunting grounds, sites of historical cultural significance, trails, and wagon roads.

Assessments of cultural heritage resources are collectively referred to as 'Cultural Heritage Resource Studies', and include Archaeological Overview Assessments, Archaeological Inventory Studies, Archaeological Impact Assessments, Traditional Use Studies, Cultural Heritage Overview Assessments, and Culturally Modified Tree Inventory Studies. An archaeological overview assessment has been completed for the Dawson Creek Forest District.

3.8.2 Natural Heritage Resources

Natural heritage resources within the Dawson Creek LRMP consist of paleontological sites containing fossilized remains of geologically-dated fauna and flora. The planning area contains several sites of significance including: Fish Fossil Lake (Wapiti) in the Rocky Mountains (southern portion of the planning area); Rolla Site; and many sites in the now-flooded portions of the Peace River (Williston and Dinosaur Lakes). Both Fish Fossil Lake (Wapiti) and the Rolla sites are within Protected Areas. A special study on natural heritage resources has been completed for the Dawson Creek Forest District.

GMD #8 - Culture and Heritage

Objectives

- Recognize and conserve cultural heritage resources
- Provide opportunities for the enjoyment of spiritual and cultural values
- Recognize and conserve significant natural heritage resources (i.e., paleontological features)

Strategies

- Comply with the B.C. Archaeological Impact Assessment Guidelines, the *Forest Practices Code of B.C. Act*, the *Heritage Conservation Act* and the Protocol Agreement on the Management of Cultural Heritage Resources between the Ministry of Small Business, Tourism and Culture and the MoF
- Address recommendations from 'Cultural Heritage Resource Studies' in landscape unit level and operational plans (*Intent: Government to undertake*)
- Acknowledge First Nations initiatives in the area of culture and heritage through close consultation, and identify and incorporate First Nations values and recommendations into landscape unit level and operational planning processes
- Encourage local First Nations participation in Archaeological Impact Assessments
- Apply government guidelines to identify, map and incorporate information concerning local cultural heritage resources into landscape unit level and operational plans (*Intent: Government to undertake*)

3.9 Trapping

Trapping is socially important in the planning area, and recognized by the Dawson Creek LRMP as a traditional resource use. The diverse landscapes and habitats within the planning area are home to a variety of commercially harvested furbearers including, but not limited to, marten, fisher, lynx, coyote, wolf, fox and beaver. At present, there are 83 registered trapping areas, or portions of trapping areas, covering the entire planning area.

A major concern for many trappers is the need for adequate notification of impending land and resource developments that could detrimentally affect their interests. In an attempt to provide appropriate notification,

provincial ministries including Environment, Lands, Forests, and Energy and Mines (Energy and Minerals Division), in conjunction with the B.C. Trappers Association have implemented a notification program to ensure that trappers are adequately notified of impending developments, provided that the trapper has authorized the release of personal information.

GMD #9 - Trapping

Objectives

- Recognize existing trapping tenures, and manage furbearer habitats and populations (considering enhancement at the landscape unit and operational levels) to provide long term opportunities for trapping (*Intent: Consider furbearer habitat and/or population enhancement at the landscape unit and operational levels*)
- Recognize trapping and the use of trapping areas as a way of life and of special year-round cultural significance to First Nations

Strategies

- Apply government guidelines for identifying and incorporating critical furbearer habitat and habitat management objectives for priority furbearer species (marten, fisher and lynx) into landscape unit level and operational planning
- Notify registered trappers of impending resource developments in a timely manner
- Where possible, maintain traditional routes of transport for trappers to allow for the harvest of fur
- In consultation with trappers and B.C. Environment's habitat protection staff, identify known wildlife habitat features, known furbearer refuge areas, and known trapper improvements such as cabins, trails and sets, and incorporate this information into landscape unit and resource development planning, and consider in operational planning, to mitigate negative impacts to trapping and trapping improvements (*Intent: To set some strategic direction for proactive consultation between B.C. Environment (BCE) and trappers to identify their interests, known wildlife habitat features, and furbearer refuge areas in resource development and landscape unit planning. Known furbearer refuge areas will not be incremental to existing landscape unit constraints, and are not intended to preclude timber harvesting*)
- Manage resource activities on trapping areas with respect to their special year-round significance to First Nations
- Encourage industrial proponents and trappers to work cooperatively to accommodate trapping values, resource values and industrial operations

3.10 Guide Outfitting

Quality guiding opportunities for hunting and fishing experiences exist in the planning area due to its diversity of landscapes and natural diversity of fish and wildlife populations. Most of the planning area is tenured to guide outfitters. Some guides have applied to expand their operations to include hiking, trail rides and wildlife viewing/photography experiences and opportunities.

GMD #10 - Guide Outfitting

Objective

- Sustain and manage existing guide outfitting opportunities

Strategies

- Recognize guide outfitting tenures and manage resource development activities to mitigate negative impacts to guide outfitting
- Notify guide outfitters of impending resource developments in a timely manner
- Permit grazing activities in support of guide outfitting operations where appropriate
- In consultation with guide outfitters and BCE's habitat protection staff, identify known wildlife habitat features for large carnivores and ungulates, and guide outfitter improvements such as base camps and satellite camps, and incorporate this information into forest development, resource development, landscape unit level and operational planning to mitigate negative impacts to guide outfitting and guide outfitter improvements
- Encourage industrial proponents and guide outfitters to work cooperatively to accommodate guide outfitting values, resource values and industrial operations

3.11 Water

There are several major river systems in the planning area including the Pine, Sukunka, Murray, Wapiti, Moberly and Kiskatinaw Rivers, all of which drain directly or indirectly into the Peace River. Noteworthy lakes include: Wapiti and Monkman Lakes in the Rocky Mountains; Moberly Lake; Dinosaur Lake; the Peace Arm of Williston Lake in the Hart Foothills, and; Boudreau, One Island, Bearhole and Swan Lakes on the Alberta Plateau. Both Dinosaur and Williston Lakes are man-made reservoirs created by hydro-electric projects.

Although water is used from many surface and groundwater sources throughout the planning area, the three major surface sources of supply are the Kiskatinaw River (supplying the communities of Dawson Creek, Rolla and Pouce Coupe), the Pine River (supplying the District of Chetwynd) and Moberly Lake (supplying the First Nation communities and rural community at Moberly Lake). The District of Tumbler Ridge uses groundwater from six aquifers supplying Flatbed Creek, and one emergency pump located in Flatbed Creek. Hudson's Hope uses water directly from the Peace River. In addition, the Peace and Wapiti Rivers supply water to communities outside of the planning area.

The Pine, Kiskatinaw and Moberly River watersheds have been identified as significant sources of water for the use of residents in the planning area. Some communities using water from these rivers believe that water quality and quantity within these three rivers have been negatively impacted by human activity. As these communities have made significant investments (e.g., storage and water diversion structures, water treatment facilities, etc.) to divert and treat water for use by their residents, they desire a higher level of management to ensure that land and resource activities on Crown lands within the Pine, Kiskatinaw and Moberly River watersheds do not negatively impact their sources of water supply.

At this time, official 'community watersheds' have not been designated within the planning area under the *FPC*. It is unlikely that licensed surface water diversion from small watersheds with high intensities of forest resource development and use will increase to the point that official designation would be necessary or appropriate within the time frame of this plan. Large sources of supply such as the major watersheds listed above, do not meet the intent of official community watershed designation under the *FPC*.

The Dawson Creek LRMP has designated the three major watersheds previously listed as ‘*community domestic water supply areas*’ (refer to Appendix E for a map showing community domestic water supply areas within the planning area). Specific land and resource management objectives and strategies have been developed within appropriate portions of RMZ’s to provide a higher level of management to sustain water resources in these areas.

The following GMD applies to all watersheds including the three major community domestic water supply areas described above.

GMD #11 - Water

Objective

- Sustain and manage water supplies for domestic water users and community waterworks licensees
- Sustain and manage, where possible and appropriate, the natural stream flow regime (timing of flow, water quality and quantity) for identified watercourses, recognizing that natural hydrologic processes are beyond the control of resource managers
- Manage land and resource developments within community domestic water supply areas to sustain water quality and quantity

Strategies

- Establish and maintain instream flow requirements and hydrologic regimes on a priority basis (*Intent: Government to undertake*)
- Determine the equivalent clearcut area (ECA) thresholds for specific watersheds on a priority basis (*Intent: Government to undertake*)
- Identify high priority watersheds and use the appropriate levels of watershed assessment to determine impacts, potential impacts, prescriptions and rehabilitation measures (*Intent: MELP to undertake*)
- Identify and establish water quality monitoring sites. Parameters to be monitored may include, but are not limited to: Turbidity, stream flow, water temperature, conductivity, faecal and total coliforms. (*Intent: MELP and local government to coordinate planning, and program implementation and monitoring*)
- Identify and, where appropriate, consider designating smaller watersheds in settled areas with licensed water use and a high intensity of present or future forest resource development as community watersheds under the FPC. (*Intent: Government to undertake*)
- Consider “community domestic water supply areas” in landscape unit planning (*Intent: Government to undertake*)
- Include the intent of the *Kiskatinaw Integrated Watershed Management Plan (IWMP)* into landscape unit level and operational planning to sustain and manage water quality and quantity within the Kiskatinaw River Community Domestic Water Supply Area

3.12 Agriculture & Range

Agriculture in the planning area dates back to the late 1800's and has played a key role in the development of the area. It has provided a stabilizing effect on the population and provided a labour pool for other industries in the area. There are more than 1,000 farmers on over 400,000 hectares, or 13.5% of the planning area. ALR covers 19% of the planning area (565 000 ha of ALR, 57.6% private, 42.4% Crown). The South Peace area is similar to the prairie agricultural regions to the east. Cereal crops, beef cattle, specialty crops such as oilseeds, turf-seeds and honey are the primary agricultural products of the area. Bison and reindeer game farms are gaining popularity as viable alternatives to ranching conventional livestock.

Agriculture is dependent on lands with suitable soils and climate. The Provincial Agriculture Land Reserve (ALR) was created in 1972-73 through the *Agriculture Land Commission Act (ALC Act)* to preserve agricultural land for the establishment and maintenance of farms. The ALR captures the majority of lands suited for agriculture; five percent of the province is designated as ALR.

Although the *ALC Act* provides for permitted uses other than agriculture, its primary purpose is to preserve agricultural land for the establishment and maintenance of farms, not for continuing permitted uses. Consequently, that portion of the Provincial Forest that coincides with the ALR may be withdrawn from timber production over time, as the demand for agricultural land arises. Consideration of this in the planning and management of permitted uses will aid in minimizing the risks to non-agricultural investments associated with these uses.

The range resources in the Peace River area are utilized by domestic stock and wildlife. Domestic stock use of Crown range resources is approved under a grazing tenure system. Tenure is in the form of a grazing license or permit, haycutting license or permit, or a grazing lease. Crown grazing tenures cover approximately 10% of the planning area. Ranchers utilize Crown range to sustain livestock during the summer, for a period of approximately four months. Private land holdings are the primary source of hay for livestock feed for the remainder of the year.

3.12.1 Agriculture

Over one-sixth (16.5%) of the province's ALR lands are located within the planning area. There are few larger tracts of higher agricultural capability lands that have not yet been developed and are likely to become important for agriculture in the future. The majority of these areas include arable ALR lands in the Plateau, Foothills, South Peace, and Major River Corridors RMZ's. A significant portion of the ALR Crown land tends to be of lower agricultural capability which is more suited to growing forage crops than cereal crops.

Agriculture is subject to wide swings in profitability due to global commodity supply and demand. Improvements in agricultural commodity prices and the loss of agricultural land outside the planning area may create a demand for more land in agricultural production within the planning area. The Dawson Creek LRMP recognizes the need for agricultural expansion on ALR lands, particularly on arable land adjacent to existing operations. The existing '*Extensive Agriculture Policy*' accommodates this broad objective as it has a proximity requirement which defers the alienation of some ALR lands due to location and access.

3.12.2 Range

Within the planning area, the most productive native range sites occur at low elevations, in deciduous and mixedwood forest types. Forage demand on Crown range has increased over the past few years and will likely continue to increase, largely as a result of considerable growth in the ranching sector and in some wildlife (i.e., ungulate) populations. Local First Nations have also expressed concern regarding increasing domestic range use within their traditional hunting areas.

Resource management objectives and strategies have been developed to address potential conflicts and/or competition for range resources by native wildlife species and domestic livestock. This issue is addressed as a GMD (refer to GMD #3) and more specifically, through objectives and strategies applied to RMZ's and subzones where conflict occurs, or where the potential for conflict has been identified.

GMD #12 - Agriculture and Range

Objectives

- Plan and manage for potential agricultural growth on arable lands within the ALR
- Sustain or enhance existing grazing tenures, and provide new grazing opportunities where appropriate

Strategies

- Provide opportunities for the conversion of Crown ALR lands with suitable agricultural capability to private tenure where there is demonstrated demand
- Manage and utilize resources on Crown ALR lands in a manner that will allow the land to be used for agricultural purposes in the future, as outlined in the *ALC Act*
- Minimize the risk to investment of permitted uses on Crown ALR lands through appropriate planning of those uses and the use of referral processes
- Provide for new grazing opportunities in appropriate areas by utilizing range management techniques that include, but are not limited to, prescribed burning, range clearing, and livestock grazing in forested areas. Other resource values will be considered through the referral process
- Coordinate resource use with other users to minimize loss of forage within grazing tenures
- Consider local First Nations traditional hunting areas and critical community use areas in the designation of new grazing tenures

3.13 Coal and Minerals

The Peace River Coalfield is almost fully encompassed in the Dawson Creek planning area. Coal trends extend through the LRMP area in a continuous north to south orientation from Dunlevy in the north to the Saxon area in the south. The coalfield consists of more than 3.3 billion tonnes of measured and indicated coal resources, and an additional 6 billion tonnes of inferred resource. The importance of the field is highlighted by two operating coal mines near Tumbler Ridge (producing 6 million tonnes per year of metallurgical coal) accounting for the highest proportion of employment and wage of all industrial sectors in the LRMP area. A new coal mine is proposed at Willow Creek near Chetwynd (600,000 tonnes/year) which is currently in the B.C. Environmental Assessment process. Potential for long term future extraction of coal is very high throughout the coalfield.

There are a number of commercial industrial minerals (limestone, marble, barite, sand and gravel) that have significant potential in future. In the northwest portion of the area, a well defined, high quality limestone resource exists.

Mining contributes significantly to both the regional and local economy and provides the highest proportion of employment (17%) and earned income (19%) of all industrial activity in the LRMP. It is recognized that known coal and mineral resources have high economic value.

Mineral exploration, mining roads and mining developments are acceptable uses of the land outside Protected Areas, subject to the consideration of other values through the appropriate regulatory framework. It is recognized that mineral exploration, development and mining are uses of the land that create increasing levels of landscape disturbance. While only small areas of land are used for development, access to large areas is essential for exploration.

The Dawson Creek LRMP recognizes the limitations to visual management with regard to the fixed location of coal and ore deposits (i.e., cannot relocate open-pit activity to meet visual quality objectives). Since mine developments have limited opportunity for visual management, explanatory viewpoints can be used to explain mining and reclamation programs. Mining may elicit a temporary visual impact during

operations, however, through progressive reclamation techniques, long term impacts can be minimized. Mining development proposals are subject to comprehensive review and approval processes to ensure that mining will avoid, minimize or mitigate impacts on identified resource values.

GMD #13 - Coal and Minerals

Objectives

- Provide opportunities and access for mineral, coal and aggregate exploration, development and transportation (*Intent: to recognize that access management direction within RMZ's should not be unduly prohibitive due to the coal and mineral resource potential which may be currently hidden. Exploration is fundamental to defining mineral reserves*)
- Honour existing tenures
- Permit exploration and development of mineral resources within the appropriate regulatory and approval framework for environmentally responsible development of surface and sub-surface resources

Strategies

- Continue geological, geochemical and geophysical surveys and mineral deposit research to improve data within the planning area
- Integrate coal and mineral exploration and development activities with other resource use activities where feasible
- Within local level planning processes, consider low impact exploration methods where appropriate
- Consider the hidden nature of subsurface resources in landscape unit level and operational planning
- Manage visual quality, at or adjacent to, coal and mineral mine developments using a range of management tools (e.g., informational viewpoints describing mining and reclamation programs)

3.14 Energy

The planning area contains a rich endowment of energy resources including oil and natural gas, coal bed methane, hydro-electric and geothermal potential.

Northeastern B.C. is the only part of the province that currently produces oil and gas resources. The planning area, as with the other LRMP's in Northeastern B.C. (Fort St. John and Fort Nelson) is within the Western Canada Sedimentary Basin. Discoveries of large gas deposits in the Foothills have stimulated considerable interest in the natural gas potential of the planning area. The outlook for the energy sector is for steady growth over the next two decades.

Oil and gas exploration and development is a large economic sector in the planning area, directly employing 4% of the working population and generating jobs in the service industry. It supports businesses involved in supplying goods and services for exploration and development, for natural gas processing and pipeline utilities. Natural gas and oil are transported by pipeline from the planning area to southern B.C. via the Pine Pass, and also into Alberta.

Coal bed methane resources exist in the planning area mainly within the Gething formation of the Peace River Coalfield. Exploration drilling to prove out these extensive reserves as a future energy source has been conducted recently near Tumbler Ridge.

The W.A.C. Bennett Dam on the Peace River creates Williston Lake, B.C. Hydro's largest storage reservoir. There are two generating stations on the Peace River, the G.M. Shrum and the Peace Canyon,

having an operating labour force of approximately 150. Energy developments on the Peace River produce approximately one third B.C. Hydro's electrical energy. There remains undeveloped hydro-electric potential on the Peace River (i.e., B.C. Hydro's Site C proposal, in abeyance since 1981).

GMD #14 - Energy

Objectives

- Provide opportunities and access for oil and gas exploration, development and transportation
- Honour existing oil and gas tenures
- Provide opportunities and access for hydro-electric development and transmission
- Provide opportunities for the development of alternative energy sources (e.g., ethanol)

Strategies

- Integrate oil and gas exploration and development activities with other resource use activities where feasible
- Permit exploration and development of oil and gas resources using the appropriate regulatory framework that promotes environmentally responsible development of subsurface resources
- Consider potential infrastructure requirements for development when exploring for oil and gas resources
- Within local level planning processes, encourage low impact exploration methods where appropriate
- Consider the hidden nature of subsurface resources in landscape unit level and operational planning

3.15 Communications, Transportation and Utilities

The planning area is traversed by a number of communication, transportation and utility corridors. Infrastructure is important in the development of resources within the planning area. Although corridors provide a source of forage for wildlife and domestic stock, and a means for recreation and motorized access, they can fragment habitats. In recent years, there has been more cooperation between resource management agencies and industry in planning, developing and rehabilitating these corridors.

GMD #15 - Communications, Transportation and Utilities

Objectives

- Provide opportunities for communication, transportation and utility corridors and sites
- Provide opportunities for access and infrastructure to provide for transportation and utility corridors, ensuring future development utilizes existing corridors and sites wherever possible

Strategies

- Coordinate expansion needs and associated corridors with other users (e.g., through specific local level planning or other appropriate referral processes)
- Develop, maintain, and upgrade utility corridors with sensitivity to high capability wildlife habitat, recreational values and visual quality objectives
- Rehabilitate unused corridors, where feasible

3.16 Forestry

Approximately 70% of the 2.9 million hectare planning area is forested and approximately 37% of the area is currently classified as operable for sustainable forest production. A range of forest cover exists in the planning area including: high elevation spruce and subalpine fir; lodgepole pine and spruce stands in Foothill areas; and, on the lower elevation plateaus aspen/cottonwood and aspen/spruce mixedwood forests. The December 1996 combined Timber Supply Area (TSA) and Tree Farm License (TFL) allowable annual cut (AAC) is 1,306,533 m³ for coniferous species and 940,500 m³ for deciduous species.

Provincial forests in the planning area are managed under the TSA (approximately 2.3 million hectares) and under TFL No. 48 (approximately 630,000 hectares) managed by Canadian Forest Products Ltd. (Canfor). Canfor and Chetwynd Forest Industries Limited (a division of West Fraser Mills Ltd.) both have volume-based forest licenses in the TSA and milling operations in Chetwynd. The planning area also includes three Pulpwood Agreement Areas (PA 10 and PA 13 held by Louisiana Pacific Canada Limited; and PA 7 held by Canfor). Aspen and cottonwood timber from within PA 10 and PA 13 supplies an oriented strand board (OSB) plant located in Dawson Creek and a pulpmill located at East Pine.

There are eight small milling operators that provide products such as specialty woods, custom milling and log homes. MoF's Small Business Forest Enterprise Program provides small business harvesting operators access to Crown forests. There are currently 109 small business registrants within the planning area. There are also 21 woodlot licenses located generally near settled areas; this figure is expected to increase to 30 by 1998. The timber harvesting, milling and the supporting silviculture industry contributes significantly to the local and regional economy providing 14% of the employment and 12% of the income to the planning area. The Dawson Creek LRMP recognizes that forestry within the Dawson Creek TSA and TFL No. 48 is both socially and economically important.

ALR lands within the planning area comprise 14.6 % of the producing Forest Land Base and operable Timber Harvesting Land Base. The LRMP Working Group recognizes that portions of the Crown land designated as ALR lands are important components of the working forest (both TSA and TFL) and contribute to the regional and local forest economy.

The Dawson Creek LRMP recognizes that the economic stability of the forest sector and forestry-dependent communities depends on sustaining the timber harvesting land base and forest production. Forest management planning and harvesting are guided primarily by the *Forest Act* and the *FPC*. Other federal and provincial legislation and regulations may also apply to forest management activities.

The objectives and strategies recommended for the planning area provide important strategic direction to landscape unit and subsequent operational planning activities through the use of ecologically suitable silviculture systems and forest management practices which intend to emulate natural disturbances. Applying forest practices that mimic natural disturbances at both the stand and landscape unit levels can provide biodiversity and habitat for a wide variety of plant and animal species. At the same time, the forest products industry can be sustained while providing opportunities for other important resources such as recreation, water quality and scenic values.

GMD #16 - Forestry

Objectives

- Sustain or enhance existing forest management, and provide new opportunities for forest management activities
- Manage for a sustainable forest resource (*Intent: To maintain a sustainable level of timber harvest over the long term, recognizing that the AAC is subject to the Chief Forester's consideration of the social and economic objectives of the Crown*)
- Where feasible, increase the area of the operable forest land base
- Where feasible, increase the productivity of the operable forest land base
- Minimize risk to proposed and existing forestry investments while recognizing agricultural investment and potential on Crown ALR land
- Ensure the availability of the short-term timber supply without compromising future sustainability and other resource values

Strategies

- Minimize the risk to proposed and existing forestry investments on Crown ALR land through appropriate planning and referral processes which take into consideration agricultural investment and demand
- Minimize timber losses through the use of silviculture systems; prompt reforestation; forest fire protection; pest management; salvage of damaged or dead timber, and; stand management regimes
- Manage forest resource values at the landscape unit level using a variety of harvesting patterns and cut block sizes which emulate natural disturbances
- Evaluate and utilize a range of silviculture systems and treatment regimes across the planning area where ecologically and economically feasible
- Increase the area of the operable forest land base through, but not limited to, conversion of noncommercial brush areas to productive forest where ecologically and economically feasible, and reforestation of marginal ALR lands where appropriate
- Enhance the productivity of the operable forest land base through the development and use of innovative technology, and application of incremental forestry where ecologically and economically feasible
- Recognize that the hidden nature of subsurface resources may require adaptive management techniques to accommodate seasonal and temporary access
- Plan for five years of AAC approved in the Forest Development Plan as follows:
 - ⇒ Two years of AAC under approved cutting and road permits referred to as Standing Timber Inventory (STI) (years 1 and 2)
 - ⇒ One year of AAC submitted (year 3)
 - ⇒ Two years of AAC being prepared for submission (years 4 and 5)

3.16.1 Application of Forestry Objectives and Strategies to Resource Management Zones

Within RMZ's, specific objectives and strategies that are based on Natural Disturbance Types (NDT's) will be applied to provide strategic direction for forest resource management. These objectives and strategies are described in the following text. For each RMZ (refer to *Section 5.0 Resource Management Zones*), the collective set of objectives and strategies that pertains to a specific NDT is referenced under the Forestry subheading using the respective NDT number (e.g., NDT 1, NDT 2, and/or NDT 3). More than one NDT may be represented within a given RMZ.

Natural Disturbance Type: 1
Biogeoclimatic Zone: ESSF
Subzone variant: ESSF Misinchinka Wet Cool (wk2)

This NDT is characterized by rare stand-initiating events and forest patch sizes ranging from less than 40 ha up to 250 ha.

Objectives

- Sustain and manage for structural diversity within landscape units
- Sustain and manage for mature forest attributes in landscape units
- Sustain and manage rare forest stand types over the rotation
- Sustain and manage a range of areas of similarly aged forest patches while avoiding fragmentation at the landscape unit level
- Recognize seral and climax* species in the application of silviculture systems (*including, but not limited to, edaphic-, fire-, and climatic-climax species)
- Recognize natural succession in the regeneration of seral species

Strategies

- Consider seral species naturally regenerating after disturbance (e.g., aspen, birch, cottonwood) as acceptable species for meeting regeneration delay and free/well-growing requirements at the stand level, as in a nurse cover for the preferred conifer crop within the conifer timber harvesting land base
- Manage for a range of small to large similarly aged forest patches at the landscape unit level using a combination of small clearcuts and partial cutting (e.g., selection systems)
- Manage for mature forest attributes using even-aged or partial cutting (e.g., selection) silviculture systems, where ecologically and economically feasible
- Manage for a variety of canopy layers and spatial patchiness in multi-storied conifer stands using appropriate silviculture systems

Natural Disturbance Type: 2
Biogeoclimatic Zones: ESSF & SBS
Subzone variants: ESSF Bullmoose Moist Very Cold (mv2)
SBS Finlay-Peace Wet Cool (wk2)

This NDT is characterized by infrequent stand-initiating events and forest patch sizes ranging from less than 40 ha up to 250 ha.

Objectives

- Sustain and manage seral stage distribution in a variety of patch sizes within landscape units
- Manage forest activities to simulate natural disturbances while avoiding fragmentation at the landscape unit level
- Sustain and manage for mature forest attributes in landscape units
- Sustain and manage rare forest types over the rotation
- Recognize seral and climax* species in the application of silviculture systems (*including, but not limited to, edaphic-, fire-, and climatic-climax species)
- Recognize natural succession in the regeneration of seral species

Strategies

- Manage seral stage distribution in a variety of patch sizes within landscape units using a combination of clearcutting, partial cutting, aggregated group reserves and harvest units, and some mature and old seral stage forests in a connected network
- Consider seral species naturally regenerating after disturbance (e.g., deciduous) as acceptable species for meeting regeneration delay and free-/well-growing requirements at the stand level, as in a nurse cover for the preferred conifer crop within the conifer timber harvesting land base
- Aggregate small-scale disturbances using clearcutting with group reserves in a contiguous network to simulate natural disturbances
- Manage for mature forest attributes using even-aged silviculture systems with group reserves; partial cutting (e.g., selection) systems; incremental silviculture, and/or; retention of coarse woody debris and veteran trees without compromising silviculture objectives at the stand level, where ecologically and economically feasible
- Manage for a variety of canopy layers and spatial patchiness in multi-storied conifer stands using appropriate silviculture systems
- Manage rare forest types over the rotation
- Sustain and manage seral stage distribution in a mosaic of even-aged stands of different ages within landscape units
- Recognize seral and climax* species in the application of silviculture systems (*including, but not limited to, edaphic-, fire-, and climatic-climax species)
- Recognize natural succession in the regeneration of seral species
- Sustain and manage mixed species stands within landscape units
- Recognize the contribution of mixed species stands to the respective timber harvesting land base

Natural Disturbance Type: 3
Biogeoclimatic Zones: BWBS
Subzone variants: BWBS Peace Moist Warm (mw1)
BWBS Murray Wet Cool (wk1)

This NDT is characterized by frequent stand-initiating events and forest patch sizes ranging from less than 40 ha up to 1 000 ha.

Objectives

- Sustain and manage seral stage distribution in a mosaic of even-aged stands of different ages within landscape units
- Recognize seral and climax* species in the application of silviculture systems (*including, but not limited to, edaphic-, fire-, and climatic-climax species)
- Recognize natural succession in the regeneration of seral species
- Sustain and manage mixed species stands within landscape units
- Recognize the contribution of mixed species stands to the respective timber harvesting land base
- Sustain or enhance the harvest profile within mixed species stands
- Sustain and manage rare forest stand types over the rotation

Strategies

- Manage for a mosaic of even-aged stands of different ages with reserves of forest or single trees, in a clustered harvest pattern of large aggregate units using clearcutting for pure stands, and partial cutting systems (e.g., strip- or uniform-shelterwood) for mixed species stands, where ecologically and economically feasible
- Identify and map (i.e., inventory) mixed species stands for deciduous leading, and coniferous leading types (*Intent: inventory to be sensitive to tiered, even-aged and multi-layered, uneven-aged stands, and; intended for regular updating*)
- Acceptable species of regeneration to reflect natural succession (i.e., seral species) of mixed species stands
- Manage for a variety of canopy layers and spatial patchiness in multi-storied conifer stands using appropriate silviculture systems
- Consider seral species naturally regenerating after disturbance as acceptable species for meeting regeneration delay and free-/well-growing requirements at the stand level as in a nurse tree shelterwood for mixedwood management (applied to both the coniferous and deciduous timber harvesting land base), or; as in a nurse cover for the preferred conifer crop within the coniferous timber harvesting land base

3.17 Access

The way or means of approach to a specified interest is collectively referred to as “access”. Access for resource development is an acceptable use of the land outside of Protected Areas.

Regarding public access, the Table has adopted the philosophy that while all Canadian residents have the right to access public land in the province, the unrestricted use of motorized vehicles is not included in that right. In the event that a road is built into an area for industrial purposes, restricting public use of the road for the purpose of maintaining existing values does not infringe on their right to access public land in the area since they can still use their historical mode of travel to get there.

The Dawson Creek LRMP identifies the conservation and/or enhancement of a wide range of resource values in the planning area. Accordingly, access for resource management must be planned with the broad objective of conserving or enhancing resource values and/or features. Access objectives and strategies recommended for the planning area provide important strategic direction to landscape unit level and subsequent operational planning activities.

The General Management Direct for Access (GMD #17) intends to mitigate resource-use conflicts and negative impacts to sensitive resources and critical habitats while providing certainty of access for resource users. Accordingly, access management directions provide for managed access while collectively accommodating resource values and/or features. The strategies vary by the range and degree of application of the following: co-ordination, joint usage, and restrictions (including, but not limited to, seasonal scheduling, closures, road deactivation, reclamation, and prohibited access).

Access management directions can be categorized according to their respective access intensities, and described by their respective scales of spatial and temporal application and frequency of use, as follows:

- **Sustained Access Management** intends to support, to continue in or provide the means for managed access. It involves coordinating existing access management with new access requirements and/or developments, and generally involves large scale application of access coordination and joint usage strategies.
- **Optimum Access Management** represents the best compromise for addressing both resource preservation and enhanced resource development. It integrates Sustained Access Management with Sensitive Access Management, and involves coordinating existing access management with new access requirements using consultation with resource users to identify and mitigate the potential risk to identified resource values. Optimum Access Management involves large scale application of access coordination and joint usage strategies in addition to small scale application of Sensitive Access Management direction; and is intended for general application across the planning area.
- **Sensitive Access Management** involves identifying resource features and the means for their conservation in site- and time-specific planning and implementation recommendations. Sensitive Access Management involves some degree of limitation to or within a specified condition or range of conditions (spatial and/or temporal); and may include (weight/load) restrictions, seasonal scheduling, closures, road deactivation, reclamation strategies, or in special circumstances, site specific, prohibited access. Where proposals for new access create significant risk to sensitive resource features (e.g., alpine bogs, erodible soils on steep slopes in alpine areas, dunes, salt licks), proponents are obliged to identify and consider alternatives of lower risk using the best information possible. Alpine and sensitive subalpine areas are slower to recover from the effects of disturbance, and Sensitive Access Management direction should be utilized in areas of significant resource value in order to conserve their values over time. This information will be used by land and resource managers within established regulatory review processes.

GMD # 17 - Access

Objective

- Plan and manage access to Crown land subject to the resource values and/or features identified for a respective RMZ using landscape unit level and operational planning
- Maintain existing recreational access routes including specified and/or designated trails

Strategies

- Apply access management direction to sustain identified resource values or features in a manner that is consistent with the management objectives for the respective RMZ
- Develop and implement a consultative process to address the non-routine deactivation of access routes to ensure that only unnecessary routes are deactivated (*Intent: To address concerns of non-tenured recreational users regarding deactivation of recognized/designated recreation trails*)
- Plan and regulate access and road construction using appropriate legislation to mitigate negative impacts to identified resource values or features (*Intent: Government to undertake*)
- Identify significant resource values and features, and incorporate this information into landscape unit level and operational planning processes (*Intent: Government to undertake*)
- In consultation with B.C. MoF staff and recreational users, identify known recreation trails, and incorporate this information into forest development, resource development, landscape unit level and operational planning to mitigate negative impacts to recreation trails
- Recognize that the hidden nature of subsurface resources may require adaptive management techniques to accommodate seasonal and temporary access

4.0 Resource Management Zones

4.1 Provincial Land Use Classification

One of the major aspects of the LRMP is the subdivision of the planning area into RMZ's. The boundaries for each zone were determined by the LRMP Working Group based on a number of considerations including topography, existing land use and access, ALR boundaries, environmental concerns, and resource values. Each zone has a unique set of resource values, objectives to sustain or enhance those values, and a number of strategies to be implemented to achieve the objectives. Along with the GMD's adopted by the LRMP Table, the RMZ's provide geographically focused, strategic direction for all land and resource development in the planning area.

A central theme of this LRMP was to develop integrated strategies to maximize compatibility between objectives within RMZ's. All known values were considered in the development of the objectives and strategies for each zone.

The Dawson Creek LRMP subdivides the planning area into 12 RMZ's. Each RMZ represents resource values collectively, although the values may vary considerably within a given RMZ. To recognize more site-specific resource values within a given RMZ, the LRMP Working Group recommended that subzones also be delineated within each RMZ. Representation of subzones facilitates the application of site-specific management objectives that do not apply to an entire RMZ.

Each RMZ is categorized into one of six Provincial Land Use Categories which reflect the general management regime for each RMZ. An example of RMZ's and their respective Provincial Land Use Category appears below:

<u>RMZ Name</u>	<u>Provincial Land Use Category</u>
Agriculture/Settlement Area	Agriculture/Settlement Area
South Peace	Enhanced Resource Development
Plateau	General Resource Management
Wildlife Habitat/Wilderness Recreation	Special Resource Management - Fish and Wildlife Habitat
Wildlife/Coalfield	Special Resource Management - Fish and Wildlife Habitat
Major River Corridors	Special Resource Management - Major River Corridors
Twin Sisters	Special Resource Management - Culture and Heritage
Pine/LeMoray	Protected Area (Goal 1)
Bocock Peak	Protected Area (Goal 2)

Broad Provincial Land Use Category Descriptions

The **Agriculture/Settlement** Provincial Land Use category includes land:

- currently used or proposed for settlement under an Official Community Plan
- primarily planned and managed by local government under the *Municipal Act*
- currently used for, or with future development potential, for agriculture and range
- used for agriculturally compatible activities such as mineral exploration, oil and gas exploration and development; transportation, utility and communication corridors; recreational developments and forest management
- the majority of the land is in the ALR

The **Enhanced Resource Development** Provincial Land Use category includes lands:

- with existing or with future potential suitability, for intensive resource development with due consideration management of other resource values
- where a high priority has been designated for a special or combined resource management emphasis (such as a high intensity forest management regime or range management emphasis)
- where investments in resource development and enhancement are encouraged in full compliance with the existing regulatory regime

The **General Resource Management** Provincial Land Use category includes lands:

- to be managed for a wide range of resource values
- where conflicts between land uses are managed in an effort to integrate resource development with environmental and conservation values
- where investment in resource development and enhancement may be encouraged in areas with few land use conflicts

The **Special Resource Management** Provincial Land Use category is subdivided into specific land use categories based on the major resource values to be given a high priority in land and resource planning and development. It is recognized that these lands contain extractive resource values, the exploration and development of which may be of significant social and economic benefit to the province. Resource development is permitted but must consider and address all significant values identified. The intent is to assess risk to the identified values and to adequately manage any conflict. Resource values have been subdivided as follows:

- **Wildlife Habitat and Wilderness Recreation:** lands within this Provincial Land Use category have significant fish and/or wildlife values and habitats of regional and/or provincial significance or support a variety of commercial and non-commercial recreational opportunities
- **Major River Corridors:** lands within this Provincial Land Use category are identified major river valleys that have significant fish and wildlife habitat, recreation, tourism and scenic/visual quality values
- **Culture and Heritage:** lands within this Provincial Land Use category have been significant culture and heritage values, including First Nations values

The **Protected Area** Provincial Land Use category includes all Goal 1 and Goal 2 lands proposed for protection under the Protected Areas Strategy. Lands within this category:

- are Protected Areas Strategy (PAS) Goal 1 and 2 areas proposed for protection for their natural, culture and heritage, and/or recreation values
- incorporate a range of existing values and land uses, as defined by the LRMP Table, that are recommended for inclusion in any subsequent Protected Area (such as existing land and resource use activities: non-commercial hunting and fishing, guide outfitting, trapping, grazing in support of guide outfitting, camping and hiking)
- do not permit logging, mining, hydroelectric development, oil and gas exploration and development

4.2 Protected Areas

Prior to the onset of the LRMP process there were ten existing Class A provincial parks that encompassed about 49,000 hectares or roughly 1.6% of the planning area. Eight of the parks, although small in area, are significant recreational features offering a variety of outdoor recreation experiences for local residents and tourists passing through the area. These parks include Swan Lake, Sukunka Falls, One Island Lake, Moberly Lake, East Pine, Sudeten, Kiskatinaw and Taylor Landing. The planning area also included a provincial recreation area located on Williston Lake known as the Dunlevy Recreation Area.

The largest pre-existing park is Monkman Provincial Park located in the Rocky Mountains approximately 63 km south of the District of Tumbler Ridge. It encompasses nearly 40,000 hectares of land and is accessible via the Murray Forest Service Road. It was established in July 1981 to protect many unique natural features including Kinuseo Falls on the Murray River, numerous step falls on Monkman Creek, subterranean drainage features, fossil beds, caves and grizzly bear habitat.

Gwillim Lake Provincial Park is located in the Rocky Mountain Foothills approximately 43 kilometres northwest of the District of Tumbler Ridge. It encompasses nearly 9,000 hectares and is accessible via Highway 29. The park was established in February 1971 to protect Gwillim Lake and the surrounding area for recreational opportunities including camping, fishing, picnicking, canoeing and swimming. The lake contains several game fish including rainbow, bull and lake trout, northern pike and burbot. A unique feature of this park is that it incorporates an outdoor education training centre established by the Peace River South School District.

4.2.1 Protected Areas

4.2.1.1 Introduction

In 1993, the B.C. Government adopted the Protected Areas Strategy (PAS). The strategy's objective was to protect approximately 12% of the province by the year 2000. For the Dawson Creek planning area, the target was set at 6.75% of which 1.6% represented existing Class A provincial parks. The PAS links the efforts of various ministries to protect specific lands for special values such as wildlife, wilderness, recreation, culture and heritage. These areas will be established in addition to existing Protected Areas including ecological reserves and existing provincial parks and recreation areas.

Early in the implementation of the PAS process it was determined that LRMP's would provide a mechanism for the public, industry and government agencies to work together, and through consensus agreement, recommend areas for protection. Two broad goals were considered in the selection of Protected Areas:

Goal 1: To protect viable, representative examples of natural diversity in the province. These are large areas (generally 3,000 hectares in size and larger) which are representative of: the major terrestrial, marine and freshwater ecosystems; characteristic habitats, hydrology and landforms; and, the characteristic recreational and cultural heritage values of each ecosection.

Goal 2: To protect special natural, cultural, heritage and recreational features of the province 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. Most of these areas are generally less than 1,000 hectares in size.

Initially, a number of potential Protected Areas were identified by the public and government in the planning area. These Areas of Interest (AOI's) were evaluated by an inter-agency Regional Protected Areas Team (RPAT) using PAS criteria. Preliminary resource and tenure information was also incorporated into the evaluation process. This information on the AOI's was reviewed by the Dawson Creek District LRMP Table. In addition to the natural and cultural elements required for Protected Areas designation, the Table took into consideration the need to ensure

continued economic stability for communities in the planning area. The LRMP is recommending the following areas for protection:

The **Goal 1** Protected Areas are:

- Butler Ridge
- Peace River/Boudreau Lake
- Kakwa North
- Pine/LeMoray
- Bearhole Lake
- Elephant Ridge
- Wapiti Lake

The **Goal 2** Protected Areas are:

- Kiskatinaw River - ERR354
- Peace Corridor River Sites
- Hole-in-the-Wall
- Pine River Breaks
- Bocock Peak
- Monkman Connector
- Klin-se-za
- Dunlevy Recreation Site
- Rolla Site

4.2.1.2 Resource and Recreation Use Guidelines for Protected Areas

The PAS provides a broad framework to guide LRMP planning tables in recommending areas for protection. However, the PAS does not explicitly address existing and appropriate resource use issues that occur within Protected Areas. LRMP Tables, with guidance from the PAS, recommend acceptable uses within Protected Areas.

Guidelines were developed to assist LRMP Tables with this task. The guidelines are summarized in the document: '*Resource and Recreation Use Guidelines for Protected Areas*', August 1995. This document provides supporting information, lists '*Protected Area Management Principles*', and summarizes in tabular form a '*Compatibility of Selected Activities, Services and Use in Protected Areas*' (Appendix F).

The information is intended to provide overall management guidance to LRMP Tables when developing their recommendations for allowable uses within Protected Areas. The major principles in the document can be summarized as follows:

Protected Area Management Principles Summary

- Some allowable uses are not appropriate within every Protected Area
- Active management/habitat manipulation may be allowed to enhance or rehabilitate seriously altered ecosystems or restore ecological integrity
- Use of Protected Areas is encouraged, where appropriate and consistent with the principle of maintaining ecological integrity
- Allowable activities and developments should be fully compatible and complement the natural and cultural resource values identified within the Protected Area
- Land use activities and traditional cultural uses that may have changed a landscape and/or have acquired significance in their own right, should be recognized and respected
- First Nations peoples may continue to use Protected Areas for sustenance activities, traditional ceremonial and spiritual practices, subject to conservation objectives
- Recognition and special consideration will be given to existing tenures, licenses, authorizations and public use where these uses are compatible with the resource values and management objectives for which the Protected Area was established
- Protected Areas are a public trust and opportunities will be provided for the public to have input into the planning and management of Protected Areas

Based on the above principles, the Dawson Creek LRMP has recommended a set of acceptable uses for the Protected Areas. The table entitled the '*Compatibility of Selected Activities, Services and Use in Protected Areas*' is considered the "baseline" for recommended allowable activities within all Protected Areas and is included in Appendix F. In addition to the table indicated above, additions, changes or modifications to this table are

summarized for each Protected Area and serve as specific allowable activity recommendations. For example, there is consensus at the Table that trapping is an acceptable activity in Protected Areas. Recommendations for directional drilling under Protected Areas in the Dawson Creek planning area are found in Appendix G.

4.2.2 Goal 1 Protected Areas

4.2.2.1 Butler Ridge (6,694 ha)

The Butler Ridge Protected Area is located 20 kilometres northwest of the District of Hudson's Hope. It incorporates the easternmost portion of the Dunlevy Creek watershed north of Williston Lake and the west side of Butler Ridge. The area includes a portion of the shoreline adjacent to the east side of Dunlevy inlet on Williston Lake that is adjacent to the Dunlevy Recreation Area.

This area represents a portion of the Peace Foothills ecosection. It encompasses three biogeoclimatic zones, namely the moist, very cold Engelmann Spruce-Subalpine Fir, the Sub-Boreal Spruce, and the Black and White Boreal Spruce zones. The area provides good examples of the forests of the Rocky Mountain Foothills, and valley bottom to alpine ecosystem connectivity.

The Butler Ridge area provides critical winter range for caribou, Stone's sheep habitat as well as moose and elk winter range. These attributes contribute to the Protected Area's regionally significant value as a wildlife viewing area.

Butler Ridge has historically supported a number of recreational activities including hiking, cross-country skiing, hunting and fishing. The area is also recognized as a traditional use area for First Nations, and continues to support First Nation's cultural values.

Acceptable Uses

- Endorse the *'Compatibility of Selected Activities, Services and Use in Protected Areas'* Table of acceptable activities with the noted exceptions:
- Allow trapping as an acceptable use (refer to Implementation Section 5.2.10)
- Grandparent existing oil and gas tenures (refer to Implementation Section 5.2.7)

Comments

- Helicopter-supported access for recreational purposes not allowed
- Allow snowmobiling and ATV use only on designated trails

4.2.2.2 Peace River/Boudreau Lake (19,738 ha)

The Peace River/Boudreau Lake Protected Area is located between Hudson's Hope and Fort St. John. It incorporates a major portion of the southerly bank of the Peace River valley; the lower Moberly River valley and the Peace River islands between Maurice Creek and the Moberly River (see inset).

This Goal 1 Protected Area is shared between the Fort St. John and Dawson Creek LRMP's. The islands located within the Peace River that are adjacent to the Fort St. John LRMP boundary are within the Fort St. John LRMP planning area while the balance of the islands within the Protected Area are within the Dawson Creek planning area. The Fort St. John portion is a small part of the overall proposal and is greatly influenced by the much larger area within the Dawson Creek planning area. As adopted by the B.C. Government, management direction and implementation will be an outcome of the Dawson Creek LRMP process.

The Fort St. John LRMP Table recommends that the B.C. Government protect the Peace River islands from development using appropriate legislation (those lands that are currently identified within the Goal 1 Protected Area and B.C. Hydro and Power Authority's flood reserve). In addition, the LRMP recommends that the B.C.

Government consider advising B.C. Hydro to re-evaluate their hydro-electric development proposals on the Peace River prior to the onset of a future LRMP process within an eight year time frame.

The Protected Area represents a portion of the moist, warm Boreal White and Black Spruce biogeoclimatic zone within the Peace Lowlands ecosection. Within it are captured the typical mixed forest types of the Peace River valley along with stands of alluvial cottonwood and spruce ecosystems.

The area provides habitat for a number of wildlife species including critical trumpeter swan nesting sites around Boudreau Lake. High value winter range is provided for moose, deer and elk. The area also contains a number of cultural heritage sites of First Nations' and European settlements and uses. These include the first site of European settlement on mainland B.C. at Rocky Mountain Fort (1794-1804), and a historic travel corridor for First Nations, early European explorers and fur traders. This area has traditionally supported a number of recreational activities, both public and commercial, including boating, canoeing, bird-watching, hunting and fishing.

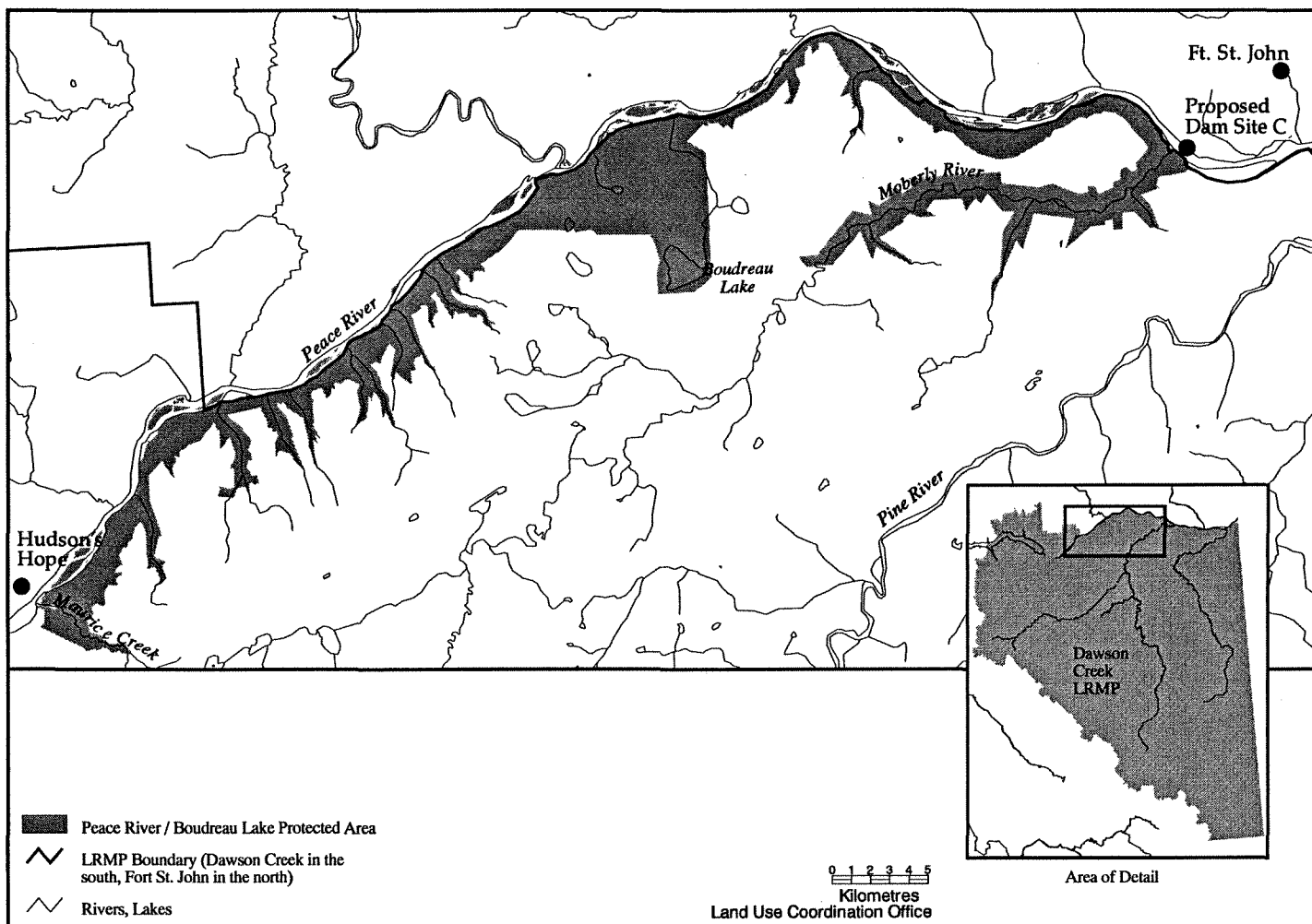
The southern boundary of the Protected Area is complex, approximating the boundary of the Agricultural Land Reserve (ALR). The Dawson Creek LRMP supports the area in principle, and understands that the actual Protected Area boundary may undergo considerable change during the Protected Area status process. The Dawson Creek LRMP also supports the recommendations of the Fort St. John LRMP.

Acceptable Uses

- Endorse the '*Compatibility of Selected Activities, Services and Use in Protected Areas*' Table of acceptable activities with the noted exceptions:
- Allow trapping as an acceptable use (refer to Implementation Section 5.2.10)
- Grandparent existing oil and gas tenures (refer to Implementation Section 5.2.7)
- Allow for directional drilling from outside of the Protected Area (refer to Implementation Section 5.2.8 and Appendix G)

Comments

- Some types of motorized recreational vehicles and boats may be restricted either by type of vehicle, time of year, or areas designated for use. Specific restrictions will be developed through the Protected Area Management planning process which is a public process



4.2.2.3 Pine/LeMoray (32,975 ha)

The Pine/LeMoray Protected Area is located 70 kilometres southwest of Chetwynd in the Hart Ranges ecosection of the Rocky Mountains. It includes the Link and Mountain Creek watersheds and is bordered in the southwest by the planning area boundary and by the Pine River on the northwest and north boundaries. Heart Lake lies within the area.

This area provides good representation of the wet, cool Engelmann Spruce-Subalpine Fir biogeoclimatic zone found within the Hart Ranges of the Rocky Mountains. Located primarily on the east slope of the continental divide, it is a mountainous area of high elevation spruce-subalpine fir forest and rugged alpine terrain.

The area provides important habitat for many fish and wildlife species including Arctic grayling, high elevation caribou, moose, and wolverine; and includes high capability habitat areas for grizzly bear. The Protected Area is also significant for its fossil sites and examples of karst topography and alpine areas. Traditional use by First Nations is also recognized in this area.

The high value backcountry and wilderness recreation values associated with relatively easy access make this area a regionally significant recreation area. Hiking, hunting, fishing, and snowmobiling, as well as commercial recreation activities have traditionally occurred in the area. A Forest Service recreation site exists at Heart Lake.

Adjacent to this Protected Area is an Area of Interest located within the Mackenzie LRMP area.

Acceptable Uses

- Endorse the 'Compatibility of Selected Activities, Services and Use in Protected Areas' Table of acceptable activities with the noted exceptions:
- Allow snowmobiling as an acceptable use (refer to Implementation Section 5.2.9)
- Allow trapping as an acceptable use (refer to Implementation Section 5.2.10)

Comments

- Some types of motorized recreational vehicles and boats may be restricted either by type of vehicle, time of year, or areas designated for use. Specific restrictions will be developed through the Protected Area Management planning process which is a public process
- Allow ATV use on designated trails in the Heart Lake area

4.2.2.4 Elephant Ridge (inc. Elephant Ridge South - Mt. Meikle) (23,292 ha)

The area is near the center of the planning area, about 25 kilometres southeast of the District of Chetwynd

The Elephant Ridge Protected Area consists of two distinct parcels of land adjacent to Gwillim Lake Provincial Park. The larger parcel (21,969 ha) is north of the park and is located along the south facing slopes of Elephant Ridge up to the height of land and includes a portion of Trapper Creek watershed and much of the Jezebel and Elephant Creek watersheds. The smaller parcel (672 ha) is south of the park and incorporates Mt. Meikle.

This area contributes to the representation of the moist, very cold Engelmann Spruce-Subalpine Fir and the Black and White Boreal Spruce biogeoclimatic zones within the Hart Foothills ecosection. The area captures the topography and forest representation of the transition from plains to foothills, including the southern boreal foothills topography.

In addition to watershed protection, the area supports a thriving mountain goat population, and important elk and grizzly bear habitat. Significant bull trout populations are found in Elephant and Jezebel Creeks and the Gwillim River. Elephant Ridge and the surrounding area contribute to regional recreation supporting hiking, wildlife viewing, fishing, camping, hunting and commercial recreation opportunities. Wilderness-like recreation opportunities are available because of the remoteness and lack of access.

Cultural features and/or features that the area may encompass have not been identified in this plan.

Acceptable Uses

- Endorse the *'Compatibility of Selected Activities, Services and Use in Protected Areas'* Table of acceptable activities with the noted exceptions:
- Grandparent existing oil and gas tenures (refer to Implementation Section 5.2.7)
- Allow snowmobiling as an acceptable use (refer to Implementation Section 5.2.9)
- Allow trapping as an acceptable use (refer to Implementation Section 5.2.10)

Comments

- Some types of motorized recreational vehicles and boats may be restricted either by type of vehicle, time of year, or areas designated for use. Specific restrictions will be developed through the Protected Area Management planning process which is a public process

4.2.2.5 Bearhole Lake (17,812 ha)

Located on the Alberta Plateau, this Protected Area comprises a portion of the wet, cool Boreal White and Black Spruce biogeoclimatic zone within the Kiskatinaw Plateau ecosection. The area also captures the plains/foothills mixedwood transition as well as pine, black spruce and larch forest types. The headwaters of the Kiskatinaw River are within the boundaries of this area.

The area contains critical habitat for trumpeter swans. The undisturbed forests and wetlands provide winter range for low elevation caribou and moose. Recreational activities such as fishing, canoeing, camping, hiking, and wildlife viewing are supported within the Protected Area.

Acceptable Uses

- Endorse the *'Compatibility of Selected Activities, Services and Use in Protected Areas'* Table of acceptable activities with the noted exceptions:
- Grandparent existing oil and gas tenures (refer to Implementation Section 5.2.7)
- Allow trapping as an acceptable use (refer to Implementation Section 5.2.10)

Comments

- Some types of motorized recreational vehicles and boats may be restricted either by type of vehicle, time of year, or areas designated for use. Specific restrictions will be developed through the Protected Area Management planning process which is a public process
- Allow ATV access to the current Forest Service Recreation Site along the existing route

4.2.2.6 Wapiti Lake (16,920 ha)

The Wapiti Lake Protected Area is located in the Rocky Mountains, 60 kilometres south of the District of Tumbler Ridge. The area incorporates much of the Wapiti Lake watershed to the Continental Divide and Wapiti Pass. Hiking trails have been constructed connecting the lake with the Wapiti River Forest Service Road, the major roaded access into this area.

This Protected Area contains internationally significant fossils and fossil beds. The landscapes and forests within the area are typical of the eastern flank of the Hart Ranges in the Rocky Mountains. Habitat includes high capability areas for mountain goat and grizzly bear. Tributary streams to Wapiti Lake are critical bull trout habitat.

The watershed is a high capability area for non-motorized recreation including hiking, camping, horseback riding, fishing, and hunting. This Protected Area also encompasses a Forest Service Recreation Site on Wapiti Lake, and approximately 10 km of developed hiking trail (i.e., a portion of the Wapiti Trail). Within the adjacent Wildlife Habitat/Wilderness Recreation Special Management RMZ, approximately 20 km of developed hiking trail complements that portion of the Wapiti Trail within the Protected Area. Commercial recreation activities currently include guide outfitting and angling.

Cultural features and/or values that the area may encompass have not been identified in this plan.

Acceptable Uses

- Endorse the '*Compatibility of Selected Activities, Services and Use in Protected Areas*' Table of acceptable activities with the noted exceptions:
- Allow trapping as an acceptable use (refer to Implementation Section 5.2.10)

Comments

- Primitive and semi-primitive non-motorized recreation (no fly-in commercial use of Wapiti Lake)
- Recreational snowmobiling and ATV use are not acceptable uses (refer to Implementation Section 5.2.9)

4.2.2.7 Kakwa North (31,596 ha)

The Kakwa North Protected Area is located in the southeastern portion of the planning area. It incorporates a major portion of the Narraway River watershed, draining eastward from the Rocky Mountains.

This area is the only section of the Rocky Mountains containing a combination of boreal, mountain and taiga tree species. In addition, the Protected Area provides representation of the Front Ranges ecosection within the planning area. Also of importance are the internationally significant fish-fossil sites and the provincially significant Narraway Falls.

The area encompasses some of the most important high capability habitat of the northern range of Rocky Mountain bighorn sheep. High capability mountain goat habitat can be found on Manitou Mountain. In addition, important bull trout habitat can be found within streams in the area.

The watershed is a high capability area for non-motorized recreation including hiking, wildlife viewing, hunting, and caving. Commercial recreation activities also occur within the area.

The Dawson Creek LRMP recommends that B.C. Parks coordinate planning with Alberta Parks to identify, plan and manage for interprovincial resource values in the Protected Area Management planning process.

Acceptable Uses

- Endorse the '*Compatibility of Selected Activities, Services and Use in Protected Areas*' Table of acceptable activities with the noted exceptions:
- Allow snowmobiling within designated areas (refer to Implementation Section 5.2.9)
- Allow trapping as an acceptable use (refer to Implementation Section 5.2.10)

Comments

- Some types of motorized recreational vehicles and boats may be restricted either by type of vehicle, time of year, or areas designated for use. Specific restrictions will be developed through the Protected Area Management planning process which is a public process

4.2.3 Goal 2 Protected Areas

The following table lists the application of acceptable uses for the Goal 2 Protected Areas:

Acceptable Uses	Comments
<ul style="list-style-type: none"> Endorse the <i>'Compatibility of Selected Activities, Services and Use in Protected Areas'</i> Table of acceptable activities with the noted exceptions: Allow trapping as an acceptable use (refer to Implementation Section 5.2.10) Klin-se-za: Refer to the <i>Twin Sisters Special Management Committee Recommendations</i> (Oct. 1997) (Appendix J) 	<ul style="list-style-type: none"> Applies to all Goal 2 Protected Areas
◇	◇
<ul style="list-style-type: none"> Grandparent existing oil and gas tenures (refer to Implementation Section 5.2.7 and Appendix J) Allow for directional drilling from outside of the Protected Area (refer to Implementation Section 5.2.8 and Appendices G & J) 	<ul style="list-style-type: none"> Applies to the Kiskatinaw River and Klin-se-za Protected Areas Applies to the Kiskatinaw River and Klin-se-za Protected Areas

4.2.3.1 Klin-se-za (Twin Sisters/Beattie Peaks, 2,671 ha)

The Klin-se-za Protected Area is an area of profound spiritual significance and traditional use value to the First Nations people of northeastern B.C. It is the centre of spiritual prophecies that shape the belief systems and culture of the First Nations. The need to protect these values led to the *Twin Sisters Special Management Committee Recommendations* (October 21, 1997) (Appendix J). The following text describes the Klin-se-za Protected Area and is not intended to be used in isolation of this document.

The Twin Sisters or Beattie Peaks is a twin peaked mountain known to local First Nations to be of great spiritual significance. The area represents the core high elevation area of the mountain and is representative of wet cold Engelmann Spruce-Subalpine Fir (ESSF) and alpine tundra (AT) biogeoclimatic zones within the Hart Ranges ecosection. The forest cover is predominantly spruce and alpine fir with some minor components of lodgepole pine.

The area is important for water, trapping, range, wildlife, guide outfitting, mineral and energy, and timber resources. Located within the upper reaches of the upper Moberly River watershed, the area provides the community domestic water supply for Moberly Lake area residents. Sustaining furbearers and furbearer habitat is important to trappers operating within this area. Although Klin-se-za occurs within a portion of one guide outfitting tenure, wildlife consumes the range resources of the Protected Area. The potential for coal is mainly low to moderate while mineral potential varies widely. There is high potential for oil and gas reserves with existing oil and gas tenure. Timber values are high to moderate in the valley bottoms, decreasing rapidly with elevation. There are considerable standing inventories of older seral stage timber. The road access within Klin-se-za is currently limited and the management of roads is critical to sustaining cultural heritage and other values.

Klin-se-za (Twin Sisters/Beattie Peaks)

Acceptable Uses

- Restrict commercial recreation tenures, so as not to promote the Protected Area as a tourism recreation destination
- Restrict all recreation development
- No new access

Comments

- No motorized or snowmobile access

4.2.3.2 Bocock Peak (1,133 ha)

Bocock Peak is located along the northwestern boundary of the planning area, south of the Peace Arm of Williston Lake and adjacent to Eleven Mile Creek in the Hart Ranges ecosection.

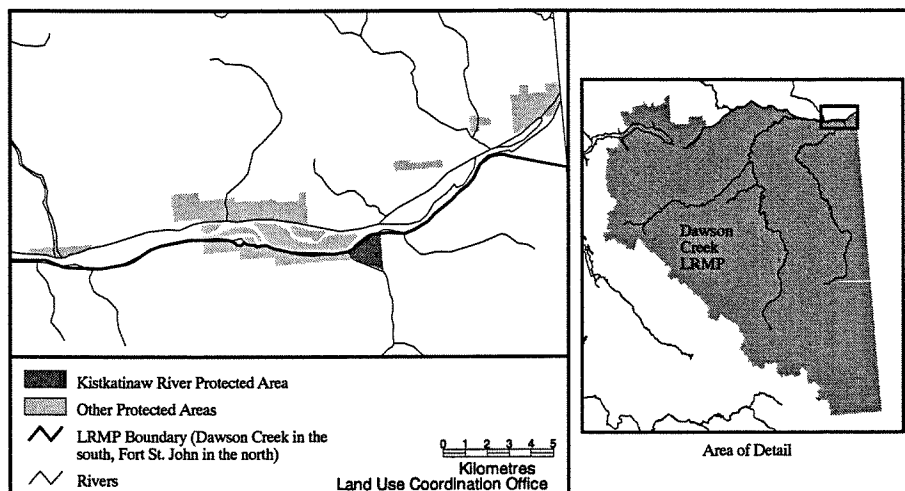
PAS Values:

- contains three significant karst caves (White Hole, Short Straw Cave and Lesser Sink)

4.2.3.3 Kiskatinaw River (166 ha)

This site is located at the confluence of the Kiskatinaw and Peace Rivers in the Peace Lowlands ecosection (see inset). PAS values:

- benchmark area of rare grassland vegetation
- surrounding plant and animal communities representative of the Boreal White and Black Spruce biogeoclimatic zone



4.2.3.4 Rolla Site (45 ha)

The Rolla Site is located east of the community of Rolla along the Pouce Coupe River valley. The site is adjacent to the B.C./Alberta provincial boundary and in the Peace Lowlands ecosection.

PAS Values:

- rare fossil site

4.2.3.5 Pine River Breaks (594 ha)

The Pine River Breaks are located on the north side of the Pine River, approximately halfway between the District of Chetwynd and East Pine River. The site is several kilometres north of Mount Wartenbe in the extreme southern portion of the Peace Lowlands ecosection.

PAS Values:

- unusual assemblage of glacial landforms including eskers and kettles
- fossil sites
- limestone cascades used as mineral licks
- wildlife habitat viewing opportunities

4.2.3.6 Hole-in-the-Wall (131 ha)

Hole-in-the-Wall spring is located adjacent to the Sukunka River near Windfall Creek in the Hart Foothills ecosection.

PAS Values:

- unique underground stream appearing from the base of a limestone cliff near the Sukunka River
- unique and relatively constant water quantity and quality parameters

4.2.3.7 Monkman Connector (185 ha)

The Monkman Connector area is located between the north and south portions of Monkman Provincial Park located in the Hart Ranges ecosection.

PAS Values:

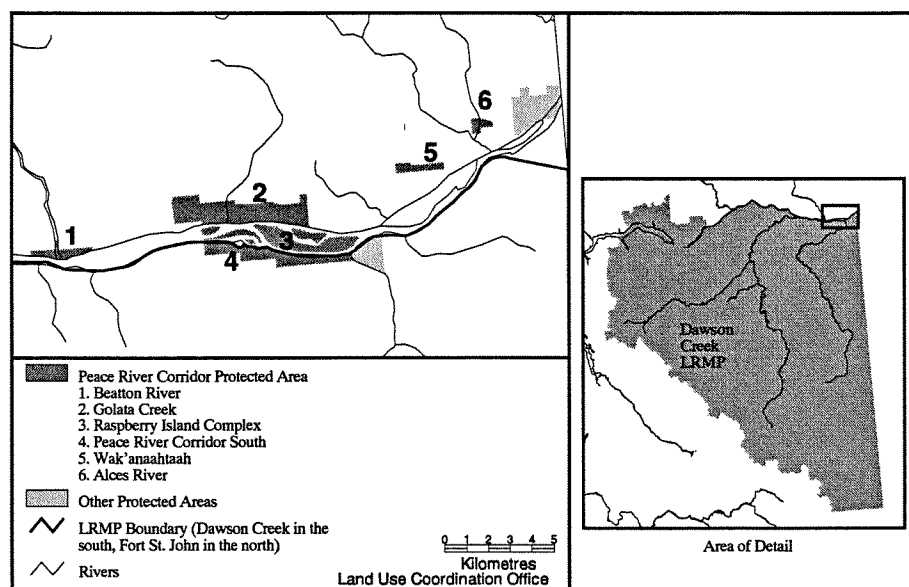
- Connects the north and south portions of Monkman Provincial Park.

4.2.3.8 Peace River Corridor Sites (302 ha)

The Peace Corridor River Sites represent the Boreal White and Black Spruce biogeoclimatic zone within the Peace Lowlands ecosection. The protected area is comprised of a foreshore parcel within the Dawson Creek LRMP referred to as Peace River Corridor South, as well as islands and foreshore parcels recommended in the Fort St. John LRMP, namely the Beaton River, Golata Creek, the Raspberry Island Complex, Wak'anahtaah, and Alces River sites (see inset).

PAS Values

- important ungulate winter range
- migratory waterfowl staging area



4.2.3.9 Dunlvey Recreation Area (110 ha)

Boat Launch access to Williston Lake.

4.3 Major River Corridors Resource Management Zone

(Special Resource Management - Major River Corridors)

4.3.1 Resource Management Subzones

Peace River Corridor:

Dinosaur Lake 4A
Peace River (west) 3A
Peace River 3E
Peace River (east) 3A

Moberly River Corridor:

Moberly River 3C
Moberly River (west) 3B
Moberly River (east) 3B
Moberly Lake 11B

Kiskatinaw River Corridor:

Parkland 3A
Kiskatinaw River (west side) 3H
East Kiskatinaw River (new)
West Kiskatinaw River (new)

Pine/Murray/Sukunka Rivers Corridor:

Pine/Murray River 3A
Pine River - Hasler 3B
Sukunka River (west bank) 3B
Sukunka River 3B
Murray River 3A, 3D
Pine River 3B, 3C, 3H
West Pine River 3A
Sukunka River (east bank) 3C

4.3.2 Area Description

The major river corridors are synonymous with the river valley of the same name. The Peace River is the major river system in the planning area, part of the Mackenzie River basin. The Sukunka and Murray Rivers flow into the Pine River, a major tributary of the Peace River. The Moberly and Kiskatinaw Rivers flow directly into the Peace River.

The Peace River flows out of Williston Lake and east along the northern boundary of the planning area into Alberta. The first 25 kilometres of the river has been designated as part of the RMZ. Downstream, the following 75 kilometres is contained within the Peace River/Boudreau Lake Protected Area. The remainder of the river, as it flows to the B.C./Alberta border, is also designated as part of the RMZ.

The Peace River originates in the Peace Foothills ecosection and flows eastward into the Peace Lowlands ecosection. Near Williston Lake, the corridor (at lower elevations) is within the Boreal White and Black Spruce and Sub-Boreal Spruce biogeoclimatic zones. Downstream, the balance of the Peace River corridor is within the Boreal White and Black Spruce biogeoclimatic zone.

The Moberly River originates in the Rocky Mountains, the northwest portion of the planning area. The upper Moberly River flows east out of the Peace and Hart Foothills ecosections into Moberly Lake. The lower Moberly River exits Moberly Lake flowing northeast through the Peace Lowlands ecosection until finally joining the Peace River south of the City of Fort St. John. The most northeastern portion of the Moberly River valley is part of the Peace River/Boudreau Lake Protected Area.

The upper Moberly River originates within the Engelmann Spruce-Subalpine fir biogeoclimatic zone and then flows eastward towards Moberly Lake within the Sub-Boreal Spruce biogeoclimatic zone. Near Moberly Lake and, from the lake to the Peace River, the Moberly River valley is within the Boreal White and Black Spruce biogeoclimatic zone.

The Pine, Sukunka and Murray Rivers all originate in the Hart Ranges ecosection, flow through the Hart Foothills ecosection and eventually into the Peace Lowlands ecosection. All three rivers originate within the Engelmann Spruce-Subalpine Fir biogeoclimatic zone, generally flow east or north through the Sub-Boreal Spruce biogeoclimatic zone and finally into the Boreal White and Black Spruce biogeoclimatic zone.

The Kiskatinaw River corridor has been identified to extend from the Bearhole Lake Protected Area, and includes both the West Kiskatinaw and East Kiskatinaw rivers, flowing north to the confluence of the Kiskatinaw River with the Peace River. The corridor extends from the Kiskatinaw Plateau ecosection to the Peace River lowlands ecosection. The entire corridor is within the Boreal White and Black Spruce biogeoclimatic zone.

4.3.3 Resource Values

Fish and Wildlife

The river corridors provide valuable habitat for fish, wildlife, aquatic organisms, furbearers, bears and migratory songbirds. River riparian areas and river valleys provide important habitats and habitat connectivity for ungulates, furbearers, bears and migratory songbirds. South and southwest facing slopes provide important habitat for ungulates. These rivers support substantial populations of sport fish including bull trout, Arctic grayling, rainbow trout, mountain whitefish, walleye, perch, northern pike and a wide diversity of non-sport fish.

The river corridors are generally areas of higher natural biodiversity. An important landscape unit level requirement for maintaining biodiversity is to manage land and resource development to ensure there is connectivity across the landscape, especially between river valleys and upland areas. These are important travel routes for small mammals, ungulates and carnivores.

Recreation

A wide spectrum of recreational opportunities exist within all of the corridors. The Peace River corridor is widely used for motorized and non-motorized boating, camping, hunting, fishing and other outdoor pursuits. The Pine, Murray, Sukunka, Kiskatinaw and Moberly River corridors are also widely used by outdoor recreationists for hunting, camping, canoeing, river boating, hiking, wildlife viewing and fishing. Recreation Opportunity Spectrum (ROS) classes within the RMZ are primarily 'resource roaded' (RR), although parts of the Murray River corridor are classed as 'semi-primitive motorized' (SPM).

Guide outfitting is tenured within all of the valleys. Limited commercial recreation has been developed to date within the RMZ although high potential commercial recreational opportunities have been identified in the upper parts of all of the river corridors.

Private commercial recreation enterprises (e.g., golf courses, private campgrounds, bed and breakfast's and private fish ponds) have been developed along and adjacent to major road and highway access points within all of the river corridors. Government managed outdoor recreation facilities (e.g., Provincial Parks, Forest Recreation Sites, Regional Parks and Ministry of Transportation and Highways Rest Areas) have been developed at a number of locations within the valleys.

A number of public (non-maintained) camping and picnic sites have been established within the river corridors. It is anticipated that many of these sites may be enhanced or new sites will be constructed and managed within the river valleys in the future.

Some portions of the river corridors are not developed for recreation. There are no developed recreation sites on the south bank of the Peace River between Hudson's Hope and the mouth of the Pine River or

along the Murray River between Tumbler Ridge and East Pine. The Pine River from East Pine to the Peace River and the Moberly River from Moberly Lake to the Peace River have no developed recreation sites. The Kiskatinaw River valley has few developed recreation sites with the exception of Kiskatinaw Provincial Park.

Visual Quality

Scenic areas are visually sensitive areas or scenic landscapes identified through a visual landscape inventory or planning process. Visual Quality Objectives (VQO's) are established in a local level planning process to assist resource managers in maintaining scenic values. They can be listed from least restrictive to most restrictive as follows: maximum modification, modification, partial retention, retention and preservation.

Scenic areas have been identified throughout the RMZ in all river corridors with the exception of the Kiskatinaw River. Visual sensitivity within the river corridors is generally rated as moderate to high due to the river valleys use as transportation corridors, recreation routes and destinations, and, their proximity to settled areas. Visual Quality Objectives (VQO's) prescribed for scenic areas within this RMZ are generally more restrictive, ranging from areas of 'partial retention' to isolated locations of 'preservation'.

Culture and Heritage

First Nations camps are routinely located at a number of sites within the RMZ as river valleys are prime locations. These sites are used primarily for subsistence fishing, hunting and berry-picking. One well known site is located at Twidwell Bend where the Sukunka River joins the Pine River.

Fossils have been found in the river valleys. Significant heritage and archaeological sites have been identified within the Peace River corridor due to the Peace River valley's history as a travel corridor.

Trapping

Trapping tenures are established over all of the river corridors. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

The W.A.C. Bennett and Peace Canyon hydro-electric dams have had a dramatic effect on the hydrology of the Peace River by reducing spring flooding, altering flows and by reducing ice formation. They produce 31% of the province's hydro-electric power. A third dam and hydro-electric project, known as Site C, has been proposed on the river, just downstream of the Moberly River and Peace River confluence. This project has been in abeyance by B.C. Hydro since 1981.

MELP authorizes, regulates and monitors waste water discharges. Waste is discharged into the Peace River from the Fiberco pulp mill and Westcoast Energy natural gas production facilities in Taylor and from the City of Fort St. John and the community of Charlie Lake. The municipalities of Tumbler Ridge and Chetwynd discharge treated waste water into the Murray and Pine Rivers respectively. With the exception of the two mines at Tumbler Ridge, there are no significant major permitted industrial waste water discharges to any of the other major rivers within the corridors.

Steep, clay river banks and valley sidewalls exist along many of the river valleys in the Foothills, Peace Lowland and Kiskatinaw Plateau ecosections. These banks are generally susceptible to slope failure and small sections occasionally slide into the river contributing to the natural sedimentation regime. Sedimentation during spring break-up and from major summer rainfall events contribute substantial natural amounts of sediment to these rivers resulting in high suspended solids and high turbidity.

Most of the rivers in these corridors are sources of community domestic water supply for communities both within and outside of the planning area. Water quality is a significant concern for users of the Peace River. The District's of Hudson's Hope and Taylor and several communities in Alberta take their domestic water directly from the Peace River.

The Murray River is the source of water supply for Quintette Coal, a large mine and processing facility located within and, adjacent to, the Murray River valley. The river supplies a substantial volume of water to the mine. Treated waste water from the mine is discharged into the Murray River. The District of Tumbler Ridge does not use the Murray River withdrawing water for the community from an aquifer hydraulically connected to Flatbed Creek.

The Kiskatinaw River is the community domestic water supply for the City of Dawson Creek, Village of Pouce Coupe and rural residents in the surrounding area. The City of Dawson Creek has expressed concerns with the water quality in the Kiskatinaw River.

The Pine River is the community domestic water supply for the District of Chetwynd and a number of licensed and unlicensed users in the Pine River valley. Water quality in the Pine River is a concern for users. The District of Chetwynd has recently upgraded its water treatment facilities primarily to treat the Pine River water for high turbidity and higher concentrations of suspended solids. The community has expressed concerns with water quality in the Pine River. The Upper Moberly River and Moberly Lake is the domestic water source for the Moberly Lake communities. These communities consist of a number of lake shore dwelling and cottage owners and many of the homes of families of the Saulteau and West Moberly First Nations. The communities have expressed concern with the water quality in Moberly Lake.

A higher level of management has been incorporated into resource management strategies for the major river corridors to maintain water quality in the community domestic water supply areas for Chetwynd, Dawson Creek and Moberly Lake.

Agriculture and Range

The river corridors contain approximately 8% of the planning area's Agricultural Land Reserve (ALR) lands. Outside the Peace River Lowlands ecosection, soils, topography and climate generally confine agricultural capability only to the river valley areas. Generally, the Canada Land Inventory (CLI) ratings for these areas are Class 4 and 5 with limited amounts of Class 3.

Substantial agricultural operations can be found in portions of the valleys, especially where the rivers are close to settled areas. Some portions of the river corridors are privately held lands (historically settled due to their proximity to fresh water sources). Several large grazing reserves are located adjacent to the river corridors in addition to smaller grazing tenures in all of the valleys.

The upper portions of the Murray, Pine, Sukunka, Moberly and Kiskatinaw River corridors have low agricultural capability and are not currently used for agriculture.

Coal and Other Mineral Resources

The river corridors in the planning area cut across areas of moderate to very high coal potential and contain portions of known coal reserves and tenures. The two coal mines on the opposite sides of the Murray River valley near Tumbler Ridge are present producers of coal. Approximately 120 million tonnes of material is mined annually to produce 4.3 million tonnes of clean, metallurgical grade coal from the mines located near the District of Tumbler Ridge.

Advanced exploration and development activities will impact small areas within the RMZ. This plan directs that the impacts of those activities will be mitigated wherever possible.

Areas of high to moderate mineral potential occur throughout the southern portion of the Sukunka River valley and the eastern portion of the Pine River valley. Developed mineral prospects (i.e., drill-indicated reserves) occur within the Sukunka River valley and Dinosaur Lake areas. River valleys are an important source of sand and gravel. Other important developed and undeveloped mineral deposits are located in the major river corridors (i.e., limestone).

Energy

Oil and gas exploration, development and transportation activities occur within all of the major river corridor areas. Petroleum tenures, proven reserves and developmental infrastructure are located in varying proportions within each of the river valleys.

Some of the river corridors have been subject to more oil and gas exploration and development than others. These corridors provide important routes for pipelines and for access. They also present challenges for crossings with pipelines. Several natural gas processing facilities and related infrastructure have been developed within the Pine and Sukunka River valleys with potential for more in future years.

Forestry

Values are generally very high due to higher site productivity in river valleys. Forest stands consist of a number of species (e.g., white and black spruce, aspen and cottonwood) in both pure and mixed species configurations. Timber values in the river corridors are shaped by the generally sensitive terrain and soil conditions which influence access and operability.

Many of the river corridors have had timber harvesting. The scope of timber harvesting varies from minor in the Lower Peace River and Kiskatinaw River valleys to major timber harvesting in the upper Sukunka River valley. Future forest harvesting and related forest management activities are planned within river valleys.

Access

The Peace River's south bank can be reached by motor vehicle near the Highway 29 crossing of the Peace River near the Peace Canyon dam or from resource development roads and trails accessed via the Boudreau Lake road. Road access to the south side of the Peace River valley between Maurice Creek and the mouth of the Moberly River is somewhat limited (no all-weather access to the river), although there is access via ATV, snowmobile, by horse or on foot.

The south side of the Peace River valley near the mouth of the Pine River can also be reached via a road paralleling the railway through the Monias Lake area and from side roads connecting from the Alaska Highway at South Taylor. There are a number of roads and trails leading down into the river valley between South Taylor and Clayhurst. The north side of the Peace River valley is not within the planning area, but is easily accessed from Highway 29 between Hudson's Hope and Fort St. John.

The Pine River valley has a wide range of existing road access. From the Pine Pass to Chetwynd, Highway 97, a railway, a major power line and a number of pipelines follow along the Pine River valley from the Pine Pass to Chetwynd. The river valley has a diverse range of roads and trails on both sides of the valley in this area.

Between Chetwynd and East Pine, road access to the Pine River is less developed. Major roads provide access at Twidwell Bend and at East Pine. Between East Pine and the confluence with the Peace River, road access is minimal with the only access being old seismic trails and pipeline rights-of-way (ROW).

The Murray River valley has limited motor vehicle access between Tumbler Ridge and East Pine. The upper part of the valley is accessed via the Murray River Forest Service Road which originates at the Quintette Coal coal processing site and extends to Monkman Provincial Park. The lower part of the valley is accessed on the east side by the Groundbirch Forest Service Road. Highway 29 crosses the Murray River near Tumbler Ridge.

The Sukunka River valley has an all-weather road (Sukunka Forest Service Road) paralleling it on the eastern bank and is accessed from Highway 29. The west side of the valley has some developed cross roads developed but other resource roads have been temporary access only. Secondary roads on the east side has been extensively developed due to oil and gas and forest harvesting activities.

The Kiskatinaw River valley has numerous access points due primarily to historic trails and relatively recent oil and gas exploration and development. The major road access points are from the Heritage Highway, Highway 97, the Alaska Highway, numerous secondary roads, utility corridors and along pipeline rights-of-way and seismic lines.

4.3.4 Management Direction

The management of Crown lands and resources in the river corridors are an important component of the broad planning goal of sustainable natural resource management. Land and resources within these river valleys must be carefully managed to ensure that resource exploration and development minimize, and where possible, eliminate, negative impacts to important resource values such as; water quality, fish and wildlife habitats, alluvial and riparian ecosystems, recreational opportunities and viewscapes.

The *FPC* and other applicable legislation and regulations prescribe substantive management requirements to direct resource managers in the management and conservation of resource values within the riparian management areas (including the rivers) within the RMZ. The rivers within the corridors are important sources of water for communities in the planning area. The identification of these rivers as community domestic water supplies will provide the necessary strategic direction to focus watershed assessment and restoration activities in local level and operational plans.

The RMZ has been designated Special Resource Management and is identified on the LRMP map. Resource values, objectives to sustain or enhance those values, and strategies to achieve the resource management objectives within the RMZ are provided on the following pages.

Major River Corridors

1 Biodiversity	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Sustain healthy functioning ecosystems in the Resource Management Zone 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ <i>The general biodiversity is intermediate recognizing that the full spectrum from low to high may be represented in the landscape units contained in this RMZ</i> The biodiversity emphasis option for identified river corridors will be evaluated in landscape unit planning (<i>Intent: Government to undertake</i>)
2 Soil Conservation	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
3 Fish and Wildlife	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage critical ungulate habitat to assist in sustaining viable, healthy ungulate populations Manage medium and/or high capability grizzly bear habitat to assist in sustaining viable, healthy grizzly bear populations Manage critical habitat for furbearers (lynx, marten, fisher) to assist in sustaining viable, healthy furbearer populations Manage critical habitat for red- and blue-listed migratory songbirds to assist in sustaining viable, healthy migratory songbird populations within Pine/Murray R., Parkland, Kiskatinaw, and Pine R. subzones 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify, map, and consider designating wildlife habitat areas for Identified Wildlife species (<i>Intent: Government to undertake</i>) Identify and map connectivity corridors and/or forest ecosystem networks (FEN's), and incorporate into landscape unit level planning (<i>Intent: Government to undertake</i>) Identify and map critical ungulate habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Identify and map medium and high capability grizzly bear habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Plan resource developments and associated access to minimize negative human/bear interactions (e.g., winter harvesting and summer road restrictions) Incorporate identified wildlife habitat features and known furbearer refuge areas into resource development, landscape unit level and operational planning processes to mitigate negative impacts to trapping and trapping improvements (<i>Intent: Government to undertake</i>) Develop guidelines for mixedwood forest management to assist in sustaining critical habitat for red- and blue- listed migratory songbirds (<i>Intent: Government to undertake</i>)

Major River Corridors (cont'd)

3 Fish and Wildlife (cont'd)

Objectives

- Manage populations and distributions of regionally important wildlife species to reduce conflicts with range use and/or agriculture
- Manage access to high quality fisheries to assist in sustaining viable, healthy sport fish populations

Strategies

- Apply a proactive, consultative approach to develop wildlife harvest and habitat enhancement strategies that will assist in preventing or reducing wildlife-agriculture/range conflicts
- Identify and map critical fish habitat (e.g., pools, migration patterns, spawning and rearing areas), and incorporate in landscape unit level and operational planning (*Intent: Government to undertake*)
- Identify, map and prioritize sensitive aquatic ecosystems requiring restoration and rehabilitation (*Intent: Government to undertake*)

4 Air Quality

Objectives

- General Management Direction

Strategies

- General Management Direction

5 Recreation and Tourism

Objectives

- General Management Direction
◇
- Provide for quality public and commercial recreational opportunities and values

Strategies

- General Management Direction
◇
- Identify areas of high recreation use or significance and develop appropriate management strategies in landscape unit level and operational planning (*Intent: Government to undertake*)
- Incorporate existing recreational activities and assess potential for the development of new recreational opportunities in more detailed plans (i.e., additional motorized or non-motorized recreational pursuit)
- Maintain public recreational access to rivers
- In consultation with user groups, provide new opportunities for public and commercial recreational access through referrals to organizations and agencies

6 Visual Quality

Objectives

- General Management Direction

Strategies

- General Management Direction

7 First Nations

Objectives

- General Management Direction

Strategies

- General Management Direction

Major River Corridors (cont'd)

8 Culture and Heritage	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
9 Trapping	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
10 Guide Outfitting	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
11 Water	
Objectives <ul style="list-style-type: none"> • General Management Direction ◊ • Maintain water quality for community domestic water supplies (Appendix E) 	Strategies <ul style="list-style-type: none"> • General Management Direction ◊ • Conduct the appropriate level of watershed assessment for identified community domestic water supply areas (<i>Intent: Government to undertake</i>)
12 Agriculture and Range	
Objectives <ul style="list-style-type: none"> • General Management Direction ◊ • Manage the forage resource to sustain its productivity and availability for use by domestic livestock • Plan and manage range developments and domestic grazing activities with sensitivity to aboriginal, cultural heritage, wildlife habitat and environmental values 	Strategies <ul style="list-style-type: none"> • General Management Direction ◊ • MoF, in consultation with MAFF and range users, will develop and monitor a forage inventory for use in prescribing target levels of animal unit months (AUM's) • Manage domestic livestock through the development and use of infrastructure and/or range management techniques that allow for proper distribution of animals • MoF, in consultation with MAFF, and MELP, will identify areas to increase forage production for domestic livestock • Local level coordinated resource management planning will be used to mitigate resource conflicts in grazing reserves (<i>Intent: To assist in sustaining forage requirements for domestic livestock</i>)

Major River Corridors (cont'd)

13 Coal and Minerals

Objectives

- General Management Direction
◇
- Provide opportunities for environmentally responsible exploration and development of surface and subsurface resources

Strategies

- General Management Direction
◇
- Recognize the hidden nature of the subsurface resource by incorporating this information into landscape unit level and operational planning
- Manage visual quality at or adjacent to coal and mineral mine developments using a range of management tools such as informational viewpoints describing mining and reclamation programs

14 Energy

Objectives

- General Management Direction

Strategies

- General Management Direction

15 Communications, Transportation and Utilities

Objectives

- General Management Direction

Strategies

- General Management Direction

16 Forestry

Objectives

- General Management Direction
◇
- Natural Disturbance Type (NDT) 2
- Natural Disturbance Type (NDT) 3

Strategies

- General Management Direction
◇
- Natural Disturbance Type (NDT) 2
- Natural Disturbance Type (NDT) 3

Major River Corridors RMZ (cont'd)

17 Access	
Objectives	Strategies
<ul style="list-style-type: none"> General Management Direction 	<ul style="list-style-type: none"> General Management Direction
<ul style="list-style-type: none"> Plan and manage access through the use of Optimum Access Management direction within all subzones except Murray River 3A., Sukunka River 3B, Sukunka R. west, Upper Moberly R., Murray R. 3D, Moberly R. west, Moberly R. east, West Pine R., and Sukunka R east subzones 	<ul style="list-style-type: none"> Using landscape unit level and operational planning processes, coordinate the development and use of linear industrial corridors (e.g., roads, pipelines, seismic lines) <i>(Intent: to minimize the duplication of access corridors)</i>
<ul style="list-style-type: none"> Plan and manage access through the use of Sustained Access Management direction within Moberly River 3C, Murray River East, West Pine River., and Sukunka R. east subzones 	<ul style="list-style-type: none"> Establish and maintain permanent access infrastructure
<ul style="list-style-type: none"> Plan and manage access through the use of Sensitive Access Management direction to minimize fragmentation of and disturbance to identified resource values or features within Sukunka River WB, Upper Sukunka R 3B, Moberly River West, Murray River 3D subzones 	<ul style="list-style-type: none"> In consultation with the public and user groups, government to identify significant resource values or features in landscape unit level planning, and incorporate into operational planning processes to mitigate negative impacts through Sensitive Access Management direction which may include access restrictions, or in special circumstances, site specific access prohibition
<ul style="list-style-type: none"> Utilize Sensitive Access Management direction to assist in sustaining existing levels of public motorized access corridors within Murray River 3D subzone 	<ul style="list-style-type: none"> Upon cessation of tenure holder's activities, return linear developments (e.g., roads, pipeline and utility corridors - not seismic lines) to a vegetative state which over time approximates natural conditions through reclamation (using native species where appropriate), rehabilitation, re-contouring and bridge removal

4.4 South Peace Resource Management Zone

(Enhanced Resource Management)

4.4.1 Resource Management Subzones

Monias Lake 4D
Favel's Creek 4I
Brassey Creek 4E
Campbell Lake 4E
Maurice Creek 4G
Hulcross Creek 4G

Jackfish Lake 4C
Dickebusch Creek 4E
Salt Creek 4F
Beaverlodge Lake 4E
Ruddy Creek 4D
Johnson Creek 4G
Burnt River 4F

4.4.2 Area Description

The South Peace RMZ incorporates a number of subzones scattered across the planning area. In the west, the RMZ is primarily within the Peace and Hart Foothills ecosections. The balance of the planning area is within the Kiskatinaw Plateau and the Peace Lowland ecosections. Western portions of the RMZ are within the Engelmann Spruce-Subalpine Fir biogeoclimatic zone or the Sub-Boreal Spruce biogeoclimatic zone. Central and eastern portions are within the Boreal White and Black Spruce biogeoclimatic zone.

A range of forest cover exists in this RMZ. Higher elevation spruce and subalpine fir dominate forests in the west. In the Foothills, lodgepole pine and spruce are the commonly found coniferous species and aspen/cottonwood are the more common hardwood species. On the lower elevation plateaus, mixed aspen and spruce forests are the dominant forest cover, with lodgepole pine predominant on higher elevation sites. Wetter areas are dominated by black spruce and/or tamarack.

4.4.3 Resource Values

Fish and Wildlife

A wide diversity of mammals and birds exist in this RMZ, particularly within riparian areas. Deciduous and mixed wood forests provide habitat for passerine songbirds such as several species of listed warblers. Moose, elk and deer utilize early seral vegetation adjacent to cover throughout the RMZ. Large and small furbearers are abundant and include black bear, coyote, beaver, martin, red squirrel among others. Higher elevation forests in Foothill areas provide habitat for grizzly bear and caribou.

Several sport and non-sport fish species are found within the streams and rivers flowing through the RMZ. Fish species include Arctic grayling, rainbow trout, walleye and Northern pike. Critical habitat for bull trout exists in many streams draining out of the Foothills.

Biodiversity conservation risks in this RMZ are lower than in other RMZ's due to frequent natural disturbances (e.g., fire) resulting in significantly smaller portions of the forest in old seral stage. Landscape connectivity between riparian areas and areas with substantial forest cover (both within and adjacent to harvested areas) are important habitat attributes for many mammals. Mixed wood stands and the maintenance of these mixed wood stands may become critical habitat components over time as harvested forests are converted to coniferous or deciduous leading-species forests.

Recreation

Much of this RMZ has a well used network of roads and trails. ROS classes within this RMZ are predominantly 'resource roaded' (RR), although several subzones are classed as a mix of RR and 'semi-primitive motorized' (SPM).

Snowmobiling and four wheel driving are popular activities in this area. Hiking, wildlife viewing, hunting, fishing and camping are also widely popular activities. Several developed recreation sites exist within this RMZ providing a wide variety of outdoor recreation opportunities. These sites are either managed by local or provincial government agencies or by private commercial enterprises.

Portions of this RMZ have potential for commercial recreation opportunities. Guide outfitting is tenured and occurs within the RMZ.

Visual Quality

Scenic areas within this RMZ are found along stream and travel corridors where viewsapes are concentrated or at site specific locations near recreation sites and trails. Visual sensitivity ratings range from low to high. VQO's within the RMZ range from 'modification' to small areas of 'retention' and 'preservation'.

Culture and Heritage

The management of road access is a high priority within the RMZ. Site-specific methods and timing of access must be considered as a means for addressing identified concerns where the construction of new access may negatively impact significant fish, wildlife and other resource values. Areas of special significance to local First Nations include: Medicine Woman Creek, Maurice Creek subzone; Two Ridge Mountain, Johnson Creek subzone; Deadman Creek & Upper Moberly areas and Hulcross Creek subzone.

Trapping

Trapping tenures are established over the entire RMZ. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

Surface water resources in this RMZ are primarily licensed on a short-term use basis to industry. Several scattered water licenses have been issued, primarily for the diversion of water from creeks and smaller streams for household domestic and livestock use.

Portions of the RMZ are within lands considered part of the community domestic water supply areas for the communities of Moberly Lake, Chetwynd and Dawson Creek.

Agriculture

This RMZ contains approximately 10% of the ALR lands in the planning area. The majority of these ALR lands are Crown land located adjacent to lands within existing Agriculture/Settlement RMZ or privately owned land. The CLI agricultural capability ratings for these lands includes land classed as 3, 4 and 5, with no single class predominating.

Range

The range resources within the RMZ are utilized by domestic livestock and wildlife. Both compete for available forage, often a source of some conflict between the agricultural sector and wildlife managers. Grazing tenures have been issued in those portions of the area that are in close proximity to the Agriculture/Settlement RMZ. It is anticipated that the demand for grazing tenures in the RMZ will increase due to growth in the livestock industry. Grazing tenures for guide outfitters and commercial recreation operations may also be required for future operations in the outlying portions of the RMZ.

Coal and Other Mineral Resources

Areas of high to very high coal potential are present throughout the RMZ. Several large areas are enclosed within existing coal tenures. Significant coal reserves have been identified within existing tenures and in other parts of the RMZ. Two prospects have been extensively drilled and sufficient reserves identified to begin the Environmental Review process (i.e., within the Burnt River subzone); two other prospects have identified coal reserves.

Mineral potential is low in all zones. Several developed prospects for limestone (i.e., drill-indicated reserves) have been defined mainly between the Pine and Sukunka Rivers.

Energy

This RMZ contains substantial proven reserves of gas and numerous oil and gas tenures. High levels of natural gas and oil exploration and development currently exist in the area. Substantial natural gas infrastructure including pipelines, dehydration and process facilities have been constructed. The potential for gas reserves is moderate to high, making the area important for future discovery and development of oil and gas.

Forestry

Values in this area are high due to a predominance of good and medium site productivity. Terrain is gently rolling or relatively flat allowing for optimum harvesting operability and relatively simplified road construction. Access to timber is sometimes assisted by the construction of oil and gas exploration roads, seismic lines and roads.

Operable timber in this RMZ is generally in close proximity to wood processing facilities located in Chetwynd, at East Pine and in Dawson Creek. Louisiana Pacific produces oriented-strand board (OSB) in Dawson Creek. Canadian Forest Products Limited (Canfor) and Chetwynd Forest Industries (a division of West Fraser Mills) are both located in Chetwynd and produce dimension lumber and wood chips. Louisiana Pacific operates a bleached-chemo-thermo-mechanical (BCTM) deciduous pulpmill exists located near East Pine.

This RMZ has substantial operable coniferous and deciduous timber inventories. Western portions of the RMZ are dominated by coniferous forest cover consisting of spruce, lodgepole pine and subalpine fir, all merchantable species. Much of the operable timber in Foothills portions of the RMZ is mature to old seral stage, target timber types for the two major sawmills in Chetwynd.

Much of the Plateau area forest cover is aspen or mixed stands of aspen and spruce. At higher elevations in the eastern and central portions of the RMZ, forest cover has a higher proportion of lodgepole pine.

Access

Road access within the RMZ is generally well developed, a result of high intensity resource exploration and development over the past few decades. These roads provide ready access for resource development and are also used for recreational purposes.

4.4.4 Management Direction

This RMZ is an area where natural resource (oil and gas, coal and timber) extraction and development are important values to the local economy. Investments in resource development and enhancement will be encouraged in this area. Resource management ministries will manage resource development activities to maintain the wide range of resource values identified.

This RMZ has been designated Enhanced Resource Development and is identified on the LRMP map (Appendix A). Resource values, objectives to sustain or enhance those values, and strategies to achieve the resource management objectives within the RMZ are provided on the following pages.

South Peace RMZ

1 Biodiversity	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Sustain healthy functioning ecosystems in the Resource Management Zone 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ <i>The general biodiversity is low recognizing that the full spectrum from low to high may be represented in the landscape units contained in this RMZ</i>

2 Soil Conservation	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

3 Fish and Wildlife	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage critical ungulate habitat to assist in sustaining viable, healthy ungulate populations Manage medium and/or high capability grizzly bear habitat to assist in sustaining viable, healthy grizzly bear populations Manage critical habitat for red- and blue-listed migratory songbirds to assist in sustaining viable, healthy migratory songbird populations within all subzones except Salt Cr., Ruddy Cr., Johnson Cr., Hulcross Cr., and Burnt R. Manage critical habitat for furbearers (lynx, marten, fisher) to assist in sustaining viable, healthy furbearer populations 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify, map, and consider designating wildlife habitat areas for Identified Wildlife species (<i>Intent: Government to undertake</i>) Identify and map connectivity corridors and/or forest ecosystem networks (FEN's), and incorporate into landscape unit level planning (<i>Intent: Government to undertake</i>) Identify and map critical ungulate habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Identify and map medium and high capability grizzly bear habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Develop guidelines for mixedwood forest management to assist in sustaining critical habitat for red- and blue- listed migratory songbirds (<i>Intent: Government to undertake</i>) Incorporate identified wildlife habitat features and known furbearer refuge areas into resource development, landscape unit level and operational planning processes to mitigate negative impacts to trapping and trapping improvements (<i>Intent: Government to undertake</i>)

South Peace RMZ (cont'd)

3 Fish and Wildlife (cont'd)	
Objectives <ul style="list-style-type: none"> • Manage critical habitat for trumpeter swans to assist in sustaining viable, healthy trumpeter swan populations • Manage populations and distributions of regionally important wildlife species to reduce conflicts with range use and/or agriculture • Manage access to high quality fisheries to assist in sustaining viable, healthy sport fish populations 	Strategies <ul style="list-style-type: none"> • Identify, map, and consider designating wildlife habitat areas for Identified Wildlife species (<i>Intent: Government to undertake</i>) • Apply a proactive, consultative approach to develop wildlife harvest and habitat enhancement strategies that will assist in preventing or reducing wildlife-agriculture/range conflicts • Identify and map critical fish habitat (e.g., pools, migration patterns, spawning and rearing areas), and incorporate in landscape unit level and operational planning (<i>Intent: Government to undertake</i>) • Identify, map and prioritize sensitive aquatic ecosystems requiring restoration and rehabilitation (<i>Intent: Government to undertake</i>)

4 Air Quality	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction

5 Recreation and Tourism	
Objectives <ul style="list-style-type: none"> • General Management Direction ◇ • Provide for quality public and commercial recreational opportunities and values • Plan and manage recreation and development activities with sensitivity to aboriginal, cultural and natural heritage values within Maurice Creek subzone • Plan and manage recreation and development activities with sensitivity to agricultural and range 	Strategies <ul style="list-style-type: none"> • General Management Direction ◇ • Identify areas of high recreation use or significance and develop appropriate management strategies in landscape unit level and operational planning • Incorporate existing recreational activities and assess potential for the development of new recreational opportunities in more detailed plans (i.e., additional motorized or non-motorized recreational pursuit) • In consultation with user groups, provide new opportunities for public and commercial recreational access through referrals to organizations and agencies

South Peace RMZ (cont'd)

6 Visual Quality	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction Re-evaluate landscape inventory in the Williston Lake corridor
7 First Nations	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
8 Culture and Heritage	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
9 Trapping	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
10 Guide Outfitting	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
11 Water	
Objectives <ul style="list-style-type: none"> General Management Direction Manage the natural streamflow regime (water quality, water quantity and timing of flow) of rivers and streams to assist in sustaining community domestic water supplies (Appendix E) 	Strategies <ul style="list-style-type: none"> General Management Direction Conduct the appropriate level of watershed assessment for identified community domestic water supply areas (<i>Intent: Government to undertake</i>)
12 Agriculture and Range	
Objectives <ul style="list-style-type: none"> General Management Direction Manage the forage resource to sustain its productivity and availability for use by domestic livestock 	Strategies <ul style="list-style-type: none"> General Management Direction MoF, in consultation with MAFF and range users, will develop and monitor a forage inventory for use in prescribing target levels of animal unit months (AUM's) Manage domestic livestock through the development and use of infrastructure and/or range management techniques that allow for proper distribution of animals

South Peace RMZ (cont'd)

13 Coal and Minerals	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Provide opportunities for environmentally responsible exploration and development of surface and subsurface resources 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Recognize the hidden nature of the subsurface resource by incorporating this information into landscape unit level and operational planning Manage visual quality at or adjacent to coal and mineral mine developments using a range of management tools such as informational viewpoints describing mining and reclamation programs
14 Energy	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
15 Communications, Transportation and Utilities	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
16 Forestry	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ NDT (Natural Disturbance Type) 2 NDT (Natural Disturbance Type) 3 ◇ Enhance timber harvesting and forest resource management to sustain long-term timber supply 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ NDT (Natural Disturbance Type) 2 NDT (Natural Disturbance Type) 3 ◇ Establish forest production targets that are consistent with high intensity forest management for landscape units within the RMZ Reforest (within appropriate time frames, as determined through landscape unit planning) potentially productive brush, non-commercial deciduous, and not-satisfactorily-restocked (NSR) areas with ecologically and commercially suitable species Where environmentally sound and ecologically appropriate, utilize a range of forest patch sizes to provide a cut/leave pattern that more closely mimics the natural disturbance pattern

South Peace RMZ (cont'd)

17 Access	
Objectives	Strategies
<ul style="list-style-type: none"> General Management Direction ◇ Plan and manage access through the use of Sustained Access Management direction within all subzones except Monias L., Maurice Cr., and Burnt R. ◇ Plan and manage access through the use of Optimum Access Management direction within the Burnt River subzone ◇ Plan and manage access through the use of Sensitive Access Management direction to minimize fragmentation of and disturbance to identified resource values or features within Maurice Creek, and Monias Lake subzones 	<ul style="list-style-type: none"> General Management Direction ◇ Using landscape unit level and operational planning processes, coordinate the development and use of linear industrial corridors (e.g., roads, pipelines, seismic lines) <i>(Intent: to minimize the duplication of access corridors)</i> ◇ Establish and maintain permanent access infrastructure ◇ In consultation with the public and user groups, government to identify significant resource values or features in landscape unit level planning, and incorporate into operational planning processes to mitigate negative impacts through Sensitive Access Management direction which may include access restrictions, or in special circumstances, site specific access prohibition

4.5 Foothills Resource Management Zone

(General Resource Management)

4.5.1 Resource Management Subzones

Butler Ridge 5F
Cust Creek 5D
Portage Mountain 5C

Bullmoose Creek 5F
Mount Anderson 5D

4.5.2 Area Description

The Foothills RMZ falls within the Peace and Hart Foothills ecosections and the Engelmann Spruce-Subalpine Fir, Sub-Boreal Spruce and the Boreal White and Black Spruce biogeoclimatic zones. A portion of the Alpine Tundra zone is also present within the RMZ.

4.5.3 Resource Values

Fish and Wildlife

Mountain goats, grizzly bears, moose, deer and caribou can be found within the RMZ. The streams and rivers flowing eastward out of the foothills contain a diversity of sport and non-sport fish species. Moose, elk, and deer utilize early seral vegetation adjacent to cover, throughout portions of the RMZ. Critical habitat for bull trout often exists in many of these streams.

Landscape connectivity between river corridors and uplands are important as these areas provide travel corridors for many mammals. Aspen and mixed wood forest habitats are very important for maintaining the diversity of passerine songbirds flying through this area on their annual migration route.

Recreation

Recreational activities in this RMZ include wildlife viewing, camping, fishing, hunting, hiking and berry picking and horseback riding. ROS classes within the RMZ are mainly 'semi-primitive motorized' (SPM) and 'resource roaded' (RR) with some 'semi-primitive non-motorized' (SPNM).

Few commercial recreation enterprises are established within the RMZ. Several MoF and other government managed recreation sites are located within the RMZ. Motorized recreational activities, including snowmobiling and all-terrain vehicle (ATV) use, are popular recreation activities in the RMZ. Snowmobiling is a favourite winter activity near Tumbler Ridge in the Babcock Creek drainage and Quintette Mountain areas. Commercial recreation opportunities have been identified. Guide outfitting is tenured throughout the RMZ and is currently active in most areas.

Visual Quality

Scenic areas in the RMZ are generally found along existing travel corridors such as Highway 29 between Chetwynd and Tumbler Ridge. Site specific scenic areas have also been identified at recreation sites and trails. Visual sensitivity ratings range from low to high. A wide spectrum of VQO's have been established within this RMZ ranging from 'maximum modification' to 'preservation'.

Culture and Heritage

First Nations camps are routinely located at a number of sites within the RMZ. The First Nations communities located at Moberly Lake and Metis from the Kelly Lake settlement are traditional users of this RMZ.

Trapping

The entire RMZ is under tenure to trappers. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

Surface water resources within the RMZ are licensed, on a short-term use as-needed basis, for industrial use.

Agriculture

This RMZ contains very little of the ALR lands in the planning area.

Range

The range resources within this RMZ are utilized by domestic livestock and wildlife. Range resources in portions of the RMZ may provide opportunities for grazing in support of commercial recreation operations.

Coal and Other Mineral Resources

Large areas of coal tenure and moderate to high potential for other minerals in the RMZ. Two large open-pit coal mines currently operate in or near the RMZ's in this area. Three other prospects, in the Mt. Anderson subzone, have been explored and sufficient reserves identified to begin the Environmental Review process.

Large areas of coal tenure exist within the southern portions of the RMZ .

Energy

This RMZ contains numerous oil and gas tenures as well as substantial proven reserves of gas. High levels of natural gas and oil exploration and development currently exist in the area. Substantial natural gas infrastructure including pipelines, dehydration and process facilities have been constructed. The potential for gas reserves is high, making the area very important for future discovery and development of oil and gas.

Forestry

Values vary widely in this RMZ. Good to medium site productivity for deciduous and coniferous species occurs north of the Peace River on the east slopes of Butler Ridge and in the Cust Creek area.

Forests are predominantly spruce or subalpine fir. Site productivity is generally medium to good. Scattered deciduous components are also found in the RMZ.

Access

The RMZ is accessed from Highway 29 via oil and gas, and mineral exploration and development roads and roads used by the forest industry. Road access is well developed. The Murray River Forest Service Road provides access through the RMZ south from Tumbler Ridge to Monkman Provincial Park. North of the Peace River, road access has been constructed into the Butler Ridge and Cust Creek areas. Road access around Williston Lake and Portage Mountain is well developed.

4.5.4 Management Direction

The Foothills RMZ contains a number of significant resource values including deciduous and coniferous timber resources, oil and gas, coal, fish and wildlife, recreation, range and cultural resources. The sustainability of all of these values is the overall land and resource management objective within the RMZ. No resource value predominates over other values.

Most of the RMZ is well developed and has a high potential for future resource developments. Most of the RMZ has well developed roads, seismic lines, pipeline corridors and trails, providing ready access to explore, develop and transport resources and for recreation.

The Foothills RMZ is identified as General Resource Management on the LRMP map. Resource values, objectives to sustain or enhance those values, and strategies to achieve the resource management objectives within the RMZ are provided on the following pages.

Foothills RMZ

1 Biodiversity	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Sustain healthy functioning ecosystems in the Resource Management Zone 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ <i>The general biodiversity is intermediate recognizing that the full spectrum from low to high may be represented in the landscape units contained in this RMZ</i>
2 Soil Conservation	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
3 Fish and Wildlife	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage critical high elevation caribou habitat to assist in sustaining viable, healthy populations • Manage medium and/or high capability grizzly bear habitat to assist in sustaining viable, healthy populations Manage critical ungulate habitat to assist in sustaining viable, healthy ungulate populations Manage critical habitat for red- and blue-listed migratory songbirds to assist in sustaining viable, healthy populations within Portage Mtn., and Butler Ridge subzones Manage critical habitat for furbearers (lynx, marten, fisher) to assist in sustaining viable, healthy populations within Bullmoose Cr., and Mt. Anderson subzones 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify and map connectivity corridors and/or forest ecosystem networks (FEN's), and incorporate into landscape unit level planning (<i>Intent: Government to undertake</i>) Identify and map medium and high capability grizzly bear habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Plan resource developments and associated access to minimize negative human/bear interactions (e.g., winter harvesting and summer road restrictions) Identify and map critical ungulate habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Develop guidelines for mixedwood forest management to assist in sustaining critical habitat for red- and blue- listed migratory songbirds (<i>Intent: Government to undertake</i>) Incorporate identified wildlife habitat features and known furbearer refuge areas into resource development, landscape unit level and operational planning processes to mitigate negative impacts to trapping and trapping improvements (<i>Intent: Government to undertake</i>) Identify, map, and consider designating wildlife habitat areas for Identified Wildlife species (<i>Intent: Government to undertake</i>)

Foothills RMZ (cont'd)

3 Fish and Wildlife (cont'd)	
Objectives <ul style="list-style-type: none"> • Manage access to high quality fisheries to assist in sustaining viable, healthy sport fish populations 	Strategies <ul style="list-style-type: none"> • Identify and map critical fish habitat (e.g., pools, migration patterns, spawning and rearing areas), and incorporate in landscape unit level and operational planning (<i>Intent: Government to undertake</i>)
4 Air Quality	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
5 Recreation and Tourism	
Objectives <ul style="list-style-type: none"> • General Management Direction ◇ • Provide for quality public and commercial recreational opportunities and values within Bullmoose Cr., and Mt. Anderson subzones 	Strategies <ul style="list-style-type: none"> • General Management Direction ◇ • Identify areas of high recreation use or significance and develop appropriate management strategies in landscape unit level and operational planning • Incorporate existing recreational activities and assess potential for the development of new recreational opportunities in more detailed plans (i.e., additional motorized or non-motorized recreational pursuit) • In consultation with user groups, provide new opportunities for public and commercial recreational access through referrals to organizations and agencies • Winter recreation (e.g., snowmobile use) may be limited in some areas to sustain winter habitat needs for wildlife
6 Visual Quality	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
7 First Nations	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
8 Culture and Heritage	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction

Foothills RMZ (cont'd)

9 Trapping	
Objectives <ul style="list-style-type: none">• General Management Direction	Strategies <ul style="list-style-type: none">• General Management Direction

10 Guide Outfitting	
Objectives <ul style="list-style-type: none">• General Management Direction	Strategies <ul style="list-style-type: none">• General Management Direction

11 Water	
Objectives <ul style="list-style-type: none">• General Management Direction	Strategies <ul style="list-style-type: none">• General Management Direction

12 Agriculture and Range	
Objectives <ul style="list-style-type: none">• General Management Direction	Strategies <ul style="list-style-type: none">• General Management Direction

13 Coal and Minerals	
Objectives <ul style="list-style-type: none">• General Management Direction• Provide opportunities for environmentally responsible exploration and development of surface and subsurface resources• Plan and manage coal, mineral and aggregate exploration and development activities with sensitivity to Identified Wildlife (e.g., bighorn sheep, mountain goat) and recreation values	Strategies <ul style="list-style-type: none">• General Management Direction• Recognize the hidden nature of the subsurface resource by incorporating this information into landscape unit level and operational planning• Manage visual quality at or adjacent to coal and mineral mine developments using a range of management tools such as informational viewpoints describing mining and reclamation programs

14 Energy	
Objectives <ul style="list-style-type: none">• General Management Direction	Strategies <ul style="list-style-type: none">• General Management Direction

15 Communications, Transportation and Utilities	
Objectives <ul style="list-style-type: none">• General Management Direction	Strategies <ul style="list-style-type: none">• General Management Direction

Foothills RMZ (cont'd)

16 Forestry	
Objectives <ul style="list-style-type: none"> • General Management Direction <ul style="list-style-type: none"> ◇ • NDT (Natural Disturbance Type) 2 • NDT (Natural Disturbance Type) 3 <ul style="list-style-type: none"> ◇ • Provide opportunities for environmentally responsible development of forest resources to sustain long-term timber supply 	Strategies <ul style="list-style-type: none"> • General Management Direction <ul style="list-style-type: none"> ◇ • NDT (Natural Disturbance Type) 2 • NDT (Natural Disturbance Type) 3 <ul style="list-style-type: none"> ◇ • Minimize losses from damaging agents through aggressive and prompt fire and pest management, including the salvage of damaged or killed timber • Promptly and aggressively reforest and manage cutovers and wildfires within the timber harvesting landbase to sustain timber harvest levels • Where environmentally sound and ecologically appropriate, utilize a range of forest patch sizes to provide a cut/leave pattern that more closely mimics the natural disturbance pattern

17 Access	
Objectives <ul style="list-style-type: none"> • General Management Direction <ul style="list-style-type: none"> ◇ • Plan and manage access through the use of Optimum Access Management direction within all subzones except Butler Ridge, and Cust Cr. <ul style="list-style-type: none"> ◇ • Plan and manage access through the use of Sensitive Access Management direction to minimize fragmentation of and disturbance to identified resource values or features within Butler Ridge, and Cust Cr. subzones 	Strategies <ul style="list-style-type: none"> • General Management Direction <ul style="list-style-type: none"> ◇ • Using landscape unit level and operational planning processes, coordinate the development and use of linear industrial corridors (<i>Intent: to minimize the duplication of access corridors</i>) <ul style="list-style-type: none"> ◇ • In consultation with the public and user groups, government to identify significant resource values or features in landscape unit level planning, and incorporate into operational planning processes to mitigate negative impacts through Sensitive Access Management direction which may include access restrictions, or in special circumstances, site specific access prohibition

4.6 Plateau Resource Management Zone

(General Resource Management)

4.6.1 Resource Management Subzones

Cameron-Moberly Lake 5C	Boudreau Lake 5D
Chetwynd-Moberly Lake 5C	One Island Lake 5L
Boucher Lake 5E	Windy Creek 5C
Moberly River 5E	Stewart Creek 5C
Septimus Creek 5E	

4.6.2 Area Description

This RMZ includes subzones within the Peace Lowlands and Kiskatinaw Plateau ecosections, both in the Boreal White and Black Spruce biogeoclimatic zone.

4.6.3 Resource Values

Fish and Wildlife

Birds and furbearers depend on habitats within deciduous and mixed wood forests in this RMZ. In the Peace Lowlands portions of the RMZ, mixed wood and aspen dominated stands provide valuable habitat for several red- and blue- listed species of warblers. Moose, elk and deer utilize early seral vegetation adjacent to cover especially in the Peace Lowlands and Kiskatinaw Plateau ecosections.

Landscape connectivity between river corridors and uplands are important as these areas provide travel corridors for many mammals. Aspen and mixed wood forest habitats are very important for maintaining the diversity of passerine songbirds flying through this area on their annual migration route.

Recreation

Recreational activities in this RMZ include wildlife viewing, camping, fishing, hunting, hiking and berry picking and horseback riding. Lands are classed as 'resource roaded' (RR) ROS.

Few commercial recreation enterprises are established within the RMZ. School District #60 maintains an outdoor and environmental studies center at the northwest end of Cameron Lake North. Several MoF and other government managed recreation sites are located within the RMZ. Motorized recreational activities, including snowmobiling and all-terrain vehicle (ATV) use, are popular recreation activities in the RMZ. Guide outfitting is tenured throughout the RMZ.

Visual Quality

Visual sensitivity of scenic areas in this RMZ are generally rated as moderate to low.

Culture and Heritage

First Nations camps are routinely located at a number of sites within the RMZ. The First Nations communities located at Moberly Lake routinely use the areas around the lake for traditional hunting, trapping, fishing and berry-picking. Metis from the Kelly Lake settlement are traditional users of this

RMZ, primarily within the Kiskatinaw River watershed. Areas of special significance to local First Nations include: Medicine Woman Creek, Maurice Creek subzone, Two Ridge Mountain, Johnson Creek subzone, Deadman Creek and Upper Moberly areas.

Trapping

The entire RMZ is under tenure to trappers. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

Surface water resources within the RMZ are licensed, on a short-term use, 'as needed' basis, for industrial use. Several water licenses have been issued to agricultural operations where water is used for livestock watering, irrigation or domestic use. A large portion of the upper Kiskatinaw River watershed (community domestic water supply area) is within the RMZ.

Agriculture

This RMZ contains approximately 17% of the ALR lands in the planning area. Most of the ALR land is located in the Peace Lowlands ecosection, mainly Class 3 (CLI) and has potential for agricultural development.

Range

The range resources within this RMZ are utilized by domestic livestock and wildlife. Grazing tenures have been issued in those portions of the area that are in close proximity to agriculture/settlement/private lands. Range resources in portions of the RMZ may provide opportunities for grazing in support of commercial recreation operations.

Coal and Other Mineral Resources

Portions of the RMZ contain major coal deposits and areas of moderate coal potential.

Energy

This RMZ contains numerous oil and gas tenures as well as substantial proven reserves of gas. High levels of natural gas and oil exploration and development currently exist in the area. Substantial natural gas infrastructure including pipelines, dehydration and process facilities have been constructed. The potential for gas reserves is moderate to high, making the area very important for future discovery and development of oil and gas.

Forestry

Forestry values vary widely in this RMZ. The Peace Lowlands provides good to medium site productivity aspen and cottonwood forests south of the Peace River.

Site productivity is partly rated as medium to good in the Kiskatinaw Plateau ecosection. Forests in this area are comprised of aspen, cottonwood and mixed wood forests of spruce and aspen. On higher ground, forests are dominated by lodgepole pine. In some parts of this area, site productivity is low or poor resulting in non-merchantable forest cover (black spruce and/or tamarack).

Access

The major road access into the Kiskatinaw Plateau portions of the RMZ is via all-weather forest service roads from the Heritage Highway. Road access within this area is well developed, primarily a consequence of oil and gas exploration and development and timber harvesting.

In northern portions of the RMZ, south of the Peace River, a wide network of roads have been constructed for oil and gas exploration and development and for timber harvesting.

4.6.4 Management Direction

The Plateau RMZ contains a number of significant resource values including deciduous and coniferous timber resources, oil and gas, coal, fish and wildlife, recreation, agriculture, range and cultural resources. The sustainability of all of these values is the overall land and resource management objective within the RMZ. No resource value predominates over other values.

Most of the RMZ is well developed and has a high potential for future resource developments. Most of the RMZ has well developed roads, seismic lines, pipeline corridors and trails, providing ready access to explore, develop and transport resources and for recreation.

The Plateau RMZ is identified as General Resource Management on the LRMP map. Resource values, objectives to sustain or enhance those values, and strategies to achieve the resource management objectives within the RMZ are provided on the following pages.

Plateau RMZ (cont'd)

1 Biodiversity	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Sustain healthy functioning ecosystems in the Resource Management Zone 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ <i>The general biodiversity is intermediate recognizing that the full spectrum from low to high may be represented in the landscape units contained in this RMZ</i>

2 Soil Conservation	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

3 Fish and Wildlife	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage critical ungulate habitat to assist in sustaining viable, healthy ungulate populations Manage critical habitat for red- and blue-listed migratory songbirds to assist in sustaining viable, healthy populations Manage critical habitat for furbearers (lynx, marten, fisher) to assist in sustaining viable, healthy populations Manage critical habitat for trumpeter swans to assist in sustaining viable, healthy populations Manage populations and distributions of regionally important wildlife species to reduce conflicts with range use and/or agriculture 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify and map critical ungulate habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Develop guidelines for mixedwood forest management to assist in sustaining critical habitat for red- and blue- listed migratory songbirds (<i>Intent: Government to undertake</i>) Incorporate identified wildlife habitat features and known furbearer refuge areas into resource development, landscape unit level and operational planning processes to mitigate negative impacts to trapping and trapping improvements (<i>Intent: Government to undertake</i>) Identify and map connectivity corridors and/or forest ecosystem networks (FEN's), and incorporate into landscape unit level planning (<i>Intent: Government to undertake</i>) Identify, map, and consider designating important habitat components as wildlife habitat areas for Identified Wildlife species (<i>Intent: Government to undertake</i>) Apply a proactive, consultative approach to develop wildlife harvest and habitat enhancement strategies that will assist in preventing or reducing wildlife-agriculture/range conflicts

Plateau RMZ (cont'd)

4 Air Quality	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
5 Recreation and Tourism	
Objectives <ul style="list-style-type: none"> • General Management Direction <ul style="list-style-type: none"> ◇ • Plan and manage recreation and development activities with sensitivity to aboriginal, cultural heritage, wildlife habitat and environmental values within Boucher L., and Boudreau L. subzones • Provide for quality public and commercial recreational opportunities and values 	Strategies <ul style="list-style-type: none"> • General Management Direction <ul style="list-style-type: none"> ◇ • Identify areas of high recreation use or significance and develop appropriate management strategies in landscape unit level and operational planning • Incorporate existing recreational activities and assess potential for the development of new recreational opportunities in more detailed plans (i.e., additional motorized or non-motorized recreational pursuit) • Provide opportunities for roaded recreation, upgrade main access routes and establish hardened campsites to accommodate recreational use
6 Visual Quality	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
7 First Nations	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
8 Culture and Heritage	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
9 Trapping	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
10 Guide Outfitting	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction

Plateau RMZ (cont'd)

11 Water	
Objectives <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> Manage the natural streamflow regime (water quality, water quantity and timing of flow) of rivers and streams to assist in sustaining community domestic water supplies (Appendix E) 	Strategies <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> Conduct the appropriate level of watershed assessment for identified community domestic water supply areas (<i>Intent: Government to undertake</i>)

12 Agriculture and Range	
Objectives <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> Manage the forage resource to sustain its productivity and availability for use by domestic livestock Plan and manage range development and domestic grazing activities with sensitivity to aboriginal, cultural heritage, wildlife habitat and environmental values within Boudreau L., and Boucher L. subzones Provide opportunities for agricultural growth 	Strategies <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> MoF, in consultation with the Ministry of Agriculture, Food and Fisheries (MAFF) and range users, will develop and monitor a forage inventory for use in prescribing target levels of animal unit months (AUM's) Manage domestic livestock through the development and use of infrastructure and/or range management techniques that allow for proper distribution of animals. MoF will consult with MAFF and MELP to identify areas to increase forage production for domestic livestock

13 Coal and Minerals	
Objectives <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> Provide opportunities for environmentally responsible exploration and development of surface and subsurface resources 	Strategies <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> Recognize the hidden nature of the subsurface resource by incorporating this information into landscape unit level and operational planning Manage visual quality at or adjacent to coal and mineral mine developments using a range of management tools such as informational viewpoints describing mining and reclamation programs

14 Energy	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

Plateau RMZ (cont'd)

15 Communications, Transportation and Utilities

Objectives

- General Management Direction

Strategies

- General Management Direction

16 Forestry

Objectives

- General Management Direction
◇
- NDT (Natural Disturbance Type) 2
- NDT (Natural Disturbance Type) 3
◇
- Provide opportunities for environmentally responsible development of forest resources to sustain long-term timber supply

Strategies

- General Management Direction
◇
- NDT (Natural Disturbance Type) 2
- NDT (Natural Disturbance Type) 3
◇
- Minimize losses from damaging agents through aggressive and prompt fire and pest management, including the salvage of damaged or killed timber
- Promptly and aggressively reforest and manage cutovers and wildfires within the timber harvesting landbase to sustain timber harvest levels
- Where environmentally sound and ecologically appropriate, utilize a range of forest patch sizes to provide a cut/leave pattern that more closely mimics the natural disturbance pattern

17 Access

Objectives

- General Management Direction
◇
- Plan and manage access through the use of Optimum Access Management direction strategies within all subzones except Boucher L., Boudreau L., Cameron-Moberly L., and Chetwynd-Moberly L.
◇
- Plan and manage access through the use of Sensitive Access Management direction to minimize fragmentation of and disturbance to identified resource values or features within Boucher L., Boudreau L., Cameron-Moberly L., and Chetwynd-Moberly L. subzones

Strategies

- General Management Direction
◇
- Using landscape unit level and operational planning processes, coordinate the development and use of linear industrial corridors (e.g., roads, pipelines, seismic lines).
(*Intent: to minimize the duplication of access corridors*)
◇
- In consultation with the public and user groups, government to identify significant resource values or features in landscape unit level planning, and incorporate into operational planning processes to mitigate negative impacts through Sensitive Access Management direction which may include access restrictions, or in special circumstances, site specific access prohibition
- In consultation with resource users, restrict the use of existing motorized access (except on designated roads/trails) to non-motorized and approved industrial uses to mitigate negative impacts on identified resource values or features

4.7 Wildlife Habitat/Wilderness Recreation Resource Management Zone

(Special Resource Management)

4.7.1 Resource Management Subzones

Dunlevy Creek 6B
Wapiti River-Onion Lake 6B
North Burnt 6I

Belcourt Creek 9C
Cust Creek 5B

4.7.2 Area Description

The RMZ consists of several subzones which are located in three distinct portions of the LRMP area.

The Dunlevy Creek subzone is located along the north shore of Williston Lake within the Peace Foothills ecosection. The North Burnt subzone is located within the Rocky Mountains along the western boundary of the planning area. It is adjacent to the southern portion of the Pine/LeMoray Protected Area and within the Hart Ranges ecosection. The Wapiti River RMZ is located in the Hart Foothills ecosection.

The Red Deer Creek and Belcourt Creek subzones are located in the southeast corner of the planning area. The majority of the Red Deer Creek subzone is located within the Hart Ranges ecosection while the Belcourt Creek subzone is located within the Front Ranges ecosection.

Four biogeoclimatic zones are found within the RMZ. Higher elevations are predominantly Alpine Tundra zone with Engelmann Spruce-Subalpine Fir on the mountain slopes. At lower elevations, Sub-Boreal Spruce dominates the valleys. The Boreal White and Black Spruce zone exists at lower elevations in the Belcourt Creek subzone and along the shore of Williston Lake.

4.7.3 Resource Values

Fish and Wildlife

A wide diversity of wildlife is found in this RMZ. The northern-most occurrence of Rocky Mountain bighorn sheep can be found in the southern portions of the RMZ. The RMZ also provides important habitat for inter-provincial caribou populations. Substantial populations of Stone's sheep and elk are found north of Williston Lake. The North Burnt RMZ has a portion of the highest capability grizzly bear habitat in the planning area although grizzly bears are found throughout the RMZ. The RMZ has critical habitat for other wildlife species including mountain goat, grizzly bears, birds and furbearers.

Throughout portions of the RMZ, Bull trout, whitefish and Arctic grayling are found in many streams. Critical bull trout habitat is also found in these areas. Stocked kokanee from Williston Lake may spawn in creeks draining into Williston Lake.

Limited road access accentuates wildlife values in this area by providing unfragmented habitats and populations isolated from the impacts of industrial development.

Biodiversity conservation requires that an adequate habitat supply be maintained over time, including the provision of connectivity corridors between habitats and providing forested areas of sufficient size to maintain forest interior conditions.

Recreation

Most of this RMZ has wilderness. Wilderness recreation activities including hiking, cross-country skiing, snowmobiling, horseback riding and hunting are popular activities in this RMZ's. Boating and fishing are popular in Williston Lake. The Dunlevy Creek subzone contains hiking, wildlife viewing and hunting opportunities. Recreational use is high in the Wapiti River subzone due to the trail access provided by constructed hiking trails and seismic lines. The ROS class throughout the RMZ is generally semi-primitive to primitive.

Guide outfitting is tenured and active throughout the RMZ. There is potential for new or enhanced commercial recreation opportunities. Commercial recreation opportunities have been identified within the RMZ, particularly north of Williston Lake, in the Wapiti River area and in the Belcourt Creek area.

Visual Quality

Most of this area is not impacted by industrial developments. The scenic areas within this RMZ are values considered essential and linked to wilderness, commercial and other recreation values. Rocky Mountain views are common in the RMZ; many of these are adjacent to Protected Areas. Some of the areas within this RMZ are visually sensitive.

Scenic areas exist along the north shore of Williston Lake and around Iver's Lake where outdoor recreation activities are known to occur. Visual sensitivity ratings are moderate to high. Additional scenic areas may be identified.

Culture and Heritage

This RMZ is used by First Nations peoples for subsistence activities such as hunting, fishing and berry picking. The RMZ has been identified as part of their traditional use area for sustenance activities.

Trapping

The entire RMZ is under tenure to trappers. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

Water use is limited to that required by outdoor recreationists and commercial recreation operations.

Range

The ranges resources in this RMZ are utilized by wildlife. Range resources in portions of the RMZ may provide opportunities for grazing in support of commercial recreation operations.

Coal and Other Mineral Resources

Tracts of high to very high coal potential occur within this RMZ. This RMZ also contains moderate to high mineral potential. Mineral occurrences have been documented in the extreme southern portion of the RMZ.

Energy

The potential for gas reserves is high in all subzones within this RMZ. Oil and gas exploration has occurred and tenures are located within the RMZ. Existing infrastructure is minimal.

Forestry

Timber values vary throughout the RMZ and are significantly affected by steep terrain, economics and potentially unstable slopes. North of Williston Lake, timber values are high to moderate. Forests have been influenced by wildfire resulting in predominantly coniferous forests of early to mature seral stage and occasional deciduous stands. Timber values in the North Burnt River area are also high, with standing coniferous forests in older age classes.

Timber values in the Belcourt Creek area are low to moderate due to poor to low site productivity. Widely dispersed coniferous stands in mature to old age classes have been identified on the better quality sites in this area.

Access

Road access is minimal throughout the RMZ. The management of motorized access is important to the sustainability of wilderness attributes and wildlife habitat.

4.7.4 Management Direction

In general, this RMZ provides important habitats for grizzly bear, Bighorn sheep, Stone's sheep and other large mammals and for wilderness outdoor recreation experiences. Other key resource values, like timber, oil and gas, minerals and commercial and motorized recreation are also present within the RMZ with potential for future development.

Opportunities exist to maintain the resource values identified. The management of road access is a high priority within the RMZ and may be limited, restricted, or prohibited where the construction of new access may negatively impact significant resource values. This plan is recommending strategic direction to manage the RMZ to sustain the resource values while recognizing that these areas are not Protected Areas.

The Wildlife Habitat/Wilderness Recreation RMZ has been identified as a Special Resource Management area on the LRMP map. Resource values, objectives to sustain or enhance those values, and strategies to achieve the resource management objectives within the RMZ are provided on the following pages.

Wildlife Habitat/Wilderness Recreation RMZ

1 Biodiversity	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Sustain healthy functioning ecosystems in the Resource Management Zone 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ <i>The general biodiversity is intermediate to high recognizing that the full spectrum from low to high may be represented in the landscape units contained in this RMZ</i>

2 Soil Conservation	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

3 Fish and Wildlife	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage critical high elevation caribou habitat to assist in sustaining viable, healthy populations Manage critical low elevation caribou habitat to assist in sustaining viable, healthy populations Manage medium and/or high capability grizzly bear habitat to assist in sustaining viable, healthy populations Manage critical ungulate habitat to assist in sustaining viable, healthy ungulate populations Manage access to high quality fisheries to assist in sustaining viable, healthy sport fish populations 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify and map critical ungulate habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Identify and map medium and high capability grizzly bear habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Plan resource developments and associated access to minimize negative human/bear interactions (e.g., winter harvesting and summer road restrictions) Identify and map connectivity corridors and/or forest ecosystem networks (FEN's), and incorporate into landscape unit level planning (<i>Intent: Government to undertake</i>) Identify, map, and consider designating critical habitat components as wildlife habitat areas for Identified Wildlife species (<i>Intent: Government to undertake</i>) Identify and map critical fish habitat (e.g., pools, migration patterns, spawning and rearing areas), and incorporate in landscape unit level and operational planning (<i>Intent: Government to undertake</i>)

Wildlife Habitat/Wilderness Recreation RMZ (cont'd)

4 Air Quality	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
5 Recreation and Tourism	
Objectives <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> ◇ Plan and manage recreation and development activities with sensitivity to wilderness, wildlife habitat, and environmental values Provide for quality public and commercial recreational opportunities and values Manage public and commercial recreation in natural or 'natural appearing' conditions 	Strategies <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> ◇ Identify areas of high recreation use or significance and develop appropriate management strategies in landscape unit level and operational planning Winter recreation (e.g., snowmobile use) may be limited in some areas to sustain winter habitat needs for wildlife In consultation with user groups, establish acceptable limits on recreational use (priority areas include Wapiti R.-Onion Lake and Belcourt Cr. subzones) To protect wildlife and other values, recreational activities involving motorized access may be subject to restrictions In consultation with user groups, provide new opportunities for public and commercial recreational access through referrals to organizations and agencies Incorporate existing recreational activities and assess potential for the development of new recreational opportunities in more detailed plans (i.e., additional motorized or non-motorized recreational pursuit) Limit recreation facilities to those required for signage, sanitary and safety needs using natural, rustic materials where possible
6 Visual Quality	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
7 First Nations	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
8 Culture and Heritage	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

Wildlife Habitat/Wilderness Recreation RMZ (cont'd)

9 Trapping	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
10 Guide Outfitting	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
11 Water	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
12 Agriculture and Range	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
13 Coal and Minerals	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Provide opportunities for environmentally responsible exploration and development of surface and subsurface resources Plan and manage coal, mineral and aggregate exploration and development activities with sensitivity to identified wildlife species. (e.g., Bighorn sheep, mountain goat) and recreation values 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Allow continuation of mine activity and expansion of operations Recognize the hidden nature of the subsurface resource by incorporating this information into landscape unit level and operational planning Manage visual quality at or adjacent to coal and mineral mine developments using a range of management tools such as informational viewpoints describing mining and reclamation programs
14 Energy	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Provide opportunities for environmentally responsible development of surface and subsurface resources Consider developing pre-tenure plans on a priority basis 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ All new-cut seismic exploration in areas with potentially unstable slopes and/or high wildlife values shall be heli-portable unless it can be conclusively demonstrated that conventional seismic exploration will not cause significant impacts to the identified value

Wildlife Habitat/Wilderness Recreation RMZ (cont'd)

15 Communications, Transportation and Utilities

Objectives	Strategies
<ul style="list-style-type: none"> General Management Direction 	<ul style="list-style-type: none"> General Management Direction

16 Forestry

Objectives	Strategies
<ul style="list-style-type: none"> General Management Direction <p style="text-align: center;">◇</p> <ul style="list-style-type: none"> NDT (Natural Disturbance Type) 1 NDT (Natural Disturbance Type) 2 NDT (Natural Disturbance Type) 3 	<ul style="list-style-type: none"> General Management Direction <p style="text-align: center;">◇</p> <ul style="list-style-type: none"> NDT (Natural Disturbance Type) 1 NDT (Natural Disturbance Type) 2 NDT (Natural Disturbance Type) 3

17 Access

Objectives	Strategies
<ul style="list-style-type: none"> General Management Direction <p style="text-align: center;">◇</p> <ul style="list-style-type: none"> Plan and manage access through the use of Sensitive Access Management to minimize fragmentation of and disturbance to identified resource values or features Manage the landscape in a manner which, over time, minimizes the impact to the natural wilderness conditions (while the intent is to manage towards sustaining pre-development access densities in the long term, it is recognized that the access densities will fluctuate as roads are built and deactivated) 	<ul style="list-style-type: none"> General Management Direction <p style="text-align: center;">◇</p> <ul style="list-style-type: none"> Using landscape unit level and operational planning processes, coordinate the development and use of linear industrial corridors (e.g., roads, pipelines, seismic lines) <i>(Intent: to minimize the duplication of access corridors)</i> In consultation with the public and user groups, government to identify significant resource values or features in landscape unit level planning, and incorporate into operational planning processes to mitigate negative impacts through Sensitive Access Management direction which may include access restrictions, or in special circumstances, site specific access prohibition Consider utilizing winter roads in resource development activities to minimize disturbance and reclamation costs For forest development roads, utilize appropriate levels of deactivation to manage access Upon cessation of tenure holder's activities, return linear developments (e.g., roads, pipeline and utility corridors - not seismic lines) to a vegetative state which over time approximates natural conditions through reclamation (using native species where appropriate), rehabilitation, re-contouring and bridge removal Consider alternative methods to road construction, including helicopter-based technology Resource development proposals should be consistent with strategic plans (e.g., LRMP, landscape unit and pre-tenure plans)

Wildlife Habitat/Wilderness Recreation RMZ (cont'd)

17 Access (cont'd)

Objectives

- Through enhanced consultation (direct contact with affected identified recreational user groups and/or other identified sectors: trapping, guide outfitting, etc.), ensure that pre-existing recreational routes and levels of access are maintained (*Intent: This objective does not preclude road building on trails as long as pre-existing recreational routes and levels of access are maintained*) Through enhanced consultation (direct contact with affected identified recreational user groups and/or other sectors: trapping, guide outfitting etc.) ensure that pre-existing recreational routes and levels of access are maintained.

Strategies

- Manage new road access to ensure that pre-existing levels of public motorized access are maintained.

4.8 Wildlife/Coalfield Resource Management Zone

(Special Resource Management)

4.8.1 Resource Management Subzones

Narraway River 6D

4.8.2 Area Description

The RMZ is located in the southern portion of the planning area, north of the Kakwa North Protected Area. The RMZ consists of the Narraway River 6D subzone, located within the Front Ranges ecosection, and includes a small portion of the Belcourt Lake area along the northwest edge, within the Kiskatinaw Plateau ecosection.

Two biogeoclimatic zones are found within the RMZ. Higher elevations are predominantly Alpine Tundra zone with Engelmann Spruce-Subalpine Fir on the mountain slopes.

4.8.3 Resource Values

Fish and Wildlife

A wide diversity of wildlife is found in this RMZ. The northern-most occurrence of Rocky Mountain bighorn sheep can be found in the RMZ. The RMZ also provides important habitat for inter-provincial caribou populations. The RMZ has critical habitat for other wildlife species including mountain goat, grizzly bears, birds and furbearers.

Throughout portions of the RMZ, Bull trout, whitefish and Arctic grayling are found in many streams. Critical bull trout habitat is also found in these areas.

Limited road access accentuates wildlife values in this area by providing unfragmented habitats and populations isolated from the impacts of industrial development.

Biodiversity conservation requires that an adequate habitat supply be maintained over time, including the provision of connectivity corridors between habitats and providing forested areas of sufficient size to maintain forest interior conditions.

Recreation

Most of this RMZ has wilderness. Wilderness recreation activities including hiking, cross-country skiing, snowmobiling, horseback riding and hunting are popular activities in this RMZ. The ROS class throughout the RMZ is generally semi-primitive to primitive.

Guide outfitting is tenured and active throughout the RMZ. There is potential for new or enhanced commercial recreation opportunities. Commercial recreation opportunities have been identified within the RMZ, particularly in the Belcourt-Narraway area.

Visual Quality

Most of this area is not impacted by industrial developments. The scenic areas within this RMZ are values considered essential and linked to wilderness, commercial and other recreation values. Some of the areas within this RMZ are visually sensitive.

Scenic areas exist around Belcourt Lake where outdoor recreation activities are known to occur. Visual sensitivity ratings are moderate to high. Additional scenic areas may be identified.

Culture and Heritage

This RMZ is used by First Nations peoples for subsistence activities such as hunting, fishing and berry picking. The RMZ has been identified as part of their traditional use area for sustenance activities.

Trapping

The entire RMZ is under tenure to trappers. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

Water use by people is limited to that required by outdoor recreationists and commercial recreation operations.

Range

The ranges resources in this RMZ are utilized by wildlife. Range resources in portions of the RMZ may provide opportunities for grazing in support of commercial recreation operations.

Coal and Other Mineral Resources

Tracts of high to very high coal potential exist within this RMZ. Two coal reserves (proven resources through exploration) have been identified in the zone, namely Saxon South and the Ptarmigan-Smith (Belcourt). These reserves are both under tenure. In addition, a defined prospect has been identified in the Secus coal trend near Secus Mountain. The Socioeconomic Assessment indicates that the Belcourt and Saxon deposits have a combined, measured resource of 193 million tonnes as compared to the Quintette mine at 150 million tonnes. This RMZ also contains moderate to high mineral potential. Mineral occurrences have been documented throughout the RMZ, and phosphate resources are tenures in the northwestern portion.

A coalfield map defining the subsurface resources of the RMZ is found in Appendix H. This indicates the coal reserves, coal and mineral prospects, and coal potential as audited by the Ministry of Energy and Mines (Energy and Minerals Division) (MEM).

Energy

The potential for gas reserves is high within this RMZ. Oil and gas exploration has occurred and tenures are located within the RMZ. Existing infrastructure is minimal.

Forestry

Timber values vary throughout the RMZ and are significantly affected by steep terrain, economics and potentially unstable slopes. Forests have been influenced by wildfires resulting in predominantly

coniferous stands of early to mature seral stages and occasional deciduous stands. Timber values in the Belcourt Lake area are low to moderate due to poor to low site productivity. Widely dispersed coniferous stands in mature to old age classes have been identified on the better quality sites in this area.

Access

Road access is minimal throughout the RMZ. The management of motorized access is important to the sustainability of wilderness attributes and wildlife habitat.

4.8.4 Management Direction

In general, this RMZ provides important habitat for grizzly bear, Bighorn Sheep and other large mammals as well as wilderness outdoor recreation experiences. The coal resources in this zone also have significant value. The management direction in the RMZ is to maintain the quality of wildlife habitat during temporary use of the land in coal exploration and development. Other key resource values such as wilderness, outdoor recreation experiences, timber, oil and gas, and commercial and motorized recreation are also present within the RMZ with potential for future development.

Opportunities exist to sustain the resource values identified while developing the coal and mineral potential in the area. The management of road access is a high priority within the RMZ and will be planned and managed appropriately, recognizing both its importance to coal resource development and the stated management directions for wildlife and wilderness recreation values for this RMZ. Access and the use of gates are addressed in Implementation section 5.7.7.

The Wildlife/Coalfield RMZ has been identified as a Special Resource Management Zone on the LRMP map. Resource values, objectives to sustain or enhance those values, and strategies to achieve the resource management objectives within the RMZ are provided on the following pages.

Wildlife/Coalfield Resource Management Zone

1 Biodiversity	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Sustain healthy functioning ecosystems in the Resource Management Zone 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ <i>The general biodiversity is intermediate to high recognizing that the full spectrum from low to high may be represented in the landscape units contained in this RMZ</i>
2 Soil Conservation	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
3 Fish and Wildlife	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage critical high elevation caribou habitat to assist in sustaining viable, healthy populations Manage critical low elevation caribou habitat to assist in sustaining viable, healthy populations Manage medium and/or high capability grizzly bear habitat to assist in sustaining viable, healthy populations Manage critical ungulate habitat to assist in sustaining viable, healthy ungulate populations Manage access to high quality fisheries to assist in sustaining viable, healthy sport fish populations 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify and map critical ungulate habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Identify and map medium and high capability grizzly bear habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Plan resource developments and associated access to minimize negative human/bear interactions (e.g., winter harvesting and summer road restrictions) Identify and map connectivity corridors and/or forest ecosystem networks (FEN's), and incorporate into landscape unit level planning (<i>Intent: Government to undertake</i>) Identify, map, and consider designating critical habitat components as wildlife habitat areas for Identified Wildlife species (<i>Intent: Government to undertake</i>) Identify and map critical fish habitat (e.g., pools, migration patterns, spawning and rearing areas), and incorporate in landscape unit level and operational planning (<i>Intent: Government to undertake</i>)
4 Air Quality	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

Wildlife/Coalfield Resource Management Zone (cont'd)

5 Recreation and Tourism	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Provide for quality public and commercial recreational opportunities and values Manage public and commercial recreation in natural or 'natural appearing' conditions Plan and manage recreation and development activities with sensitivity to wilderness, wildlife habitat, and environmental values 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify areas of high recreation use or significance and develop appropriate management strategies in landscape unit level and operational planning Incorporate existing recreational activities and assess potential for the development of new recreational opportunities in more detailed plans (i.e., additional motorized or non-motorized recreational pursuit) In consultation with user groups, provide new opportunities for public and commercial recreational access through referrals to organizations and agencies Winter recreation (e.g., snowmobile use) may be limited in some areas to sustain winter habitat needs for wildlife In consultation with user groups, establish acceptable limits on recreational use To protect wildlife and other values, recreational activities involving motorized access may be subject to restrictions Limit recreation facilities to those required for signage, sanitary and safety needs using natural, rustic materials where possible
6 Visual Quality	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
7 First Nations	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
8 Culture and Heritage	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
9 Trapping	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
10 Guide Outfitting	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

Wildlife/Coalfield Resource Management Zone (cont'd)

11 Water	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
12 Agriculture and Range	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
13 Coal and Minerals	
Objectives <ul style="list-style-type: none"> • General Management Direction ◇ • Provide opportunities for environmentally responsible exploration and development of surface and subsurface resources • Plan and manage coal, mineral and aggregate exploration and development activities with sensitivity to identified wildlife species. (e.g., Bighorn sheep, mountain goat) and recreation values 	Strategies <ul style="list-style-type: none"> • General Management Direction ◇ • Allow continuation of mine activity and expansion of operations • Recognize the hidden nature of the subsurface resource by incorporating this information into landscape unit level and operational planning • Manage visual quality at or adjacent to coal and mineral mine developments using a range of management tools such as informational viewpoints describing mining and reclamation programs
14 Energy	
Objectives <ul style="list-style-type: none"> • General Management Direction ◇ • Provide opportunities for environmentally responsible development of surface and subsurface resources • Consider developing pre-tenure plans on a priority basis 	Strategies <ul style="list-style-type: none"> • General Management Direction ◇ • All new-cut seismic exploration in areas with potentially unstable slopes and/or high wildlife values shall be heli-portable unless it can be conclusively demonstrated that conventional seismic exploration will not cause significant impacts to the identified value • Priority areas for pre-tenure plans are Saxon Ridge, Narraway River, and Belcourt Lake
15 Communications, Transportation and Utilities	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction
16 Forestry	
Objectives <ul style="list-style-type: none"> • General Management Direction ◇ • NDT (Natural Disturbance Type) 1 • NDT (Natural Disturbance Type) 2 • NDT (Natural Disturbance Type) 3 	Strategies <ul style="list-style-type: none"> • General Management Direction ◇ • NDT (Natural Disturbance Type) 1 • NDT (Natural Disturbance Type) 2 • NDT (Natural Disturbance Type) 3

Wildlife/Coalfield Resource Management Zone (cont'd)

17 Access

Objectives

- General Management Direction
◇
- Plan and manage access through the use of Sensitive Access Management to minimize fragmentation of and disturbance to identified resource values or features
- Manage the landscape in a manner which, over time, minimizes the impact to the natural wilderness conditions (while the intent is to manage towards sustaining pre-development access densities in the long term, it is recognized that the access densities will fluctuate as roads are built and deactivated)
- Through enhanced consultation (direct contact with affected identified recreational user groups and/or other identified sectors: trapping, guide outfitting, etc.), ensure that pre-existing recreational routes and levels of access are maintained (*Intent: This objective does not preclude road building on trails as long as pre-existing recreational routes and levels of access are maintained*)

Strategies

- General Management Direction
◇
- Using landscape unit level and operational planning processes, coordinate the development and use of linear industrial corridors (e.g., roads, pipelines, seismic lines) (*Intent: to minimize the duplication of access corridors*)
- In consultation with the public and user groups, government to identify significant resource values or features in landscape unit level planning, and incorporate into operational planning processes to mitigate negative impacts through Sensitive Access Management direction which may include access restrictions, or in special circumstances, site specific access prohibition
- Consider utilizing winter roads in resource development activities to minimize disturbance and reclamation costs
- For forest development roads, utilize appropriate levels of deactivation to manage access
- Upon cessation of tenure holder's activities, return linear developments (e.g., roads, pipeline and utility corridors - not seismic lines) to a vegetative state which over time approximates natural conditions through reclamation (using native species where appropriate), rehabilitation, re-contouring and bridge removal
- Consider alternative methods to road construction, including helicopter-based technology
- Resource development proposals should be consistent with strategic plans (e.g., LRMP, landscape unit and pre-tenure plans)
- Manage new road access to ensure that pre-existing levels of public motorized access are maintained
- Coal or mineral exploration roads will be minimized in number and duplication and will be reclaimed immediately upon completion of final exploration activity. Prior to final coal exploration and subsequent deactivation, shorter term or seasonal deactivation should be used
- Mine developments will be accessed by a single road which will be controlled under mechanisms available under the *Highway (Industrial) Act* and/or Regulations therein which specify conditions to operate a public vehicle on a mine road. This provides opportunity to restrict access to non-authorized users by law. (*Intent: restrict public access to ensure public safety and reduce potential disturbance to wildlife from uncontrolled access*)

4.9 Agriculture/Settlement Resource Management Zone

(Agriculture/Settlement)

4.9.1 Resource Management Subzones

Beryl Prairie 7B	Progress 7G
Dawson Creek 7G	Bissette Creek 7G
East Pine 7G	Wartenbe Creek 7G
Lone Prairie 7G	Chetwynd 7G
Chetwynd South 7G	Upper Cutbank 7G
Tumbler Ridge 7G	Burn's Properties (fee simple) 7J
South Dunlevy 7C	

4.9.2 Area Description

Agriculture/Settlement RMZ's include substantial private land or, where appropriate, are proposed for settlement or agricultural use of Crown land as outlined in an Official Community Plan (OCP), administered by a municipality or Crown Lands plan. The principal uses of these areas are residential, commercial, industrial, institutional and agricultural.

Only a small amount of land within this RMZ is Crown land. The private lands within this RMZ are not under the jurisdiction of this land and resource management plan. Crown lands in this RMZ provide important greenbelt and environmental areas.

The Agriculture/Settlement RMZ's within the planning area are located predominantly in the northeast portion of the planning area and in the Peace Lowlands ecosection. A number of isolated portions of Crown land within this RMZ also exist within the Kiskatinaw Plateau ecosection. With the exception of isolated Crown land leases in other biogeoclimatic zones, the RMZ lies within the Boreal White and Black Spruce biogeoclimatic zone.

The LRMP area contains five municipalities and two Indian Reserves. Dawson Creek, Pouce Coupe, Chetwynd, Hudson's Hope and Tumbler Ridge are the major communities in the planning area. The West Moberly and Saulteau Indian Reserves are under federal jurisdiction and are not covered under this plan.

The Peace River Regional District (PRRD) is the regional government body providing planning and related services to the rural area outside of the planning area's major communities. Rural settlements within the PRRD include the Kelly Lake Metis Community, Sunrise Valley, Sunset Prairie, Willow Valley, Rolla, Progress, Arras, Fellers Heights, Farmington, Tower Lake, Toms Lake, Tupper, Swan Lake, Gundy, East Pine, Shearer Dale, Groundbirch, Willow Valley, Upper Cutbank, Seven Mile Corner and Doe River.

Agriculture/Settlement RMZ boundaries are drawn from existing community, settlement and municipal plan boundaries. These areas are generally private and alienated Crown land (agriculture and grazing leases). Agriculture and grazing leases (alienated Crown land) will be managed similarly to private land in the LRMP.

4.9.3 Resource Values

Fish and Wildlife

Most wildlife common to the upland deciduous and coniferous forests are found in this RMZ. A wide diversity of furbearers, songbirds, moose, white-tailed and mule deer, elk and black bears make their homes in or near forested Crown and privately owned land.

The mix of pastoral and forested habitats provided by the privately owned and Crown lands provides exceptional habitat for raptors, sharp-tailed grouse, many songbirds, coyotes and white-tailed and mule deer. Although greatly impacted in their diversity and range by development, a number of sport fish and non-sport fish species are found in major drainage's within the planning area.

Biodiversity values within the planning area have been impacted by development. Few options remain to plan for, and provide, landscape connectivity on Crown or privately owned land. Where opportunities exist, a component of landscape connectivity and interior forest habitats should be sustained within this RMZ to maintain biodiversity values.

Recreation

Recreational activities which occur throughout the area include camping, canoeing, fishing, hiking, wildlife viewing, picnicking, cross-country and downhill skiing and snowmobiling.

Government managed outdoor recreation facilities occur on Crown land within the RMZ at: two small Provincial Parks near Swan Lake; at the Bear Mountain and Chetwynd Community Forests; at McQueens Slough; Sundance and Jackfish Lakes; and at regional and community parks.

Visual Quality

Few scenic areas exist within this RMZ. Site specific scenic areas include Crown land along the Alaska Highway and near communities (Hudson's Hope, Chetwynd and Lone Prairie). Visual sensitivity ratings range from low to high. Near the communities they range from 'partial retention' to small areas of 'preservation'.

Culture and Heritage

A well known fossil site exists near the settlement of Rolla and represents a Goal 2 Protected Area. The Swan Lake and Kiskatinaw River areas also contain archaeological values. Aboriginal sites have been identified along the Pouce Coupe River. The Alaska Highway corridor contains heritage values of international significance.

Trapping

All Crown land in the RMZ is under tenure to trappers. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

Domestic water use within the RMZ is provided mainly from treated water facilities located at the major communities in the planning area. A secondary source of water is dugouts constructed on private land. MELP has also issued well over 150 water licenses on streams, ponds, lakes and rivers for a number of water uses by residents of the planning area. Groundwater provides an alternate source of water in some parts of the RMZ.

Agriculture

The agricultural industry has played an important role in the economy of the LRMP area. A large portion of the planning area is either Crown or private agricultural land utilized for a number of agricultural activities. These activities include grain and forage production, cattle ranching, game farming and honey and vegetable production.

This RMZ contains approximately 55% of the ALR land in the planning area. Almost all of these ALR lands are managed through private tenures. These lands support the bulk of agricultural production in the area.

Coal and Other Mineral Resources

The potential for coal and minerals is not currently known for these lands and no coal nor mineral tenures exist except some coal reserves in the Carbon Creek drainage are privately owned. Two mineral occurrences and two exploration proposals exist in the Dawson Creek/Pouce Coupe area.

Energy

High levels of oil and natural gas exploration and development currently exist in this RMZ. Substantial proven reserves of oil and gas have been located in the area. Oil and gas related infrastructure, including pipelines and dehydration and processing facilities have been constructed. Active tenures exist in the majority of the RMZ. Future oil and gas exploration and development are highly probable due to substantial potential reserves in the RMZ.

Forestry

Existing timber values are generally high in this RMZ due to highly productive land and relatively well developed road access. Aspen and cottonwood are the dominant tree species with some coniferous stands. Remaining forests are often located on privately owned land within the planning area.

4.9.4 Management Direction

The predominant land and resource management use within this RMZ is agriculture and settlement. Most of the land is privately owned and not subject to the recommendations from this plan. Land and resource developments on Crown lands will address and manage the resource values identified within this RMZ.

The Agriculture/Settlement RMZ has been identified on the LRMP map consistent with Provincial land use categories. Resource values, objectives to sustain or enhance those values, and strategies to achieve the resource management objectives within the RMZ are provided on the following pages.

Agriculture/Settlement RMZ

1 Biodiversity	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Sustain healthy functioning ecosystems in the Resource Management Zone 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ <i>The general biodiversity is low recognizing that the full spectrum from low to high may be represented in the landscape units contained in this RMZ</i>
2 Soil Conservation	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
3 Fish and Wildlife	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage critical habitat for red- and blue-listed migratory songbirds to assist in sustaining viable, healthy populations Manage populations and distributions of regionally important wildlife species to reduce conflicts with range use and/or agriculture Manage critical habitat for trumpeter swans to assist in sustaining viable, healthy populations 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Develop guidelines for mixedwood forest management to assist in sustaining critical habitat for red- and blue- listed migratory songbirds (<i>Intent: Government to undertake</i>) Apply a proactive, consultative approach to develop wildlife harvest and habitat enhancement strategies that will assist in preventing or reducing wildlife-agriculture/range conflicts Identify, map, and consider designating wildlife habitat areas for Identified Wildlife species (<i>Intent: Government to undertake</i>)
4 Air Quality	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
5 Recreation and Tourism	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
6 Visual Quality	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

Agriculture/Settlement RMZ (cont'd)

7 First Nations	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
8 Culture and Heritage	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
9 Trapping	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
10 Guide Outfitting	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
11 Water	
Objectives <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> ◇ Manage the natural streamflow regime (water quality, water quantity and timing of flow) of rivers and streams to assist in sustaining community domestic water supplies (Appendix E) 	Strategies <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> ◇ Conduct the appropriate level of watershed assessment for identified community domestic water supply areas (<i>Intent: Government to undertake</i>)
12 Agriculture and Range	
Objectives <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> ◇ Manage the forage resource to sustain its productivity and availability for use by domestic livestock Provide opportunities for agricultural growth 	Strategies <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> ◇ MoF, in consultation with MAFF and range users, will develop and monitor a forage inventory for use in prescribing target levels of animal unit months (AUM's) MoF will consult with MAFF, and MELP to identify areas to increase forage production for domestic livestock
13 Coal and Minerals	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

Agriculture/Settlement RMZ (cont'd)

14 Energy

Objectives

- General Management Direction

Strategies

- General Management Direction

15 Communications, Transportation and Utilities

Objectives

- General Management Direction

Strategies

- General Management Direction

16 Forestry

Objectives

- General Management Direction
◇
- NDT (Natural Disturbance Type) 3

Strategies

- General Management Direction
◇
- NDT (Natural Disturbance Type) 3

17 Access

Objectives

- General Management Direction
◇
- Plan and manage access through the use of Sustained Access Management direction

Strategies

- General Management Direction
◇
- Establish and maintain permanent access infrastructure

4.10 Grazing Reserves Resource Management Zone

(Enhanced Resource Management)

4.10.1 Resource Management Subzones

Farrell Creek 8D	One Island 8D
Bear Mountain 8D	Groundbirch 8D
Wartenbe 8D	Sunset 8D

4.10.2 Area Description

Grazing Reserves are located throughout the north half of the planning area, predominantly within the Peace Lowlands ecosection and the Boreal White and Black Spruce biogeoclimatic zone.

4.10.3 Resource Values

Fish and Wildlife

Most wildlife common to the upland deciduous and coniferous forests are found in this RMZ. Predominant species include furbearers, black bear, songbirds, moose, elk, white-tailed and mule deer. Ungulates and livestock share available forage.

Some critical moose and elk habitat is found along river breaks and in riparian areas. A number of sport fish and non-sport fish species live in the streams running through the Grazing Reserves.

Recreation

Recreational activities within this RMZ include cross-country skiing, hiking, horseback riding, hunting, ATV use, four wheel driving and snowmobiling.

Hunting within the pastures is a subject of some concern to the ranchers operating within the Grazing Reserves and is subject to special regulations. Community Pasture Associations within this RMZ provide input into hunting regulations and the subsequent management of wildlife populations.

Visual Quality

Scenic areas within this RMZ exist in areas visible from major travel corridors and recreation trails. Viewing sensitivity ratings are generally low with the exception of the northern portion of the Wartenbe Grazing Reserve which is visible from Highway 97 near Chetwynd. VQO's have been identified for scenic areas within this RMZ, the most common being 'modification'.

Cultural and Heritage

Significant cultural and heritage values have not, to date, been identified within the RMZ.

Trapping

The entire RMZ is under tenure to trappers. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

Water developments are predominantly dugouts constructed to capture surface runoff. Livestock are watered directly from streams subject to *The Water Act*, Range Use plans under the *Forest Practices Code* and the Agricultural Code of Practice under the *Provincial Waste Management Act*. One of the Grazing Reserves (Bear Mountain) is located within the Kiskatinaw River community domestic water supply area.

Agriculture

This RMZ contains approximately 10% of the ALR lands in the planning area. These are Crown lands that are managed for the primary purpose of grazing livestock. The CLI ratings in this RMZ are generally a mix of classes 3, 4, and 5.

Range

Grazing Reserves are generally large parcels of Crown land that are reserved from alienation for the purpose of grazing livestock. The above RMZ's contain numerous range developments such as tame seeded pasture, corrals, fencing and water developments. Other resource-based activities occur within the Grazing Reserves. These activities are recognized as complementary land uses. A coordinated resource management plan (CRMP) process is utilized to address resource management issues and manage resource development activities of all users in this RMZ.

Coal and Other Mineral Resources

The potential for coal and minerals in this RMZ is not currently known. No mineral nor coal tenures are present.

Energy

Natural gas and oil development including access routes exist within all six grazing reserves. The RMZ supports a number of active petroleum tenures, natural gas pipelines and related infrastructure. The area is important for future oil and gas exploration and development as the potential reserves within the RMZ are moderate to high.

Forestry

A wide variety of timber types grow in the Grazing Reserve including conifers, deciduous mixed woods and non-commercial brush. Grazing forage within these stands is concentrated mainly in the deciduous and non-commercial brush areas. Timber values are generally high due to good to medium site productivity and good existing road access.

4.10.4 Management Direction

The Management Direction within this RMZ is resource development and use, particularly range, timber and oil and gas. These resource values are to incorporate the maintenance of other resource values in lower level planning.

The Grazing Reserves RMZ has been designated Enhanced Resource Development and is identified on the LRMP map. Resource values, objectives to sustain or enhance those values, and strategies to achieve the resource management objectives within the RMZ are provided on the following pages.

Grazing Reserves RMZ

1 Biodiversity	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Sustain healthy functioning ecosystems in the Resource Management Zone 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ <i>The general biodiversity is low recognizing that the full spectrum from low to high may be represented in the landscape units contained in this RMZ</i>
2 Soil Conservation	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
3 Fish and Wildlife	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage critical ungulate habitat to assist in sustaining viable, healthy ungulate populations Manage critical habitat for red- and blue-listed migratory songbirds to assist in sustaining viable, healthy migratory songbird populations Manage critical habitat for furbearers (lynx, marten, fisher) to assist in sustaining viable, healthy furbearer populations Manage populations and distributions of regionally important wildlife species to reduce conflicts with range use and/or agriculture 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify and map critical ungulate habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Apply a proactive, consultative approach to develop wildlife harvest strategies that will assist in preventing or reducing wildlife-agriculture/range conflicts Develop guidelines for mixedwood forest management to assist in sustaining critical habitat for red- and blue- listed migratory songbirds (<i>Intent: Government to undertake</i>) Incorporate identified wildlife habitat features and known furbearer refuge areas into resource development, landscape unit level and operational planning processes to mitigate negative impacts to trapping and trapping improvements (<i>Intent: Government to undertake</i>) In consultation with resource users, retain coarse woody debris at volumes acceptable for range and livestock management within grazing reserves
4 Air Quality	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

Grazing Reserves RMZ (cont'd)

5 Recreation and Tourism

Objectives

- General Management Direction
◇
- Integrate recreational activities with grazing and resource extraction

Strategies

- General Management Direction
◇
- In consultation with user groups, establish acceptable limits on recreational use

6 Visual Quality

Objectives

- General Management Direction

Strategies

- General Management Direction

7 First Nations

Objectives

- General Management Direction

Strategies

- General Management Direction

8 Culture and Heritage

Objectives

- General Management Direction

Strategies

- General Management Direction

9 Trapping

Objectives

- General Management Direction

Strategies

- General Management Direction

10 Guide Outfitting

Objectives

- General Management Direction

Strategies

- General Management Direction

11 Water

Objectives

- General Management Direction
◇
- Manage the natural streamflow regime (water quality, water quantity and timing of flow) of rivers and streams to assist in sustaining community domestic water supplies (Appendix E)

Strategies

- General Management Direction
◇
- Conduct the appropriate level of watershed assessment for identified community domestic water supply areas (*Intent: Government to undertake*)

Grazing Reserves RMZ (cont'd)

12 Agriculture and Range	
Objectives <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> Manage the forage resource to sustain or increase its productivity and availability for use by domestic livestock Forage requirements for livestock will be given preference over those for wildlife within grazing tenures 	Strategies <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> MoF, in consultation with MAFF and range users, will develop and monitor a forage inventory for use in prescribing target levels of animal unit months (AUM's) MoF will consult with MAFF and MELP to identify areas to increase forage production for domestic livestock Manage domestic livestock through the development and use of infrastructure and/or range management techniques that allow for proper distribution of animals
13 Coal and Minerals	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
14 Energy	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
15 Communications, Transportation and Utilities	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
16 Forestry	
Objectives <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> NDT (Natural Disturbance Type) 3 <ul style="list-style-type: none"> Enhance timber harvesting and forest resource management to sustain long-term timber supply 	Strategies <ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> NDT (Natural Disturbance Type) 3 <ul style="list-style-type: none"> Establish forest production targets that are consistent with high intensity forest management for landscape units within the RMZ Reforest (within appropriate time frames, as determined through landscape unit planning) potentially productive brush, non-commercial deciduous, and not-satisfactorily-restocked (NSR) areas with ecologically and commercially suitable species Where ecologically appropriate, vary cutblock adjacency requirements (in accordance with <i>FPC</i> and guidelines) to increase timber availability and reduce roading requirements Utilize forest patch sizes at the upper limits identified in GMD #16 for the respective NDT

Grazing Reserves RMZ (cont'd)

17 Access

Objectives

- General Management Direction
◇
- Plan and manage access through the use of Optimum Access Management direction

Strategies

- General Management Direction
◇
- Using landscape unit level and operational planning processes, coordinate the development and use of linear industrial corridors (e.g., roads, pipelines, seismic lines)
(Intent: to minimize the duplication of access corridors)
- Local level coordinated resource management planning will be used to mitigate resource conflicts in grazing reserves

4.11 Alberta Plateau Resource Management Zone

(General Resource Management)

4.11.1 Resource Management Subzones

Redwillow Creek 9G Mount Bennett 9H

4.11.2 Area Description

This RMZ incorporates a large portion of the Kiskatinaw Plateau ecosection and a small portion of the Hart Foothills ecosection. The Engelmann Spruce-Subalpine Fir biogeoclimatic zone is found at higher elevations in western portions of the RMZ while the balance of the area is within the Boreal White and Black Spruce biogeoclimatic zone.

4.11.3 Resource Values

Fish and Wildlife

The open coniferous forests and bogs of the RMZ provide critical low elevation winter habitat for an inter-provincial caribou population. The caribou population is blue-listed in B.C. and threatened in Alberta. The population requires habitat in both Provinces. Although summer range for caribou within the RMZ is generally good, winter range is limited and dependent on maintenance of forest cover. Management of caribou requires maintenance of some old growth forest stands and access management.

Trumpeter swans inhabit lakes and ponds in the area. Furbearers and songbirds which depend on pine forests and bogs are also found. Grizzly bears also exist in this RMZ especially where habitat capability is rated as medium. Critical habitat for bull trout can be found in many streams that originate in the mountains. A number of other fish species inhabit the streams and rivers within the RMZ.

Biodiversity conservation values are focused on maintaining adequate ecosystems, landscape level connectivity corridors and habitat types to sustain caribou populations in the RMZ.

Recreation

Popular recreational activities in this RMZ include hunting, ATV use, snowmobiling, four-wheel driving and fishing. Portions of the RMZ may have commercial recreation opportunities. Guide outfitting tenures exist within the RMZ. The ROS class within this RMZ is 'semi-primitive motorized' (SPM). The Redwillow Creek and Thunder Mountain areas are popular areas for snowmobiling. Several B.C. Forest Service Recreation Sites exist in this RMZ.

Visual Quality

The extent of identified scenic areas vary throughout the RMZ. A significant area within the westernmost portion of the RMZ has been identified as visually sensitive because it is visible from major travel corridors (highways) in the area. A site specific scenic area exists at Moose Lake. Visual sensitivity ratings range from low to high.

The rest of the RMZ has fewer scenic areas. These exist along the Boundary loop of the Heritage Highway and at Blackhawk and Bearhole Lakes. Areas within the Kiskatinaw Plateau ecosection have visual sensitivity ratings of low to moderate. VQO's have been prescribed for scenic areas within this RMZ and range from larger areas of 'modification' to smaller areas of 'preservation'.

Culture and Heritage

Cultural and heritage values exist within the RMZ although few locations have been identified. The Metis community at Kelly Lake uses a large portion of this area for trapping, hunting, fishing and berry picking.

Trapping

The entire RMZ is under tenure to trappers. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

Water use by humans in the area is limited to short-term industrial use by the oil and gas exploration industries and outdoor recreationists. A portion of the area is within the upper reaches of the Kiskatinaw River watershed, the community domestic water supply area for Dawson Creek and area.

Range

The range resources in this RMZ are utilized primarily by wildlife.

Coal and Other Mineral Resources

The land in the southern portion of this RMZ contains moderate coal potential and low mineral potential. Those lands located west of the Murray River contain one small area with a coal tenure. In addition, small areas of medium to high coal potential also exist in the Mt. Bennett subzone. No mineral occurrences have been recorded for this RMZ.

Energy

This RMZ contains numerous oil and gas tenures as well as substantial proven reserves of gas. High levels of natural gas and oil exploration and development currently exist in the area. Substantial natural gas infrastructure including pipelines, dehydration and process facilities have been constructed. The potential for gas reserves is high, making the area important for future discovery and development of oil and gas.

Forestry

Values have a wide range within the RMZ. Coniferous stands with a minor deciduous component are scattered on medium and good productivity sites throughout the RMZ. Poor to low productivity sites are the norm throughout most of the RMZ, especially in eastern portions. Black spruce and tamarack bog complexes are common the Kiskatinaw plateau. At higher elevations, lodgepole pine stands are the dominant forest feature.

Access

Roaded access is well developed throughout the RMZ, as a consequence of forest management activities and oil and gas exploration and development over the past four or five decades. Many of the roads in the area are all-weather, providing roaded access corridors for both summer and winter outdoor recreationists.

4.11.4 Management Direction

This RMZ has a number of significant resource values including wildlife, oil and gas, timber and recreation. Crown lands within the RMZ provide critical winter habitat to support an inter-provincial caribou population. Opportunities exist to maintain an adequate supply of critical winter habitat to sustain caribou within the RMZ.

The Alberta Plateau RMZ has been designated General Resource Management and is identified on the LRMP map. Resource values, objectives to sustain or enhance those values, and strategies to achieve the resource management objectives within the RMZ are provided on the following pages.

Alberta Plateau RMZ

1 Biodiversity	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Sustain healthy functioning ecosystems in the Resource Management Zone 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ <i>The general biodiversity is intermediate to high recognizing that the full spectrum from low to high may be represented in the landscape units contained in this RMZ</i>
2 Soil Conservation	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
3 Fish and Wildlife	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage critical ungulate habitat to assist in sustaining viable, healthy ungulate populations Manage medium and/or high capability grizzly bear habitat to assist in sustaining viable, healthy populations Manage critical low elevation caribou habitat to assist in sustaining viable, healthy populations 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify and map critical ungulate habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Identify and map medium and high capability grizzly bear habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Identify and map critical habitat for low elevation caribou, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Minimize fragmentation of critical low elevation caribou habitat by minimizing the development of new access routes and/or managing the use of existing access Manage critical habitat for low elevation caribou by providing large, contiguous areas (patches) of mature and old seral forest cover, and by extending timber harvesting rotations within NDT 3 Manage seral stage distribution in critical low elevation caribou habitat (i.e., mature and old seral pine-leading stands) to assist in sustaining viable, healthy populations Plan forest management and access at the landscape and stand levels to emulate natural disturbance (as per government guidelines) within areas identified as critical low elevation caribou habitat

Alberta Plateau RMZ (cont'd)

3 Fish and Wildlife (cont'd)	
Objectives	Strategies
<ul style="list-style-type: none"> Manage critical habitat for furbearers (lynx, marten, fisher) to assist in sustaining viable, healthy furbearer populations Manage critical habitat for trumpeter swans to assist in sustaining viable, healthy trumpeter swan populations Manage access to high quality fisheries to assist in sustaining viable, healthy sport fish populations 	<ul style="list-style-type: none"> Encourage interagency cooperation, review and assessment of forest development plans and operational plans that have been identified as a high risk to sustaining critical low elevation caribou habitat (<i>Intent: Recommendations to the District Manager should be jointly supported by B.C Environment and MoF</i>) Identify and map connectivity corridors and/or forest ecosystem networks (FEN's), and incorporate into landscape unit level planning (<i>Intent: Government to undertake</i>) Incorporate identified wildlife habitat features and known furbearer refuge areas into resource development, landscape unit level and operational planning processes to mitigate negative impacts to trapping and trapping improvements (<i>Intent: Government to undertake</i>) Identify, map, and consider designating wildlife habitat areas for Identified Wildlife species (<i>Intent: Government to undertake</i>) Identify and map critical fish habitat (e.g., pools, migration patterns, spawning and rearing areas), and incorporate in landscape unit level and operational planning (<i>Intent: Government to undertake</i>)

4 Air Quality	
Objectives	Strategies
<ul style="list-style-type: none"> General Management Direction 	<ul style="list-style-type: none"> General Management Direction

5 Recreation and Tourism	
Objectives	Strategies
<ul style="list-style-type: none"> General Management Direction ◇ Provide for quality public and commercial recreational opportunities and values 	<ul style="list-style-type: none"> General Management Direction ◇ Identify areas of high recreation use or significance and develop appropriate management strategies in landscape unit level and operational planning Incorporate existing recreational activities and assess potential for the development of new recreational opportunities in more detailed plans (i.e., additional motorized recreational pursuit) Provide opportunities for roaded recreation, upgrade main access routes and establish hardened campsites to accommodate recreational use Winter recreation (e.g., snowmobile use) may be limited, in consultation with user groups, in some areas to sustain winter habitat needs for wildlife In consultation with user groups, provide new opportunities for public and commercial recreational access through referrals to organizations and agencies

Alberta Plateau RMZ (cont'd)

6 Visual Quality

Objectives

- General Management Direction

Strategies

- General Management Direction

7 First Nations

Objectives

- General Management Direction

Strategies

- General Management Direction

8 Culture and Heritage

Objectives

- General Management Direction

Strategies

- General Management Direction

9 Trapping

Objectives

- General Management Direction

Strategies

- General Management Direction

10 Guide Outfitting

Objectives

- General Management Direction

Strategies

- General Management Direction

11 Water

Objectives

- General Management Direction
◇
- Manage the natural streamflow regime (water quality, water quantity and timing of flow) of rivers and streams to assist in sustaining community domestic water supplies (Appendix E)

Strategies

- General Management Direction
◇
- Conduct the appropriate level of watershed assessment for identified community domestic water supply areas (*Intent: Government to undertake*)

12 Agriculture and Range

Objectives

- General Management Direction

Strategies

- General Management Direction

13 Coal and Minerals

Objectives

- General Management Direction

Strategies

- General Management Direction

Alberta Plateau RMZ (cont'd)

14 Energy

Objectives

- General Management Direction

Strategies

- General Management Direction

15 Communications, Transport, Utilities

Objectives

- General Management Direction

Strategies

- General Management Direction

16 Forestry

Objectives

- General Management Direction
- ◊
- NDT (Natural Disturbance Type) 2
- NDT (Natural Disturbance Type) 3
- ◊
- Provide opportunities for environmentally responsible development of forest resources to sustain long-term timber supply

Strategies

- General Management Direction
- ◊
- NDT (Natural Disturbance Type) 2
- NDT (Natural Disturbance Type) 3
- ◊
- Minimize losses from damaging agents through aggressive and prompt fire and pest management, including the salvage of damaged or killed timber
- Promptly and aggressively reforest and manage cutovers and wildfires within the timber harvesting landbase to sustain timber harvest levels
- Where environmentally sound and ecologically appropriate, utilize a range of forest patch sizes to provide a cut/leave pattern that more closely mimics the natural disturbance pattern

17 Access

Objectives

- General Management Direction
- ◊
- Plan and manage access through the use of Optimum Access Management direction
- ◊
- Plan and manage access through the use of Sensitive Access Management direction

Strategies

- General Management Direction
- ◊
- Using landscape unit level and operational planning processes, coordinate the development and use of linear industrial corridors (e.g., roads, pipelines, seismic lines) *(Intent: to minimize the duplication of access corridors)*
- ◊
- In consultation with the public and user groups, identify significant resource values or features in landscape unit level and operational planning processes, and mitigate negative impacts through Sensitive Access Management direction which may include access restrictions, or in special circumstances, site specific access prohibition (e.g., LRMP, landscape unit and pre-tenure plans)

4.12 East Slopes Resource Management Zone

(General Resource Management)

4.12.1 Resource Management Subzones

Mount Bickford 10E
Hook Lake 10E
Carbon Creek 10I

Burnt River 10F
Bulley Creek 10D

4.12.2 Area Description

This RMZ is within the mountainous, western boundary of the planning area. It stretches from the south shore of the Peace Arm of Williston Lake, south along the Rocky Mountains to the Wapiti Lake Protected Area. The northern portion of the RMZ is within the Peace Foothills ecosection. The majority of the RMZ is within the Hart Ranges ecosection.

The Engelmann Spruce-Subalpine Fir biogeoclimatic zone predominates at higher elevations while Sub-Boreal Spruce dominates lower elevation valleys. The Alpine Tundra zone is found at higher elevations.

4.12.3 Resource Values

Fish and Wildlife

The predominantly coniferous forests and riparian areas of this mountainous RMZ provide medium to high capability habitat for provincially significant populations of grizzly bears, a blue-listed species. Marten and other furbearers common to coniferous forests are also found in the area. Mountain goats are locally abundant and moose, elk and deer are common in the mountain valleys during the summer.

Critical habitat for bull trout, mountain whitefish and Arctic grayling is found in many of the mountain streams.

Biodiversity values within the RMZ are primarily focused on maintaining adequate high quality habitats for grizzly bears. Seral stage distribution, the orientation and timing of proposed cut and leave areas, old growth forest stands, and, connectivity between upland areas and riparian areas, are important landscape level biodiversity attributes.

Recreation

A great diversity of activities occur in the RMZ including; wilderness recreation, horseback riding, hunting, fishing, hiking and snowmobiling. The ROS class throughout the RMZ is generally 'semi-primitive non-motorized' (SPNM) or 'primitive' (PRIM). Potential for the development commercial recreation opportunities is very high within this RMZ. Guide outfitting is tenured and active within the RMZ.

Visual Quality

Scenic areas are concentrated along travel routes and corridors within the RMZ. The Pine Pass area is the most visually sensitive area within the RMZ. The visual sensitivity rating is generally high in this area. VQO's prescribed in this area of the RMZ range from 'modification' to small areas of preservation.

Additional scenic areas have been identified along the Murray River Forest Road, near Monkman Provincial Park, within the Bulley Creek valley, and along the south shore of Williston Lake including Carbon Inlet. Visual sensitivity ratings range from low to high. VQO's prescribed in these areas range from 'modification' to 'retention'.

Site specific scenic areas have been identified around various lakes within the RMZ (i.e., Hook, Anderson, Wright, Clearwater and Bickford lakes). Visual sensitivity ratings range from low to high. VQO's prescribed around these lakes range from 'modification' to small areas of 'preservation'.

Large areas within this RMZ are currently "semi-primitive" and "primitive". The remoteness of these areas in conjunction with Rocky Mountain viewsapes complement wilderness recreation experiences..

Culture and Heritage

Values exist within the RMZ, however, most remain unidentified. There are cultural heritage sites in portions of the Carbon Creek subzone.

Trapping

The entire RMZ is under tenure to trappers. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

Water is diverted for short-term use by the oil and gas exploration industry. Domestic water use is limited to that required by outdoor recreationists and commercial recreation operations.

Range

The range resources in this RMZ are utilized primarily by wildlife. Range resources in portions of the RMZ may provide opportunities for grazing in support of recreation operations.

Coal and Other Mineral Resources

The potential for coal is mainly low to moderate within this RMZ. High coal potential and coal tenures exist in the RMZ .

Mineral potential varies widely in this RMZ and some mineral occurrences are found throughout the RMZ. Mineral tenures for limestone occur near the Sukunka River, and within the Carbon Creek subzone.

Energy

Oil and gas exploration currently occurs in this RMZ. Tenures are located in the northern and eastern portions where some reserves have been discovered. The potential for additional gas reserves is high, so the area may be important for future discovery and development of oil and gas.

Forestry

Timber values are generally high to moderate in the valley bottoms and rapidly decrease with increase in elevation. Forest cover is predominantly spruce and alpine fir with some minor components of lodgepole pine. Some subzones within this RMZ contain substantial standing inventories of older seral stage timber.

Access

Roaded access is limited within the RMZ. Primary road access is developed in all but the western-most subzones but to a lesser extent than in other subzones located in the Foothills and in Plateau areas. The management of access is critical to the sustainability of all values.

4.12.4 Management Direction

This RMZ has significant resource development potential. The RMZ provides opportunities for a variety of outdoor recreation opportunities and large areas of critical habitats that sustain provincially significant populations of grizzly bears.

Roaded access is generally required for resource development. Opportunities exist to apply comprehensive access management to assist in sustaining viable grizzly bear populations.

The retention of old growth timber, the use of a higher forest management biodiversity emphasis option and the appropriate assessment and use of alternative silvicultural systems provide additional opportunities to retain some forested cover for grizzly bears.

The East Slopes RMZ has been designated General Resource Management and is identified on the LRMP map. Resource values, objectives to sustain or enhance those values, and strategies to achieve the resource management objectives within the RMZ, are provided on the following pages.

East Slopes RMZ

1 Biodiversity	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Sustain healthy functioning ecosystems in the Resource Management Zone 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ <i>The general biodiversity is intermediate to high recognizing that the full spectrum from low to high may be represented in the landscape units contained in this RMZ</i>

2 Soil Conservation	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

3 Fish and Wildlife	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage critical high elevation caribou habitat to assist in sustaining viable, healthy populations Manage medium and/or high capability grizzly bear habitat to assist in sustaining viable, healthy populations Manage critical ungulate habitat to assist in sustaining viable, healthy ungulate populations Manage critical habitat for furbearers (lynx, marten, fisher) to assist in sustaining viable, healthy furbearer populations Manage access to high quality fisheries to assist in sustaining viable, healthy sport fish populations 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify and map critical ungulate habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Identify and map medium and high capability grizzly bear habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Plan resource developments and associated access to minimize negative human/bear interactions (e.g., winter harvesting and summer road restrictions) Identify and map connectivity corridors and/or forest ecosystem networks (FEN's), and incorporate into landscape unit level planning (<i>Intent: Government to undertake</i>) Identify, map, and consider designating wildlife habitat areas for Identified Wildlife species (<i>Intent: Government to undertake</i>) Incorporate identified wildlife habitat features and known furbearer refuge areas into resource development, landscape unit level and operational planning processes to mitigate negative impacts to trapping and trapping improvements (<i>Intent: Government to undertake</i>) Identify and map critical fish habitat (e.g., pools, migration patterns, spawning and rearing areas), and incorporate in landscape unit level and operational planning (<i>Intent: Government to undertake</i>)

East Slopes RMZ (cont'd)

4 Air Quality	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction

5 Recreation and Tourism	
Objectives <ul style="list-style-type: none"> • General Management Direction • Provide for quality public and commercial recreational opportunities and values • Plan and manage recreation and development activities with sensitivity to wildlife habitat and environmental values 	Strategies <ul style="list-style-type: none"> • General Management Direction • Identify areas of high recreation use or significance and develop appropriate management strategies in landscape unit level and operational planning • Incorporate existing recreational activities and assess potential for the development of new recreational opportunities in more detailed plans (i.e., additional motorized or non-motorized recreational pursuit) • In consultation with user groups, provide new opportunities for public and commercial recreational access through referrals to organizations and agencies • In consultation with user groups, establish acceptable limits on recreational use • To protect wildlife and other values, recreational activities involving motorized access may be subject to restrictions • Winter recreation (e.g., snowmobile use) may be limited in some areas to sustain winter habitat needs for wildlife

6 Visual Quality	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction

7 First Nations	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction

8 Culture and Heritage	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction

9 Trapping	
Objectives <ul style="list-style-type: none"> • General Management Direction 	Strategies <ul style="list-style-type: none"> • General Management Direction

East Slopes RMZ (cont'd)

10 Guide Outfitting	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

11 Water	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage the natural streamflow regime (water quality, water quantity and timing of flow) of rivers and streams to assist in sustaining community domestic water supplies (Appendix E) 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Conduct the appropriate level of watershed assessment for identified community domestic water supply areas (<i>Intent: Government to undertake</i>)

12 Agriculture and Range	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

13 Coal and Minerals	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Provide opportunities for environmentally responsible exploration and development of surface and subsurface resources Plan and manage coal, mineral and aggregate exploration and development activities with sensitivity to identified wildlife (e.g., grizzly bear) 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Recognize the hidden nature of the subsurface resource by incorporating this information into landscape unit level and operational planning. Allow continuation of exploration activity and development

14 Energy	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Provide opportunities for environmentally responsible development of surface and subsurface resources 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ All new-cut seismic exploration in areas with potentially unstable slopes and/or high environmental values shall be heli-portable unless it can be conclusively demonstrated that conventional seismic exploration will not cause significant environmental impacts

East Slopes RMZ (cont'd)

15 Communications, Transportation and Utilities

Objectives

- General Management Direction

Strategies

- General Management Direction

16 Forestry

Objectives

- General Management Direction
◇
- NDT (Natural Disturbance Type) 1
- NDT (Natural Disturbance Type) 2
◇
- Provide opportunities for environmentally responsible development of forest resources to sustain long-term timber supply

Strategies

- General Management Direction
◇
- NDT (Natural Disturbance Type) 1
- NDT (Natural Disturbance Type) 2
◇
- Minimize losses from damaging agents through aggressive and prompt fire and pest management, including the salvage of damaged or killed timber
- Promptly and aggressively reforest and manage cutovers and wildfires within the timber harvesting landbase to sustain timber harvest levels
- Where environmentally sound and ecologically appropriate, utilize a range of forest patch sizes to provide a cut/leave pattern that more closely mimics the natural disturbance pattern

17 Access

Objectives

- General Management Direction
◇
- Plan and manage access through the use of Optimum Access Management direction
◇
- Plan and manage access through the use of Sensitive Access Management direction to minimize fragmentation of and disturbance to identified resource values or features (within the Carbon Creek subzone, these specified access management strategies direction are not intended to preclude the development of coal or mineral deposits)

Strategies

- General Management Direction
◇
- Using landscape unit level and operational planning processes, coordinate the development and use of linear industrial corridors (e.g., roads, pipelines, seismic lines) (*Intent: to minimize the duplication of 'access corridors'*)
- Resource development proposals should be consistent with strategic plans (e.g., LRMP, landscape unit and pre-tenure plans)
◇
- In consultation with the public and user groups, government to identify significant resource values or features* in landscape unit level planning, and incorporate into operational planning processes to mitigate negative impacts through Sensitive Access Management direction which may include access restrictions, or in special circumstances, site specific access prohibition (*one example of a significant resource feature is Hook Lake)

East Slopes RMZ (cont'd)**17 Access (cont'd)****Objectives****Strategies**

- Upon cessation of tenure holder's activities, return linear developments (, (e.g., roads, pipeline and utility corridors - not seismic lines) to a vegetative state which over time approximates natural conditions through reclamation (using native species where appropriate), rehabilitation, re-contouring and bridge removal
- Consider alternative access methods to road construction including helicopter-based technology
- In consultation with resource users, restrict the use of existing motorized access (except on designated roads/trails) to non-motorized and approved industrial uses to mitigate negative impacts on identified resource values or features

4.13 Twin Sisters Resource Management Zone

(Special Resource Management - Culture and Heritage)

The following text introduces the Twin Sisters RMZ, and should be used in conjunction with the *Twin Sisters Special Management Committee Recommendations* (October 21, 1997) (Appendix J).

4.13.1 Resource Management Subzones

Twin Sisters Mountain subzone

Twin Sisters Headwaters subzone

4.13.2 Area Description

The Twin Sisters RMZ is located in the northwest portion of the planning area. It is the headwaters of several drainages to the Peace and Moberly river systems. It has resource development potential and contains areas of critical habitat that sustain populations of grizzly bear, caribou, Stone's sheep and mountain goat. The area is valued for its prime trapping, fishing and hunting grounds with several well known, actively used mineral licks.

The Engelmann Spruce-Subalpine Fir biogeoclimatic zone predominates at higher elevations while Sub-Boreal Spruce dominates lower elevation valleys. The Alpine Tundra zone is found at higher elevations. Most of the RMZ is within the Hart Ranges ecosection.

An area around the Protected Area is currently being pursued by the Halfway River and West Moberly First Nations under a federal treaty land entitlement claim.

4.13.3 Resource Values

Fish and Wildlife

The predominantly coniferous forests and riparian areas of this mountainous RMZ provide medium to high capability habitat for provincially significant populations of grizzly bears, a blue-listed species. Marten and other furbearers common to coniferous forests are also found in the area. Mountain caribou mountain goats are locally abundant and moose, elk and deer are common in the mountain valleys during the summer.

Critical habitat for bull trout, mountain whitefish and Arctic grayling is found in many of the mountain streams.

Biodiversity values within the RMZ are primarily focused on maintaining adequate high quality habitats for a number of species. Seral stage distribution, the orientation and timing of proposed cut and leave areas, old growth forest stands, and, connectivity between upland areas and riparian areas, are important landscape level biodiversity attributes.

Recreation

A diversity of activities occur in the RMZ including; wilderness recreation, hunting, fishing and hiking. The ROS class throughout the RMZ is generally 'semi-primitive non-motorized' (SPNM). Guide outfitting is tenured and active within the RMZ.

Visual Quality

Scenic values are important, especially along traditional access corridors and from the Twin Sisters Peaks (Beattie Peaks).

Culture and Heritage

The Twin Sisters RMZ is an area of profound spiritual significance and traditional use value to the First Nations people of northeastern British Columbia. It is the centre of spiritual prophecies that shape the belief systems and culture of the First Nations. The area has been relied upon by the First Nations for hunting and gathering medicinal plants, food and wildlife resources. This unique area contains many historic trails including old routes south to MacLeod Lake and north to the Halfway River, and some burial sites, heritage campsites and old cabins.

The spiritual and cultural significance of the Twin Sisters (Beattie Peaks) to the local First Nations is recognized by the general populace and led to a proposal for protecting the core area, to be referred to as the Klin-se-za Protected Area (Beattie Peaks), under the Protected Areas Strategy (for cultural significance). The surrounding area, namely the Twin Sisters RMZ, will comprise a Special Management Area that will be managed with careful sensitivity to the values and special concerns.

Trapping

The entire RMZ is under tenure to trappers. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

Water use by humans in the area is limited to short-term industrial use by the oil and gas exploration industries and outdoor recreationists. A portion of the area is within the upper reaches of the upper Moberly River watershed, the community domestic water supply area for Moberly Lake area residents.

Range

The range resources in this RMZ are primarily utilized by wildlife. Range resources in portions of the RMZ may provide opportunities for grazing in support of commercial recreation operations.

Coal and Other Mineral Resources

In this RMZ, the Moberly trend has high coal potential.

Energy

Oil and gas exploration currently occurs in this RMZ. Tenures are located in the RMZ. No proven reserves have been located in this area, however, the potential for gas reserves is high, and therefore the area may be important for future discovery and development of oil and gas.

Forestry

Timber values are generally high to moderate in the valley bottoms and rapidly decrease with increase in elevation. Forest cover is predominantly spruce, alpine fir and lodgepole pine. Some subzones within this RMZ contain substantial standing inventories of older seral stage timber.

Access

Roaded access is limited to all-weather roads along the perimeter of the RMZ. The management of roads is critical to the sustainability of all values.

4.13.4 Management Direction

Within the Special Resource Management Area, forest management will incorporate an intermediate to high biodiversity emphasis, scenic value management of traditional access corridors and scenic areas, and provision of forested cover for wildlife. Management will be conducted with high sensitivity to scenic values, spiritual and traditional values of First Nations, maintenance of air and water quality, maintenance of wildlife habitat and populations, and recreational development to maintain a semi-primitive experience.

Access will be planned and managed through the use of sensitive access management direction to minimize fragmentation of, and disturbance to, identified resource values or features. Consultation with First Nations by government and tenure holders will be enhanced to recognize, plan and manage for spiritual and traditional use values.

Resource values, objectives to sustain or enhance those values, and strategies to achieve the resource management objectives within the RMZ are provided on the following pages.

Twin Sisters RMZ

1 Biodiversity	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Sustain healthy functioning ecosystems in the Resource Management Zone 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ <i>The general biodiversity is intermediate to high recognizing that the full spectrum from low to high may be represented in the landscape units contained in this RMZ</i>

2 Soil Conservation	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction

3 Fish and Wildlife	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage critical high elevation caribou habitat to assist in sustaining viable, healthy populations Manage medium and/or high capability grizzly bear habitat to assist in sustaining viable, healthy populations Manage critical ungulate habitat to assist in sustaining viable, healthy ungulate populations Manage critical habitat for furbearers (lynx, marten, fisher) to assist in sustaining viable, healthy furbearer populations Manage access to high quality fisheries to assist in sustaining viable, healthy sport fish populations 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify and map critical ungulate habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Identify and map medium and high capability grizzly bear habitat, and incorporate into landscape unit level and operational planning (<i>Intent: Government to undertake</i>) Plan resource developments and associated access to minimize negative human/bear interactions (e.g., winter harvesting and summer road restrictions) Identify and map connectivity corridors and/or forest ecosystem networks (FEN's), and incorporate into landscape unit level planning (<i>Intent: Government to undertake</i>) Identify, map, and consider designating wildlife habitat areas for Identified Wildlife species (<i>Intent: Government to undertake</i>) Incorporate identified wildlife habitat features and known furbearer refuge areas into resource development, landscape unit level and operational planning processes to mitigate negative impacts to trapping and trapping improvements (<i>Intent: Government to undertake</i>) Identify and map critical fish habitat (e.g., pools, migration patterns, spawning and rearing areas), and incorporate in landscape unit level and operational planning (<i>Intent: Government to undertake</i>)

Twin Sisters RMZ (cont'd)

3 Fish and Wildlife (cont'd)	
<p>Objectives</p> <ul style="list-style-type: none"> • Manage and sustain water quality and fish habitat for red- and blue- listed fish species and/or sport fish as defined under the FPC • Sustain and manage wildlife and their habitat for the following species: marmot, Stone's sheep, caribou, grizzly bear, Rocky Mountain goat, wolverine and furbearers, ptarmigan and blue grouse, porcupine, hares, pikas, moose, wolves, black bear, lynx, rainbow trout, grayling, bull trout, kokanee, white fish, harlequin duck, raptors, elk, mule deer and whitetail deer 	<p>Strategies</p> <ul style="list-style-type: none"> • Identify, map and prioritize sensitive aquatic ecosystems requiring restoration and rehabilitation (<i>Intent: Government to undertake</i>) • Develop cooperative wildlife management approaches between First Nations and government agencies. • Wildlife management will not interfere or infringe on First Nation's aboriginal and treaty rights. • Encourage inter-agency cooperation in the development and assessments of projects that may impact critical wildlife habitats. • Adopt a biodiversity emphasis option for the RMZ of intermediate to high • Identify and maintain connectivity corridors at the landscape unit level • Incorporate habitat protection criteria into operational plans • Habitat enhancement may be an acceptable activity and will be addressed in landscape unit and operational plans
4 Air Quality	
<p>Objectives</p> <ul style="list-style-type: none"> • General Management Direction ◇ • Meet or exceed the established provincial air quality standards established and monitored by MELP 	<p>Strategies</p> <ul style="list-style-type: none"> • General Management Direction ◇ • Manage emissions to meet air quality standards
5 Recreation and Tourism	
<p>Objectives</p> <ul style="list-style-type: none"> • General Management Direction ◇ • Provide for quality public and commercial recreational opportunities and values • Manage recreation activities which may impact the probability of experiencing solitude and closeness to nature, and which may impact the Klin-se-za Protected Area 	<p>Strategies</p> <ul style="list-style-type: none"> • General Management Direction ◇ • In consultation with user groups, establish acceptable limits on recreational use • To protect wildlife and other values, recreational activities involving motorized access may be subject to restrictions • Winter recreation (e.g., snowmobile use) will be limited in some areas to sustain winter habitat needs for wildlife • Restrict commercial recreation tenures. (<i>Intent: Do not promote the Protected Area as a tourism-recreation destination</i>) • Restrict recreation development

Twin Sisters RMZ (cont'd)

5 Recreation and Tourism (cont'd)	
Objectives <ul style="list-style-type: none"> Manage recreation activities which may impact the probability of experiencing solitude and closeness to nature, and which may impact the Klin-se-za Protected Area 	Strategies <ul style="list-style-type: none"> Manage motorized recreation to designated roads (i.e., Carbon Creek, Gething Creek, Johnson Creek and Moberly River roads), and to future roads defined in forest tenure-First Nations agreements within the Twin Sisters headwaters subzone Manage recreation for low intensity non-motorized impacts within the Twin Sisters headwaters subzone Maintain existing routes and modes of transportation to Wright Lk. within the Twin Sisters headwaters subzone only Further planning will address the effects of recreational and guide outfitting activity on ecological and spiritual values. This will be done by government, First Nations and other stakeholders
6 Visual Quality	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Identify and manage the scenic views (viewscape) within the Twin Sisters RMZ, as seen from the Klin-se-za Protected Area 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Manage the visual values following government guidelines, and in consultation with First Nations
7 First Nations - Spiritual/Traditional	
Objectives <ul style="list-style-type: none"> General Management Direction ◇ Manage and maintain spiritual values along traditional access corridors, as identified by First Nations Encourage the collection of traditional use information within the Twin Sisters RMZ 	Strategies <ul style="list-style-type: none"> General Management Direction ◇ Identify and map traditional access routes used by First Nations Minimize impacts of development to maintain spiritual integrity of traditional access corridors, through landscape and operational level planning (e.g., buffers, screening etc.) Traditional access trails will be managed by First Nations Recognize, protect or conserve special spiritual features by incorporating identified features into operational level planning, in consultation with First Nations Traditional use information is owned by First Nations, and managed using information sharing agreements between the First Nations and government agencies

Twin Sisters RMZ (cont'd)

8 Culture and Heritage	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction Consider conducting Archaeological Inventory Surveys and Archaeological Impact Assessments in cooperation with First Nations
9 Trapping	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
10 Guide Outfitting	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
11 Water	
Objectives <ul style="list-style-type: none"> General Management Direction Maintain the water quality and quantity within the headwater reaches of rivers and streams 	Strategies <ul style="list-style-type: none"> General Management Direction Manage activities to avoid or minimize negative impacts to water quality and quantity Conduct watershed assessments to determine potential impacts to water Assess, and where appropriate, adopt recommendations to conserve water
12 Agriculture and Range	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
13 Coal and Minerals	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction
14 Energy	
Objectives <ul style="list-style-type: none"> General Management Direction 	Strategies <ul style="list-style-type: none"> General Management Direction Participate in detailed consultation and pre-planning with First Nations for all stages of exploration, development and production of oil and gas resources

Twin Sisters RMZ (cont'd)

15 Communications, Transportation and Utilities

Objectives	Strategies
<ul style="list-style-type: none"> General Management Direction 	<ul style="list-style-type: none"> General Management Direction

16 Forestry

Objectives	Strategies
<ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> ◇ NDT (Natural Disturbance Type) 1 NDT (Natural Disturbance Type) 2 <ul style="list-style-type: none"> ◇ Maintain opportunities for timber harvesting and related forest management activities; recognizing that low impact activities will be required to maintain First Nations and other resource values 	<ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> ◇ NDT (Natural Disturbance Type) 1 NDT (Natural Disturbance Type) 2 <ul style="list-style-type: none"> ◇ Establish a long term plan for forest management and access to accommodate and address the concerns of the First Nations Agreement between forest tenure holders and First Nations on proposed forest management activities will include agreement on activities, consultation and planning procedures. Agreements will be concluded by March 31, 1999 in order to facilitate agreed-upon activities Activities permitted in the interim are salvage, silviculture and road maintenance

Twin Sisters RMZ (cont'd)

17 Access	
Objectives	Strategies
<ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> ◇ Maintain existing motorized access corridor within the Twin Sisters mountain subzone <ul style="list-style-type: none"> ◇ Maintain existing motorized access corridor within the Twin Sisters headwaters subzone <ul style="list-style-type: none"> ◇ Limit new industrial and recreational access to a specified range of conditions 	<ul style="list-style-type: none"> General Management Direction <ul style="list-style-type: none"> ◇ Permit existing all weather access (Carbon Creek road) within the Twin Sisters mountain subzone <ul style="list-style-type: none"> ◇ Permit existing all weather access (Carbon Creek, Gething Creek, Johnson Creek and Moberly roads) within the Twin Sisters headwaters subzone <ul style="list-style-type: none"> ◇ Minimize new access development Plan new access routes to avoid loop roads Require winter access unless a need for all-weather access can be demonstrated through further planning Upon cessation of tenure holder's activities, return linear developments (e.g., roads, pipeline and utility corridors - not seismic lines) to a vegetative state which over time approximates natural conditions through reclamation (using native species where appropriate), rehabilitation, re-contouring and bridge removal Coordinate new access with other users Maintain traditional modes of transportation for trappers to allow for the harvest of furbearers Restrict the use of motorized access, including snowmobiles, to designated roads and trails; except for non-motorized and approved industrial uses. (<i>Intent: to sustain other resource values consistent with the spirit and intent of an Access Management Area under the Wildlife Act</i>)

5.0 Implementation

5.1 Strategic Guidance

The intent of the Dawson Creek LRMP is to guide landscape unit and operational planning. Appropriate portions of the Dawson Creek LRMP may also become a government-approved higher level plan under the *FPC*. The LRMP is a working document that will be implemented by all relevant government agencies through agency-specific management activities, local level plans that include operational plans, and resource development and land use permits. This means that practices and prescriptions outlined in these plans or permits will take guidance from the spirit and intent of the RMZ objectives and strategies described in this plan.

5.2 Protected Area Designation Process

The Protected Area designation process is concurrent with the approval of the Dawson Creek LRMP by the Provincial Government. Legal descriptions for the Protected Areas will be prepared by the IPT and subsequently approved by the appropriate provincial agency. A complete land and tenure status report will be forwarded to the Land Use Coordination Office (LUCO) along with clear documentation describing the intent of special consideration for each Protected Area

5.2.1 Peace River/Boudreau Lake Protected Area - Site C & Oil and Gas Tenures

Since 1979, B.C. Hydro has held a flood reserve on a portion of the Dawson Creek Planning area adjacent to the Peace River. The "Site C" flood reserve includes a potential dam site and reservoir. A portion of this reserve lies within the Peace River/Boudreau Lake Protected Area. Current government policy regarding acceptable uses in Protected Areas clearly states that flooding for hydro-electric power would not be an acceptable use. Thus, full protection would preclude future hydro-electric development opportunities.

Although it is important to recognize that there is a wide diversity of opinions amongst Table members regarding the acceptability of the future Site C development, the decision on whether "Site C" is an appropriate development is not within the scope of the LRMP.

In addition to Site C, the Peace River/Boudreau Lake Protected Area contains numerous oil and gas tenures some of which contain well sites and related pipelines and infrastructures. Future access and infrastructure will be required if potential gas reserves and tenures are to be explored. Current government policy regarding acceptable uses in Protected Areas clearly states that oil and gas exploration would not be an acceptable use. Thus, full protection would preclude existing and future oil and gas development opportunities.

Therefore, the Dawson Creek LRMP Working Group recommends:

- If government endorses the Site C project, the Dawson Creek LRMP recommends that the timber be harvested within the flood reserve, prior to flooding. If the Site C flood reserve is cancelled, the areas designated under the *Environment and Land Use Act (ELUA)* should be reviewed.
- The remainder of the Peace River/Boudreau Lake Protected Area should also be designated for protection under the *ELUA* in order to allow the exploitation of the subsurface resources by directional drilling under the conditions specified in Drilling under Protected Areas (Section 5.2.8), or in the case of existing tenures, under the conditions specified in Implementation Section 5.2.7.

5.2.2 Butler Ridge and Dunlevy Protected Areas

The Dawson Creek LRMP recommends that an *ELUA* corridor 50 metres to either side of the current centre line be designated to allow future road work to Dunlevy Road, and to allow continued access by recreational and industrial users.

5.2.3 Pine/LeMoray Protected Area

The Pine/LeMoray Protected Area's northern boundary is adjacent to Highway 97. The highway parallels the Pine River valley and is the major transportation and utility corridor linking the planning area and the rest of Northeastern B.C. to provincial areas west of the Rocky Mountains. The Highway corridor includes a number of important features that are considered essential to maintaining this important transportation route. These include existing and future quarry sites, highway and utility corridor rights-of-way and allowances for future realignments and upgrading.

Therefore, the Dawson Creek LRMP Working Group recommends that an *ELUA* corridor be designated to allow future transmission and transportation route construction and realignment. This would allow for the necessary upgrading and maintenance of the transportation and utility corridor while protecting the area for other major values.

5.2.4 Elephant Ridge Protected Area

The Elephant Ridge Protected Area includes generally high to moderate timber values. Forest cover is predominantly spruce and alpine fir with some minor components of lodgepole pine comprising substantial standing inventories of older seral stage timber.

The Forest Sector has identified that there may be a short-term impact on fibre flow from the recommendation of this Protected Area. In order to meet fibre-flow commitments forgone through the creation of the Elephant Ridge Protected Area, the LRMP Working Group recommends that government conduct a detailed spatial analysis of short-term timber supply (i.e., twenty year forecast of maximum sustainability) within the Coniferous Timber Harvesting Landbase when staff and funds are available.

5.2.5 Wapiti Protected Area

The Wapiti Lake Protected Area contains internationally significant fossils and fossil beds. Wildlife habitat includes high capability areas for mountain goat and grizzly bear. Tributary streams to Wapiti Lake are critical bull trout habitat. The watershed is a high capability area for non-motorized recreation. This Protected Area also encompasses a Forest Service Recreation Site on Wapiti Lake, and approximately 10 km of developed hiking trail (i.e., a portion of the Wapiti Trail). Commercial recreation activities currently include guide outfitting and angling. Recently (i.e., December 1997), a mineral tenure was staked within the Protected Area.

The Table strongly recommends that a settlement be reached with the Wapiti tenure holder to relinquish that portion of the mineral tenure within the Protected Area.

5.2.6 Klin-se-za Protected Area

The LRMP Working Group recommends that the name of the Protected Area be Klin-se-za (meaning Twin Sisters), reflecting the spiritual heritage of the Dunne Za people.

With regard to the spiritual cultural importance of the Twin Sisters RMZ, the LRMP Working Group recommends that future plan preparation and implementation for the Klin-se-za Protected Area should involve the Dunne Za people, and other First Nations, as partners with the government agency responsible for managing this Protected Area.

Develop access agreements (corridors, type of access, amount of “traffic” access) between First Nations and the province.

5.2.7 Grandparenting of Oil and Gas Tenures within Protected Areas

The LRMP Working Group recommends that, where an oil and gas tenure already exists within a Protected Area, the tenure will be grandparented under existing normal rules, voluntarily surrendered, expropriated by government or resolved under other yet to be determined mechanisms.

Future management of existing natural gas tenures located within recommended Protected Areas must be undertaken in a way that sustains the values of Protected Areas. The goal of the following principles is to allow for the exploitation of subsurface resources associated with existing tenures while sustaining the values of Protected Areas.

Therefore, existing tenures located within recommended Protected Areas should be designated such that future exploitation of the subsurface resource would be allowed, subject to the principles below, while the long term intent would be to move all such areas to Class A Park designation upon expiration of the tenure *.

* This *intent* does not preclude the recommendations in Implementation section 5.2.8 regarding directional drilling.

5.2.7.1 Management of Seismic Activity:

Proposed seismic projects will be evaluated on a site by site basis, and decisions will be based on:

1. need for the project, in support of existing tenures;
2. ecological and other values potentially impacted by the activity, and;
3. the measures taken to avoid or mitigate impacts to these identified values.

In order to allow for sufficient evaluation of subsurface hydrocarbon potential within existing tenures while maintaining values of the Protected Area, allow seismic activity that:

1. is done in the most environmentally sensitive manner available, such as avoidance hand-cut;
2. will minimize effects on the values of the Protected Area, including visual quality, and;
3. is located within existing tenures *.

* except for the Peace River/Boudreau Lake Protected Area where seismic exploration and access may be allowed to existing tenures north of Boudreau Lake

5.2.7.2 Management of Oil and Gas Exploration and Development Activity:

Proposed exploration and development projects will be evaluated on a site by site basis, and decisions regarding approvals will be based on:

1. need for the project, in support of existing tenures;
2. ecological and other values potentially impacted by the activity, and;
3. the measures taken to avoid or mitigate impacts to these identified values.

Where oil and gas development occurs on existing tenures, directional drilling methods from outside of the Protected Area will be encouraged to access the subsurface resource. If directional drilling is not feasible, access for oil and gas exploration will be allowed while sustaining the values of the Protected Area.

Proposed activities on existing tenures will be evaluated according to the following criteria:

1. surface disturbance allowed within existing tenure boundaries only *;
2. conducted in the most environmentally sensitive manner feasible;
3. minimize effects on the values of the Protected Area, including visual quality, and;
4. include plans to reclaim the project area in a manner that is compatible with the values of the Protected Area.

* except for the Peace River/Boudreau Lake Protected Area where exploration and access may be allowed to existing tenures north of Boudreau Lake

5.2.7.3 Re-issuance of existing oil and gas tenures

When existing oil and gas tenures within Protected Areas return to the Crown, they will not be re-issued, with the exception of those located in the Peace River/Boudreau Lake, Kiskatinaw River, and Klin-se-za Protected Areas, where tenures will only be re-issued with a *no surface access* (i.e., directional drilling only) condition attached to the tenure. Directional drilling beneath Protected Areas will be conducted in accordance with Implementation section 5.2.8.

5.2.8 Drilling Under Protected Areas

The Dawson Creek LRMP Table recommends that the sale of subsurface rights and drilling for petroleum resources be allowed under specific Protected Areas if doing so would not compromise the values for which the areas were protected. This does not include surface access through these Protected Areas. This policy would allow for some economic recovery of these sub-surface resources and would possibly mitigate possible compensation issues. The Table recognizes that the precedent for allowing directional drilling under Protected Areas has been established within the Fort St. John and Fort Nelson planning areas.

A subcommittee of the Environmental Conservation and Oil and Gas sectors met in December 1996 to determine if the sectors could reach consensus on areas that might be appropriate for directional drilling under Protected Areas in the Fort St. John, Dawson Creek and Fort Nelson planning areas. The group reviewed the Goal 1 and 2 proposals and developed draft criteria for determining if directional drilling should be supported underneath proposed Protected Areas. The information was intended as a recommendation from the subcommittee to the Table. A list of their recommendations and criteria used to develop them are found in Appendix G.

The following Protected Areas are recommended as meeting the criteria for the sale of sub-surface resources accessed through directional drilling:

- Peace River/ Boudreau Lake
- Kiskatinaw River

In addition, the Klin-se-za Protected Area, which was not addressed by the sub-committee, is recommended to be included for directional drilling.

5.2.9 Management of Protected Areas

Significant wildlife and recreation values are found within Protected Areas. The Table has concerns regarding the future management of these areas and recommends that these areas be managed differently than other existing Protected Areas ('Parks') given their unique historical use patterns. Recreational use within Protected Areas should be maintained at existing levels.

It is recommended that the following specific issues be incorporated into the Protected Area Management planning process:

- Traditional backcountry use has provided for the carrying of firearms outside of lawful hunting seasons for protection.
- Horse and pack stock use have been traditional methods of traversing some of the Protected Areas. Non-commercial 'horse use' permits should not be required until such time as their use is needed to protect important resource values within these areas.
- Horses should not be limited to existing trails unless required to protect other important values.
- Snowmobiling has been a traditional method of traversing some of these Protected Areas. In areas where past use has occurred, snowmobiles should not be limited to specific trails or areas unless required to protect important resource values. Use of snowmobiles will be addressed in Protected Area Management Plans.
- Changes in land management status should not change the administrative permitting process.
- For the Protected Areas, statements concerning management direction will be drafted as soon as possible to reflect the intent of the Dawson Creek LRMP. They will be prepared by the appropriate agency designated to manage the Protected Areas in cooperation with other agencies that have a management interest in the Protected Areas. These management direction statements will provide commitment to cooperative management of the Protected Areas between agencies, and will provide management direction until comprehensive Protected Area Management Plans are prepared through an open and inclusive public process.
- Sufficient resources need to be committed to ensure the proper management of the Protected Areas contained within this plan.
- The Dawson Creek LRMP recommends that in situations where a change in the *status quo* land and resource use is necessary to protect one or more resource values adjacent to or within a Protected Area, the cost of the required infrastructure (e.g., fencing, cattleguards) should not be borne by the holders of existing tenures on adjacent Crown lands.
- The Dawson Creek LRMP recommends that B.C. Parks coordinate planning with Alberta Parks to identify, plan and manage for inter-provincial resource values in the Protected Area Management planning process.

5.2.10 Trapping in Protected Areas

The planning area has historically been subject to trapping. Trapping remains socially important amongst First Nations communities, where trapping areas are often held by families, as well as the general trapping community. Therefore, the Table recommends that trapping be an “allowed use” in Protected Area’s, maintaining existing full rights. In addition the long term goal of maintaining trapping opportunities in Protected Areas should be implemented in Protected Area Management plans. The Table recommends that BCE administer trapping tenures within the Protected Area.

5.3 Forest Land Reserve

The Forest Land Reserve (FLR) is an essential element of B.C.’s Provincial Land Use Strategy. The FLR is designed to retain forest land for timber production and related public values. The Table recommends that appropriate Crown land outside of the ALR boundaries be considered for inclusion in the FLR.

5.4 Twin Sisters RMZ Implementation

The LRMP Working Group recommends that non-motorized access routes be identified and maintained to the Klin-se-za Protected Area through the Twin Sisters RMZ.

The LRMP Working Group recommends that B.C. Environment coordinate the implementation of an Access Management Area (under the *Wildlife Act*) to address wildlife management.

Snowmobile use to Wright Lake is to be maintained via only the Gething Forest Service Road.

5.5 Special Management - Sensitive areas

Sensitive areas and objectives may be established to manage or conserve small areas (i.e., generally less than 1 000 ha) of unique or locally significant forest resources. Examples of sensitive areas could include, but are not limited to, a rare plant community, a hot spring and surrounding forest, or a concentration of forest resources or resource features that, in combination, enhance site sensitivity. While development such as oil and gas exploration or timber harvesting may require Sensitive Access Management direction, sensitive areas are not generally intended to preclude harvesting and other activities that are compatible with the values for which the sensitive area has been established.

Candidate sensitive areas identified by the Dawson Creek LRMP include the **Pine River Dunes** site, and the **Sukunka Lousewort Bog** site, representing a total area of 1382 ha. The Dawson Creek LRMP recommends that the District Manager of the MoF consider these two sites for designation as sensitive areas. The Table further recommends in situations where a change in the *status quo* land and resource use is necessary to protect a sensitive area, the cost of the required infrastructure should not be borne by the tenure holder. The objectives for the sensitive area should also take into consideration sub-surface tenures.

5.5.1 Pine River Dunes (826 ha)

The Pine River Dunes are located between Septimus Creek and the Pine River, northeast of Stewart Lake in the Peace Lowlands ecosection.

Values:

- outstanding example of parabolic sand dunes
- grasslands, spruce and tamarack swamps

5.5.2 Sukunka Lousewort Bog (556 ha)

The Sukunka Lousewort Bog is located along the east side of the Sukunka River near the confluence with Skeeter Creek in the Hart Foothills ecosection.

Values:

- contains an isolated population of the red-listed plant, the swamp lousewort, *Pedicularis parviflora*
- contains a unique combination of groundwater-influenced plant communities

5.6 Problem Wildlife

The Table recognizes the potential for conflict between Agriculture/Ranching and Wildlife, and therefore recommends that the structure and mandate of the Peace River Problem Wildlife Advisory Committee be reviewed to ensure that conflicts are resolved in a timely and efficient manner.

5.7 Recommended Policy Direction

The Dawson Creek LRMP Working Group identified several issues that indirectly or directly affect land and resource use within the Dawson Creek LRMP planning area that were related to existing government policy. The following policy changes are recommended as part of the Dawson Creek LRMP recommendation to the Provincial Government.

5.7.1 Agriculture and Range

The Dawson Creek LRMP endorses the need to assist the Agriculture and Ranching Sector with a source of funding (e.g., Grazing Enhancement Fund) that will enable this community to address resource management objectives and strategies within the planning area.

The Dawson Creek LRMP has developed strategies to minimize conflicts between agriculture enterprises or livestock grazing and other resource users. However, it is recognized that some mitigating strategies need to be developed to deal with the impacts of the *Forest Practices Code* (related to biodiversity and riparian management) and wildlife and habitat protection guidelines established in the planning area. The Dawson Creek LRMP recommends that the cost of infrastructure required to protect one or more resource values should not be borne by the tenure holder where a change in *status quo* resource use has been recommended.

5.7.2 Forest Management

The Dawson Creek LRMP recommends that the B.C. Government consider:

- cost allowances to encourage the use of selection silviculture systems where ecologically appropriate but not currently economically feasible, and;
- a provision in the B.C. MoF's Appraisal System to allow for recognition of costs associated with road reclamation, rehabilitation, and/or recontouring when these activities are required by the Dawson Creek LRMP (*Intent: Government to recognize that these activities increase operating costs to tenure holders*)

In addition, the Dawson Creek LRMP recommends that the cost of infrastructure required to protect one or more resource values should not be borne by the tenure holder where a change in *status quo* resource use has been recommended.

5.7.3 Reclamation Costs

The Dawson Creek LRMP recommends that the B.C. Government consider a provision to allow for recognition of costs associated with road reclamation, rehabilitation, and/or recontouring when these activities are required by the Dawson Creek LRMP.

5.7.4 Commercial Recreation

The management of public and commercial recreation was discussed at length by the Table. The Dawson Creek LRMP Table provides the following direction that will direct and manage commercial recreation activities. The intent of this direction is to maintain a balance between non-commercial public use and other use.

- Existing commercial recreation opportunities should be inventoried, and opportunities for potential commercial recreation should be identified, to guide the allocation of future tenures. This infers that commercial recreation opportunities are consistent with the recreation objectives for resource management zones and subzones; and that tenure proposals will be evaluated through interagency referral and in consultation with user groups.

Commercial recreation activities must be consistent with:

- acceptable limits of use
- environmental sustainability
- greatest benefit to local community
- equitable resource forage allocation between commercial and non-commercial uses
- equitable allocation of suitable sites.

5.7.5 Visual Quality Objectives

The Dawson Creek LRMP recommends that the MoF adopt a reliable, repeatable and rigorous methodology for identifying and incorporating public/resource users' interests into integrated resource management planning processes, including the development and testing of Visual Quality Objectives. Inventory methodologies must follow the Resource Inventory Committee (RIC) standards.

5.7.6 Agency Management

The Dawson Creek LRMP discussed at length a number of operational issues and the land and resource management policies and practices of various government agencies. The following suggestions are intended to give direction to the government agencies to develop and implement a more effective and efficient land and resource management regime which addresses the need and interests of the sectors.

- Coordinate and integrate inter-agency resource management in an effort to minimize or mitigate conflicts and to provide input into local level planning exercises.
- Practice early, effective and proactive project pre-planning including communication and consultation with appropriate parties and agencies with an interest in the resource development. A communication planning strategy will need to be developed to aid in documenting identified resources, recording notifications of proposed activities, and listing the current status of activities. Consultation will be coordinated via processes such as the Regional FPC Implementation Plan between the MoF, MELP, MEM Energy and Minerals Division, the Oil & Gas Commission, and B.C. Assets & Lands Corporation, and the Memorandum of Understanding Respecting Operational Land Use Planning for Oil and Gas Activity in Northeast British Columbia (Project 2005), signed between the MEM, MELP, MoF and the Canadian Association of Petroleum Producers (CAPP).
- Develop and implement more effective and efficient processes (which may include joint approval processes) for the regulation and administration of forest, mineral, coal, oil, gas, range, recreation, wildlife and fisheries management. Where joint approval processes for resource development plans are proposed, a memorandum of understanding (MOU) between agencies should first be developed to determine the guiding principals for the process.
- Encourage a more proactive approach when implementing new and innovative fish and wildlife management programs. This approach should include public education and substantial input from aboriginal peoples, hunting and fishing associations, environmental organizations and other interested parties in order to achieve healthy and sustainable fish stocks and wildlife populations. This approach should include consultation on licenses, limits, seasons and closures, and exploring alternatives to restore and/or enhance priority fish populations.
- Develop and implement a comprehensive 'dispute resolution process' that applies to resource management dispute issues, and, a 'resource impact compensation and mitigation package' that facilitates compensation and/or mitigation of impacts due to resource management decisions.
- Better coordinate planning between levels of government, between government agencies, Crown Corporations, First Nations and municipalities (including the Peace River Regional District) within the planning area
- Continue to provide and expand resource inventory information to facilitate sustainable resource development and efficient monitoring of the LRMP.

5.7.7 Access and the Use of Gates

A considerable amount of the direction contained within this plan relates directly or indirectly to the management of access to Crown lands. For a variety of reasons, this plan directs that access be controlled in certain circumstances to protect other resource values such as wildlife or wilderness. There are a variety of measures that can be taken to achieve this objective depending on the exact nature of the access control required.

The Table has concerns that the use of gates for purposes other than public safety may lead to further complications if not used or monitored correctly. Problems in the past have been noted where certain individuals have gate privileges while others do not. To this end, the Table recommends the following with regard to the use of gates as an access control mechanism:

- Land and resource managers should use alternative access control measures where they are feasible.
- When gates are chosen as the tool to control access, it must be advertised with sufficient time for public concerns to be addressed.
- Proper signage identifying the resource values and/or features to be managed, reasons for closure, and authority for closure will be posted on each gate.

5.8 Roles and Responsibilities

5.8.1 Interagency Management Committee (IAMC)

The responsibilities of the Interagency Management Committee are as follows:

- coordinate and ensure implementation;
- review and provide recommendations on proposed amendments

5.8.2 Agencies

All applicable resource management agencies (MoF, MELP, MAFF, MEM) are responsible for the following items:

- prepare a biennial (every two years) monitoring report on plan implementation
- prepare an implementation matrix and action plan to ensure strategies and objectives are implemented
- review existing operational plans and resource management plans to ensure consistency with the LRMP
- distribute a copy of the plan to major licensed resource users, resource agency staff, stakeholders and interested public

5.8.3 First Nations

Government is committed to work with First Nations on a government-to-government basis. The LRMP will be without prejudice to aboriginal and treaty rights. First Nations will be encouraged to participate in a direct role in the implementation and monitoring of the Plan.

5.8.4 Public

It is recognized that the public, in partnership with the different government agencies and First Nations, is an important contributor to the effective implementation and monitoring of the plan.

5.9 Guidance to Landscape Unit and Local Level Planning

This LRMP is a strategic plan developed to identify general land uses and management direction and intended to guide the spirit and intent of landscape unit and local level plans. Landscape unit and local level plans may include a variety of detailed planning processes including, but not limited to; oil and gas pre-tenure plans, local resource plans, coordinated access management plans and Protected Area management plans. Where local level planning processes do not exist for a defined area, plans are to be developed by the appropriate agencies and will provide an opportunity for public review and comment. Any concerns with specific resource management practices should be raised directly with the resource agency or agencies mandated to manage those specific values.

The Dawson Creek LRMP recommends that the Upper Sukunka and Burnt landscape units, and those landscape units within the three community domestic water supply areas (three watersheds - Kiskatinaw River above Arras, Pine River above the Sukunka River, and the Moberly River above Moberly Lake) should be considered as high priorities for landscape unit planning. *(Intent: Should reduce the need to start another parallel IRM planning exercise (a new Kiskatinaw Integrated Watershed Management Plan (IWMP)) and new IWMP's for the Pine and Moberly Rivers as landscape unit planning should address all resource values within these three watersheds)*

The Dawson Creek LRMP recommends that the Redwillow landscape unit should be considered as a high priority for terrestrial ecosystem mapping and landscape unit planning.

5.10 Public Education

It is recognized that public education is an important part of the LRMP planning process. All Table members should work to educate the public with regards to the content of the LRMP plan including Protected Area designations, recognition of resource values, resource management objectives and the justification for proposed management strategies. Table members should also understand and be able to communicate the potential economic impacts of those strategies.

In particular, the Table recognizes that there is a need to educate motorized outdoor recreation users about the potential impacts that motorized recreational vehicles can have on the landscape and to ecosystems.

5.11 Inventory and Research Priorities

The LRMP Working Group recognizes that some values cannot be adequately addressed within this process and subsequent planning processes without the collection of more detailed inventory and/or research information. This cannot be accomplished across the planning area at one time or within a short period of time. Funding opportunities and staff availability within government and industry will also affect the collection of additional information in a timely manner.

Research and inventory needs should be evaluated and prioritized on the basis of resource values and potential conflicts identified in this LRMP or in subsequent planning processes. Estimates of funding requirements and resources, staffing requirements and resources, timelines, and roles and responsibilities for each initiative will help resource managers to further assess priority projects for future implementation.

The LRMP Working Group recommends the following inventory and research priorities:

- Undertake a detailed spatial analysis of short-term timber supply (i.e., twenty year forecast of maximum sustainability) within the Timber Harvesting Landbase in order to meet fibre-flow commitments
- Undertake research on the impacts of implementing LRMP objectives and strategies.
- Implement an adaptive management research program into biodiversity to ensure overall objectives for biodiversity are achieved in the long term
- Initiate a research program to improve our understanding of the behaviour and biology of caribou populations and the effect of resource development on caribou habitat
- Initiate a research program to improve our understanding of the behaviour and biology of warbler populations and the effect of resource development on warbler habitat
- Initiate a research program to improve our understanding of the behaviour and biology of furbearer populations and the effect of resource development on furbearer habitat
- Undertake research to update forest inventory and growth and yield information, and provide for the ability to maintain current database information at all times.
- Conduct research into range and integrated resource management issues such as agro-forestry and integrating multiple uses on Crown lands.
- Initiate a research program to improve our understanding of the behaviour and biology of ungulate populations and the effect of resource development on ungulate populations and habitat in problem wildlife areas on Crown land and private lands
- Develop and validate a methodology for identifying and incorporating public interests into integrated resource management planning processes

6.0 Transition Strategy

It is recognized by the Table that there is a need to provide the necessary flexibility for relevant agencies to adapt to changing circumstances and apply limited resources in an efficient manner while also assuring the public that LRMP implementation is occurring. It is already apparent that the management intent is being incorporated into daily resource management activities

Licensed resource tenure holders have generally been involved in a substantive way during the development of the Dawson Creek LRMP. They require some time and opportunity to design and institute management practices that will ultimately be consistent with the general intent of this plan. To ensure continuity of operational plan activity, this LRMP includes phase-in provisions. These provisions should allow a smooth transition from the operational plans in effect at the time the LRMP is approved, to operational plans which reflect the strategic direction in this plan.

7.0 Monitoring and Amendment

7.1 Plan Term & Review Schedule

The term of the LRMP will be 10 years with a formal review in 2002 (year 5). The scheduled amendment and review process to renew the LRMP will begin 2005 (year 8).

7.2 Annual Monitoring Committee & Biennial Reporting

The Dawson Creek LRMP Table recommends establishing a monitoring committee that will assist the Omineca-Peace IAMC with preparing a biennial monitoring report. The Table also recommends that in addition to the implementation report, an independent audit (year 5) be used to provide feedback to the public and LRMP participants regarding the successes and challenges of putting this plan into action.

The monitoring report will indicate how the objectives and strategies outlined in the Land and Resource Management Plan are being met through agency-specific resource management activities, operational or local planning processes and resource development plans or permits.

By 1999 and every two years thereafter, the resource agencies will prepare an LRMP monitoring report for the LRMP Working Group to review (refer to section 5.8.2 *Agencies*). It will include:

- actions taken to conform with plan direction
- compliance with plan requirements
- instances of non-compliance and actions that will be taken to ensure compliance
- instances where the intent of plan had to be clarified
- an update on local level plan schedule

The monitoring report will review and collate indicator information and assess how well the plan is meeting stated management objectives. Each appropriate government agency will be responsible for collecting and collating indicator information, revising the indicators as necessary, and raising issues that need to be addressed.

The LRMP Working Group will hold an annual meeting to review implementation of the plan. The meeting will be an opportunity for the public to raise issues related to the implementation and effectiveness of the plan.

At the annual meeting, or if the LRMP Table is reconvened, the Table will have an opportunity to provide interpretation and input on specific issues relating to the Dawson Creek LRMP. A group of Table members may make a request to the Omineca-Peace IAMC that the Dawson Creek LRMP Table be reconvened to resolve specific issues related to interpretation of the plan.

7.3 Plan Amendment

Local or operational planning processes may, through more detailed mapping, research or public involvement, recommend changes to the Land and Resource Management Plan. The outcome of LRMP Monitoring Committee meetings may also be recommended amendments to the plan. These would be communicated by the LRMP Chairperson (or IAMC designate) to the Omineca-Peace IAMC.

7.3.1 Plan Updates (Minor Amendments)

Plan updates are any minor changes to the plan and may include:

- revision of wording;
- revised priorities for local level plans
- small changes to boundaries of Resource Management Zones (maximum 500 ha) suggested by local level plans
- refinements to objectives and strategies suggested by local level plans

The Biennial Monitoring Report will contain proposed plan updates. The Omineca-Peace IAMC will be responsible for review and approval of suggested plan updates. All changes to the plan will be documented and circulated to public interest groups and tenure holders.

7.3.2 Unscheduled (Major) Amendments

The LRMP Table, public or agencies may identify issues that require an unscheduled amendment. These will be identified in the Biennial Report or at the annual meeting. When issues arise that require a major amendment, the Omineca-Peace IAMC will establish the schedule and Terms of Reference for the amendment process, consistent with existing legislation, regulations, and policies.

An unscheduled amendment that is a major or significant change to the plan includes:

- large changes to Resource Management Zone boundaries (500 ha or more);
- major revisions to objectives and/or strategies set out in the plan

The public will be involved in the plan amendment process.

7.3.3 Scheduled Amendments

A scheduled amendment will involve the review of the entire plan and include a detailed examination of significant revisions. The process to amend the plan will begin eight years following plan approval. The Omineca-Peace IAMC will establish the Terms of Reference for the amendment and review process, consistent with legislation, regulations and policies. The public will be involved in the amendment process.

8.0 Interpretation and Appeal

From time to time, the LRMP Working Group, public or agencies may become concerned about how the plan is being interpreted or about specific practices that are occurring. In all instances, the concerns will be dealt with in the same spirit that the plan was developed.

8.1 Interpretation of Land Use Objectives and Strategies

Where a concern is raised over land use objectives and strategies, the concern will be addressed directly to the affected agency(s). The responsible manager(s) will respond to the concern in writing. If the matter is not satisfactorily resolved, the concern will be forwarded to the Omineca-Peace IAMC for resolution recommendations.

8.2 Appeal of Resource Management Practices

Where the public or agencies raise concerns with specific resource management practices that are occurring in the LRMP planning area, they will raise the issue directly with the affected agencies. Where there is an existing review or appeal process, the concern will be dealt with through it. For example, concerns over forest road construction will be dealt with under the *FPC*. Where there is not an existing appeal process, the local manager will respond to the affected party in writing. If the matter is not satisfactorily resolved, the concern will be forwarded to the Omineca-Peace IAMC for resolution recommendations.

9.0 Glossary

ACCESS

Collectively referred to as the way or means of approach to a specified interest.

ACCESS MANAGEMENT

The overall mandate for the administration of the planning, construction, maintenance, use and deactivation of present and proposed Forest Service Roads, operation roads and non-status roads on Crown lands within or outside Provincial Forests (including Tree Farm licenses), in conjunction with TSA and TFL plans, resource development plans and in addition to emergency pest and fire contingency plans. (*from: Coordinated Access Management Planning, A Guide to Planning, Control and Deactivation of Resource Roads on B.C. Crown Lands, MELP/MoF, November 1994*).

AGE CLASS

Any interval into which the age ranges of trees, forests, stands or forest types is divided for classification and use; forest inventories commonly group trees into 20 year age class groups (*MoF*).

AGRICULTURAL CODE OF PRACTICE FOR WASTE MANAGEMENT

The purpose of this Code is to describe practices for using, storing and managing agricultural waste that will result in agricultural waste being handled in an environmentally sound manner (*MELP's Waste Management Regulation*).

AGRICULTURE LAND COMMISSION (ALC)

The Agriculture Land Commission (ALC) is established as a corporation consisting of members appointed by the Lieutenant Governor in Council. The object of the Agriculture Land Commission (ALC) is to:

- preserve agricultural land
- encourage the establishment and maintenance of farms, and the use of land in an agricultural land reserve (ALR) compatible with agricultural purposes
- assist municipalities and regional districts in the preparation of land reserve plans required under the Agriculture Land Commission Act, and encourage municipalities, regional districts, First Nations and ministers, ministries and agents of the governments of B.C. and Canada to support and accommodate farm use of agricultural land in their bylaws, plans and policies.

The person appointed under the *Agriculture Land Commission Act* as general manager of the ALC is also the chief officer of the Forest Land Commission under the *Forest Land Reserve Act*. In addition, the ALC may designate one or more of the appointed regional advisors to assist and advise the ALC on matters relating to a resource management region established by the Environment and Land Use Committee under the *Environment and Land Use Act*.

AGRICULTURAL LAND COMMISSION ACT

The *ALC Act* preserves agricultural land; encourages the establishment and maintenance of farms, and the use of land in an agricultural land reserve (ALR) compatible with agricultural purposes, and; requires the preparation of land reserve plans by municipalities and regional districts.

AGRICULTURE LAND RESERVE (ALR)

The Provincial Agriculture Land Reserve (ALR) was created in 1972-73 through the *Agriculture Land Commission Act (ALC Act)* to reserve agricultural land for the establishment and maintenance of farms. With prior approval of the Lieutenant Governor in Council, the Agriculture Land Commission may designate as agricultural land, land, including Crown land, that is suitable for farm use, and on being designated, the land is established as an agricultural land reserve.

ALIENATE

To convey or transfer land from Crown status to fee simple (*IPT*).

ALLUVIUM

Sand, clay and other earth materials gradually deposited along river beds and flood plains (*IPT*).

AQUIFER

A water bearing stratum of permeable rock, sand or gravel (*IPT*).

ARCHAEOLOGICAL SITES

Locations that contain physical evidence of past human activity for which the application of scientific methods of inquiry (i.e. survey, excavation, data analysis, etc.) are the primary source of information. These resources do not necessarily hold direct associations with living communities. Examples of archaeological sites include shell middens, lithic scatters, cache pits and pit house remains (*IPT*).

ASSEMBLAGE

A collection or aggregation, a number of persons or things assembled (*IPT*).

BCE

Acronym meaning B.C. Environment, a division of MELP (*IPT*).

BEST MANAGEMENT PRACTICES

Accepted methods for controlling non-point sources of pollution, may include one or more conservation practices (*IPT*).

BIODIVERSITY (biological diversity)

The diversity of plants, animals and other living organisms in all their forms and levels of organization, and includes the diversity of genes, species and ecosystems, as well as the evolutionary and functional processes that link them.

The underlying assumption of applying the biodiversity management approach is that all native species and ecological processes are more likely to be maintained if managed forests are made to resemble those forests created by the activities of natural disturbance agents such as fire, wind, insects and disease. The composition, size, age and distribution of forest types and structural characteristics of forest stands have been determined by these natural processes.

When landscape level biodiversity management options have been established, the requirement for maintaining biodiversity in individual stands can be determined from Biodiversity Field Guide (*from: Biodiversity Guidebook, September 1995*).

BIODIVERSITY EMPHASIS- LOWER LEVEL

Lower biodiversity emphasis, first in a range of three landscape level options to maintain biodiversity. Where the primary management objectives are primarily socioeconomic demands such as timber supply, the lower biodiversity emphasis option may be appropriate. Habitat is provided for a wide range of species, however, the pattern of biodiversity will be significantly altered. Accordingly, there is a relatively high risk that some native species will be unable to survive in a specific area (*from: Biodiversity Guidebook, September 1995*).

BIODIVERSITY EMPHASIS- INTERMEDIATE LEVEL

Intermediate biodiversity emphasis, second option, essentially a trade-off between biodiversity conservation and timber production. The risk to eliminating certain species from an area is reduced (*from: Biodiversity Guidebook, September 1995*).

BIODIVERSITY EMPHASIS- HIGHER LEVEL

Higher biodiversity emphasis, an option recommended for those areas where biodiversity conservation is a high management priority. It gives a higher priority to biodiversity conservation and has the greatest impact on timber supply (from: *Biodiversity Guidebook*, September 1995).

BIODIVERSITY - STAND LEVEL

Stand level - *stand management to maintain biodiversity*, stand level recommendations for biodiversity are designed to maintain or restore important structural attributes such as wildlife trees (including standing dead or dying trees), coarse woody debris, tree species diversity and understorey vegetation diversity (from: *Biodiversity Guidebook*, September 1995).

BIOGEOCLIMATIC ZONES

Geographic areas having similar patterns of energy flow, vegetation and soils as a result of broadly homogeneous climate (from: *Biodiversity Guidebook*, September 1995).

BLUE-LISTED SPECIES

Taxa that 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 are generally suspected of being vulnerable, but for which information is too limited to allow designation in another category.

BROAD ECOSYSTEM UNITS

A permanent area of the landscape, meaningful to animal use, that supports a distinct kind of dominant vegetative cover, or distinct non-vegetated cover. These units are defined as including potential (climax) vegetation and any associated successional stages (for forests and grasslands).

BUFFER ZONE

A zone of vegetation around a sensitive area intended to filter impacts of adjacent activities, such as road building, on the resource being protected - some activities may be permitted within buffer zones. Often used in conjunction with *leave strips* - an undisturbed strip of vegetation around a sensitive resource area. (from: *Environmental Guidelines for Seismic and Drilling Operations in Northeast British Columbia (Interim)*, MELP, November 1994).

CAPABILITY (habitat) MAPPING

A habitat interpretation for a species which describes the greatest potential of a habitat to support that species. Habitat potential may not be reflected by the present habitat condition or successional stage (IPT).

CARIBOU MANAGEMENT ZONE

Areas where operable timber supply has been constrained to meet the requirements of caribou habitat (IPT).

CLEARCUTTING SILVICULTURAL SYSTEM

The process of removing all trees in a stand in one cutting operation. The previous stand is replaced with an even aged crop of new trees through planting and/or natural regeneration (IPT).

COARSE WOODY DEBRIS

Sound and rotting logs and stumps that provide habitat for plants, animals and insects and, are a source of nutrients for soil development (from: *Biodiversity Guidebook*, September 1995).

COLIFORMS

Bacteria present in the intestinal tracts of humans and other warm blooded animals and excreted in large numbers in faecal wastes. Water is not a natural medium for coliform organisms and their presence is indicative of faecal pollution. Total coliform counts are used as an indicator of the treatment adequacy in drinking water supply systems. Total coliforms include a wide variety of bacteria, many of which are not pathogenic and not associated with human waste. The faecal coliforms counts are specific for faecal pollution. (from: *Draft Community Watershed Guidebook, March 1996*).

COMMUNITY WATERSHED (As designated by the *Forest Practices Code*)

A watershed with a drainage area of not more than 500 km² that is licensed under the *Water Act* for community water use, or is licensed under the *Water Act* for domestic water use and the holder of the license, the district manager, the designated environmental official and Minister of Health, all agree that the area should be regarded as a community watershed (*FPC*).

CONFLUENCE

With respect to where two streams join, the location where said streams converge (*IPT*).

CONNECTIVITY

A qualitative term used to describe the degree to which late successional ecosystems are linked to one another to form an interconnected network. The degree and characteristics of these linkages are determined by topography and Natural Disturbance Type (*NDT*).

Specific types of connectivity are:

- upland to upland
- upland to stream
- upland to wetland
- cross-elevational

(from: *Biodiversity Guidebook, September 1995*).

CONSERVATION DATA CENTRE

A division of B.C. Environment that tracks species and plant communities that are considered threatened or endangered at the provincial, national or global level (*IPT*).

CONSERVE

To practice careful management to enhance or maintain ecological integrity; manage wisely (i.e., with knowledge, showing soundness of judgement); does not preclude development activity (*IPT*).

CONSULTATION

A process of seeking information or professional advice (*IPT*).

CRITICAL HABITAT

Part or all of a specific place occupied by a wildlife species or a population of such species and recognized as being essential for the maintenance of the population or ecosystem processes. The habitats may be well defined, geographically concentrated, critical niches or species-specific critical ecological components widely distributed across the landscape (from: *Draft Wildlife Habitat Areas Field Guide, October 1994*).

DFO

Federal Department of Fisheries and Oceans.

DIAMETER AT BREAST HEIGHT (DBH)

The diameter of a tree, measured at 1.3 m above the ground. A measurement taken at approximately breast height and used as the standard for describing the diameter of a tree (*IPT*).

DISCOURAGE

To hinder by disavowing; deter; to attempt to dissuade (*IPT*).

ECOSECTION

A large geographic unit based primarily on landform and climate, used to divide the province into large physiographic units (*IPT*).

ECOSECTION REPRESENTATION

The degree to which the area represents the biophysical features of the ecosection, especially its ability to capture the full range of biogeoclimatic units (*IPT*).

ECOSYSTEM

A community of animals, plants and bacteria and its interrelated physical and chemical environment (*IPT*).

EDAPHIC

Of or pertaining to the soil in its ecological relationships (*IPT*).

EDAPHIC FACTOR

Any characteristic or condition of the soil, generally physical or chemical, that influences organisms (*IPT*).

EDAPHOLOGY

The study of soils as media for plant growth (*IPT*).

ELU ACT

The *Environment and Land Use Act* is a provincial act that allows the Lieutenant Governor in Council, on the recommendation of the Environment and Land Use Committee, and despite any other Act or regulation, to make orders that the Lieutenant Governor in Council considers necessary or advisable respecting the environment or land use.

ENCOURAGE

To spur on : stimulate; to give help or patronage to : foster (*IPT*).

ENDANGERED

A species facing imminent extirpation or extinction (*COSEWIC*).

ENHANCE

To add or contribute to as: improve; increase productivity (*IPT*).

ENSURE

To make sure, certain, or safe : guarantee, making certain or inevitable of an outcome, but “insure” sometimes stresses the taking of necessary measures beforehand (*IPT*).

EQUIVALENT CLEARCUT AREA (ECA) THRESHOLD LEVELS

Term used to describe second growth in relation to its hydrological equivalence to a recent clearcut. As second growth develops, the hydrological impact on the site is reduced. The rate of reduction is expressed in proportion to the height of the second growth. On average, a stand must be at least 9 meters in height before a stand can be considered hydrologically recovered (*IPT*).

The ECA is used in watershed assessments to determine peak stream flow. It is defined as the area that has been clearcut with a reduction factor to account for the hydrological recovery due to forest regeneration. Hydrologic recovery is defined as the process by which regeneration restores the hydrology of an area to pre-logging conditions.

FACILITATE

To make easier (*IPT*).

FIVE YEAR SILVICULTURE PLANS

Plan which identifies the timing and location of silviculture activities scheduled for an area over the next five year period (*from: Five Year Silviculture Plan Guidebook, April 1995*).

FLYWAY

A specific air route taken by birds during migration (*IPT*).

FOREST ECOSYSTEM NETWORK (FEN)

A planned landscape zone that serves to maintain or restore natural connectivity within a landscape unit.

FEN's are contiguous networks of representative old-growth and mature forest and are composed of a variety of protected and classified areas (e.g., Protected Areas, old-growth management areas, riparian management areas and reserve zones, wildlife habitat areas and other sensitive areas such as unstable terrain, high visual quality or any other inoperable areas) (*from: Biodiversity Guidebook, September 1995*).

FOREST LAND COMMISSION (FLC)

The Forest Land Commission is established as a corporation consisting of members appointed by the Lieutenant Governor in Council. The person appointed under the *Agriculture Land Commission Act* as general manager of the ALC is the chief officer of the FLC under the *Forest Land Reserve Act*.

The principle function of the FLC is to administer *the Forest Land Reserve Act* by minimizing the impact of urban development and rural area settlement on forest reserve land, and to work to this end with local governments, First Nations, and other communities of interest.

FOREST LAND RESERVE (FLR)

The Forest Land Reserve consists of:

- private land that is designated as forest reserve land by section 10
- additional private land that is designated as forest reserve land by or under section 11, and
- Crown land that is designated as forest reserve land under section 12, wherein the Lieutenant Governor in Council may designate as forest reserve land that part of Crown land within the Provincial forest under the Forest Act that the Lieutenant Governor in Council considers should be protected under this Act.

FOREST PATCH SIZE

Pertains to a specific area within the forested landbase that is characterized by a particular disturbance/event (e.g., wildfire, timber harvesting). In the case of timber harvesting, if a forest patch of a given area is harvested, a similar area may be required for retention.

FOREST PRACTICE

Timber harvesting, road construction, road maintenance, road deactivation, silviculture treatments, botanical forest product collecting, grazing, hay cutting, forest use, control, suppression and any other activity that is carried out on land that is:

- Crown land
- range land, or
- private land that is subject to tree farm license or a woodlot license, and carried out by:
 - any person:
 - (A) under an agreement under the Forest Act or Range Act,
 - (B) for a commercial purpose under this Act or the regulations, or
 - (C) to rehabilitate forest resources after an activity referred to in clause (A) or (B), or
 - the government (*from: Forest Practices Code, April 1995*).

FOREST PRACTICES CODE OF BRITISH COLUMBIA

Part of an overall strategy introduced by the provincial government for land use planning and resource management in B.C. The Code is based on the goal of sustainable use which includes:

- managing forests to meet present needs without compromising the needs of future generations,
- providing stewardship of forests based on an ethic of respect for the land,
- balancing productive, spiritual, ecological and recreational values of forests to meet the economic and cultural needs of peoples and communities, including First Nations,
- conserving biological diversity, soil, water, fish, wildlife, scenic diversity and other forest resources; and,
- restoring damaged ecosystems

(from: Draft Administrative Guide for Strategic Planning, January 1995).

FRAGMENTATION

A process whereby large contiguous forest patches are transformed into one or more smaller patches surrounded by disturbed areas. Fragmentation occurs naturally by fire, disease, wind and insect attack. It also occurs in managed forests, influenced by the rate of cut, cutblock size, cutblock distribution and silvicultural systems used to re-forest. Fragmentation due to forest harvesting should be viewed and managed to mimic fragmentation resulting from natural disturbances.

Fragmentation can lead to a decline in biodiversity in three ways:

- the loss of habitat through the conversion of natural forest stands to managed forest stands
- the increase in micro-climatic and biotic edge effects through the reduction in size of forest patches
- the imposition of barriers to gene flow and dispersal through the increasing isolation of remaining forest patches

(from: Biodiversity Guidebook, September 1995).

FURBEARER REFUGE AREA

A furbearer refuge area is an area where a trapper voluntarily restricts his trapping activities as part of the furbearer management for his trapping area (tenure). The furbearer refuge provides important habitat for furbearing wildlife species.

- Furbearer refuge areas are to be made known and mapped in the landscape unit level planning process;
- The boundaries of the furbearer refuge area and the management practices prescribed within must be agreed to by the District Manager and the designated environment official;
- To the greatest degree possible, furbearer refuge areas are to incorporate areas of existing timber harvesting constraint;
- If agreed to by a district manager and designated environment official, a furbearer refuge area could be considered a wildlife habitat feature (*IPT*).

GENERAL WILDLIFE MEASURE

A management practice that the Deputy Minister of Environment, Lands and Parks or a person authorized by that deputy minister, and the chief forester, determine is necessary to maintain the habitat of one or more species of identified wildlife.

GRANDPARENT

- Pertaining to instruments and documents of allocation and management that are in effect prior to a change in designation (i.e., legal status) of an area;
- With respect to Protected Areas: Wherein all existing rights, approvals, issuances, permits and authorizations, allocations, tenures, dispositions, licenses and other instruments and documents of allocation and management that were in effect prior to the designation of the Protected Area are exempt from the requirements of the Protected Area (*IPT*).

GREEN-UP

A cutblock that supports a stand of trees that:

- has attained the green-up height specified in the higher level plan for the area, or
- in the absence of a higher level plan for the area, has attained a height that is 3 meters or greater

(from: Green-Up Guidebook, December 1995).

GREEN-UP GUIDEBOOK

Guidebook which describes the basic requirements for ensuring that previously harvested areas contiguous to proposed cutblocks are greened-up before those proposed cutblocks are harvested (*from: Green-Up Guidebook, December 1995*).

GROUNDWATER

Subsurface water found in the zone of saturation (*IPT*).

GROUNDWATER RECHARGE

The inflow to an aquifer (*IPT*).

HABITAT

An area in which a plant or animal naturally lives; part of a broader unit, the ecosystem (*IPT*).

HEADWATERS

The source and upper reaches of a stream (*IPT*).

HIGHER LEVEL PLAN (HLP)

A plan formulated pursuant to section 4 (c) of the *Ministry of Forests Act*

- a management plan
- an objective for a resource management zone
- an objective for a landscape unit or sensitive area
- an objective for a recreation site, recreation trail or interpretative forest site, and
- a plan or agreement declared to be a higher level plan by the Ministers, or
- the Lieutenant Governor in Council under this or any other Act

(*from: Draft - Administrative Guide for Strategic Planning, January 1995*).

HYDROLOGY

The science of waters of the earth, water properties, circulation, principles and distribution (*IPT*).

IDENTIFIED WILDLIFE

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 (*DRAFT Identified Wildlife Guide Book, February 1996*).

IMPROVE

- To enhance in value or quality; make better
- To use to good purpose
- To advance or make progress in what is desirable
- To make useful additions or amendments (*IPT*)

INDIGENOUS

Native to or existing in a region (*IPT*).

INSTREAM FLOW REQUIREMENT

The minimum amount of water required in a stream to maintain the existing aquatic resources and associated wildlife and riparian habitat (*IPT*).

INTEGRITY

An unimpaired condition; the quality or state of being complete or undivided; completeness (*IPT*).

INTEREST

An object of concern; legal share; financial stake (*IPT*).

LAKE CLASS

A designation, made by the district manager, for lakes with a riparian class of L1 that indicates the width of a lakeshore management zone and practices that are appropriate within that zone (*FPC*).

LAKESHORE GUIDELINES

Guidelines that designate which management practices are acceptable within lake reserve and management zones (*from: Lake Classification and Lakeshore Management Guidebook: Prince George Forest Region, November 1995*).

LAKESHORE MANAGEMENT

An area established adjacent to a lake with a riparian class of L1, consisting of a riparian reserve zone determined in accordance with the *Forest Practices Code of B.C.* Lakeshore Management Area, and a lakeshore management zone (*from: Lake Classification and Lakeshore Management Guidebook: Prince George Forest Region, November 1995*).

LAKESHORE MANAGEMENT ZONE

The portion of the lakeshore management area established by the district manager around a lake with a riparian class of L1, consisting of a riparian reserve zone or if there is no riparian reserve zone, that is located adjacent to the lake (*from: Lake Classification and Lakeshore Management Guidebook: Prince George Forest Region, November 1995*).

LANDSCAPE

A watershed or series of similar and interacting watersheds, usually between 10 000 and 100 000 ha in size (*IPT*).

LANDSCAPE UNIT

A planning area, generally up to 100 000 ha (100 km²), delineated according to topographic or geographic features such as a watershed or series of watersheds and, as designated by a district forest manager (*from: Biodiversity Guidebook, September 1995*).

LARGE ORGANIC DEBRIS (LOD)

Woody debris functioning as fish habitat, during at least part of the year, with a diameter of 10 cm or greater and a length of 2 meters or greater (*IPT*).

LAND AND RESOURCE MANAGEMENT PLANNING

The sub-regional integrated resource planning process for British Columbia. LRMP considers all resource values and requires public participation, interagency coordination and consensus-building in land and resource management decisions (*IPT*).

LINEAR DEVELOPMENT

A straight line industrial development that is typically of powerlines, highways, gas lines and seismic activities (*IPT*).

LOCAL RESOURCE USE PLAN (LRUP)

A district or landscape level plan providing objectives and guidelines for use and protection of valued resources. Examples include integrated watershed management plans, coordinated access management plans and wilderness/recreation plans (*IPT*).

LOWER LEVEL PLAN

Any subsequent planning process that takes direction from operational and development plans (*IPT*).

MAINTAIN

To keep in an existing state (as of repair, efficiency, or validity) : preserve from failure or decline (*IPT*).

MANAGE

- To handle or direct with a degree of skill or address
- To treat with care
- To exercise executive, administrative, and supervisory direction of (*IPT*).

MANAGEMENT STRATEGY

A land and resource management strategy designed, developed and implemented to achieve a management objective (*IPT*).

MANAGING IDENTIFIED WILDLIFE GUIDEBOOK

Guidebook which provides habitat management guidelines that mitigate the effects of forest practices on identified wildlife. These guidelines are intended to maintain healthy populations of identified wildlife throughout their current and, where appropriate, historic range (*IPT*).

MATURE GROWTH (mature seral stage)

A forest composed primarily of codominant trees, with canopies that vary vertically, horizontally, or both. Generally refers to trees 80 to 120 years old or greater, depending upon species and site conditions. The age and structure of mature seral-stage forests varies significantly by forest type and from one biogeoclimatic zone to another (*from: Biodiversity Guidebook, September 1995*).

MAXIMIZE

- To increase to a maximum
- To make the most of (*IPT*).

MEM

B.C. Ministry of Energy and Mines

MELP

B.C. Ministry of Environment, Lands and Parks

MoF

B.C. Ministry of Forests

MOTORIZED ACCESS

Right or means of approach equipped with a motor or motor vehicle

- May include the following modes of transport: two- and four-wheel drive cars, trucks, and All-Terrain-Vehicles; snowmobiles, and; motor-driven boats and aircraft (*IPT*).

MINIMIZE

To reduce to a minimum (*IPT*).

MITIGATE

To make seem less serious or severe (*IPT*).

NATURAL DISTURBANCE TYPES (NDT's)

NDT's characterize areas with different natural disturbance regimes. Natural stand-initiating disturbances are those processes that largely terminate the existing forest stand and initiate secondary succession in order to produce a new stand. For the purpose of setting biodiversity objectives, five natural disturbance types are recognized as occurring in B.C. These are:

- NDT 1 - ecosystems with rare stand-initiating events

- NDT 2 - ecosystems with infrequent stand-initiating events
- NDT 3 - ecosystems with frequent stand-initiating events
- NDT 4 - ecosystems with frequent stand-maintaining fires
- NDT 5 - Alpine Tundra and Sub-alpine Parkland ecosystems

(from: *Biodiversity Guidebook*, September 1995).

NATURAL STREAM FLOW

The flow of a stream as it would be if unaltered by upstream diversion, storage, import, export or changes in upstream consumption use caused by development.

NON-POINT SOURCE POLLUTION

Pollution discharged over a wide land area, not from one specific location (*IPT*).

NOT SATISFACTORILY RESTOCKED (NSR)

Productive forest land that has been denuded and has failed, partially or completely, to regenerate either naturally or artificially (*IPT*).

OLD GROWTH MANAGEMENT AREA (OGMA)

Mapped-out special management areas that contain or are managed to replace specific structural old-growth attributes. They are intended to capture old-growth or mature seral stages within landscape units to meet retention objectives and can be harvested (using timber harvesting and silvicultural practices consistent with management objectives for the OGMA) when equivalent old-seral stage areas are available (from: *Biodiversity Guidebook*, September 1995).

OLD-GROWTH (old seral stage)

A climax forest that contains live and dead trees of various sizes, species, composition and age class structure. The age and structure of old growth forests varies significantly by forest type and from one biogeoclimatic zone to another (from: *Biodiversity Guidebook*, September, 1995).

OPERATIONAL PLAN

Plan which details the logistics for forest development. Methods, schedules and responsibilities for accessing, harvesting, renewing and protecting the resource are set out to enable site specific operations to proceed. These include: forest development plan, logging plan, access management plan, range use plan, silviculture prescription, stand management prescription and 5 year silvicultural plan (from: *Higher Level Plans: Policies and Procedures*, May 1996).

PARTIAL RETENTION

A forest practice designed to meet MoF's Visual Quality Objective (VQO's). The partial retention VQO requires that alterations remain visually subordinate to the characteristic landscape (from: *MoF's VQO Policy*).

PATCH

A stand of similar-aged forest that differs in age from adjacent patches by more than 20 years. The term is used in landscape level planning to either refer to the size of an opening created by a natural disturbance that led to even-aged forests **or** an opening created by cutblocks (*from: Biodiversity Guidebook, September 1995*).

PLANT COMMUNITY

An abstract unit based on sample plots of climax vegetation that possesses similar vegetation structure and native species composition; occurs repeatedly in similar habitats (*IPT*).

POLLUTION

Any alteration in character of quality of the environment which renders it unfit or less suited for certain uses (*IPT*).

POPULATION REFUGE AREA - MARTEN

Undisturbed, mature/old growth coniferous (spruce and/or balsam) forest in patches 15 ha or larger, used by marten for foraging, resting and denning. Wildlife tree patches could provide this habitat as leave areas between cutblocks (Becker, D.Q. 1992. Upland Furbearer Problem Analysis).

POTABLE

Water fit for human consumption without further treatment (*IPT*).

PRESCRIPTION

A set of detailed management directions (i.e., for managing habitat for identified wildlife) (*from: Draft Managing Identified Wildlife Guidebook, February 1996*).

PRESERVE

- To keep safe from injury, harm, or destruction : protect
- To keep up and reserve for personal or special use (*IPT*).

PRIORITY FISH SPECIES

Freshwater game fish species such as kokanee salmon, rainbow trout, bull trout, walleye and burbot (*from: Fish-stream Identification Guidebook, July 1995*).

PROMOTE

- To contribute to the growth or prosperity of : further (*IPT*).

PROTECTED AREA

Existing areas such as provincial parks, federal parks, wilderness areas, ecological reserves, and recreation areas that have protected designations according to federal and provincial statutes. Protected areas are land and freshwater to marine areas set aside to protect the province's diverse natural and cultural heritage (*PAS Strategy*).

PROTECT

- To cover or shield from exposure, injury, or destruction : guard (*IPT*).

PROVIDE

- To make a proviso or stipulation
- To make preparation to meet a need
- To supply something for sustenance or support (*IPT*).

PUBLIC ACCESS

Collectively referred to as a way or means of approach to a specified interest, the usage of which is for or known to people in general (i.e., members of a community in general)

QUANTIFY

- To make explicit the logical quantity of
- To determine, express, or measure the quantity of (*IPT*).

RARE ECOSYSTEM

An ecosystem (either *site series* - sites capable of producing the same late seral or climax plant communities within a biogeoclimatic zone or variant, or *surrogate* - to elect as substitute) that makes up less than 2% of a landscape unit and is not common in adjacent landscape units (*from: Biodiversity Guidebook, September 1995*).

RED-LISTED SPECIES

The taxa on the red list are either extirpated, endangered or threatened, or are being considered for such status. Any indigenous taxon (species or subspecies) threatened with imminent extinction or extirpation throughout all or a significant portion of its range in B.C. is endangered. Threatened taxa are those indigenous species or subspecies that are likely to become endangered in B.C. if factors are not reversed (*from: Draft Managing Identified Wildlife Guidebook, February 1996*).

REGIONALLY IMPORTANT SPECIES

Species that are not red- or blue-listed, that require management practices that differ from standard integrated resource management guidelines in order to fulfill critical habitat needs; or locally or regionally threatened or declining species or those that may reasonably be expected to decline without protection or critical habitats (*from: Draft Managing Identified Wildlife Guidebook, February 1996*).

RECOGNIZE

- To acknowledge formally; to admit as being of a particular status; to acknowledge the *de facto* existence or the independence of;
- To acknowledge or take notice of in some definite way; to acknowledge with a show of appreciation; to acknowledge acquaintance with (*IPT*).

REHABILITATION

- Process of re-establishing to a condition of good health (*IPT*).

RESERVE

- To hold in reserve; keep back;
- To set aside an area of forest land, that by law or policy, is not available for timber harvesting or production
(*from: Biodiversity Guidebook, September 1995*).

RESOURCE FEATURE

A resource feature as defined in section 51(1) of the *FPC* pertains to previously unidentified resource features. In this section, "resource feature" includes the following:

- a) a cultural heritage resource;
- b) a recreation feature;
- c) a range development that is a structure, excavation or constructed livestock trail;
- d) any other feature designated in the regulations.

"Known resource features" means cultural heritage resources, range developments, recreation resources, landscape connectivity, the habitat of specified wildlife species, water resources and natural features identified by inventories or assessments:

- a) conducted under section 28 of the *Forest Act*;
- b) contained in higher level plans; or
- c) otherwise prepared by government. Resource features also include localized resource values or sites of special interest such as caves, raptor-nesting trees, mineral licks, heritage sites, and recreation trails.

RESOURCE MANAGEMENT OBJECTIVE

A statement recommended by the LRMP Table to sustain or enhance identified resource values (applies within GMD's or RMZ's) (*IPT*).

RESOURCE MANAGEMENT STRATEGY

Generally a strategic-level land and resource management prescription recommended by the LRMP Table to achieve a resource management objective (applies within GMD's or RMZ's) (*IPT*).

RESOURCE MANAGEMENT ZONE (RMZ)

A land use designation category under the *Forest Practices Code* that establishes strategic objectives and special requirements to guide subsequent subregional/local and operational planning (*FPC*).

RESTORATION

Ecological restoration is the process of repairing damage caused by humans to the diversity and dynamics of indigenous ecosystems (*IPT*).

RIPARIAN LAKE CLASS

Determined by lake size and the biogeoclimatic zone within which it occurs. Depending on these characteristics, the lake is given a designation of either L1, L2, L3 or L4 (*from: Riparian Management Area Guidebook, December 1995*).

RIPARIAN HABITAT

A distinct wildlife habitat zone located in riparian areas (land adjacent to the banks of rivers, streams, lakes and wetlands). Riparian areas are dominated by continuous high moisture content and influenced by adjacent upland vegetation. They incorporate ecosystems that are biologically diverse, frequently containing the highest number of plant and animal species found in a forest. Riparian areas provide critical habitats, home ranges and travel corridors for wildlife and serve to maintain ecological linkages throughout the forest landscape by connecting hillsides to streams and upper-elevation stream headwater areas to valley bottoms (*from: Riparian Management Area Guidebook, December 1995*).

RIPARIAN MANAGEMENT AREA

An area determined in accordance with the *Forest Practices Code* Riparian Management Areas, that:

- is adjacent to a stream or wetland, or lake with a riparian class of L2, L3 or L4,
- consists of a riparian management zone and, depending on the riparian class of the stream, wetland or lake, a riparian reserve zone

(*from: Riparian Management Area Guidebook, December 1995*).

RIPARIAN MANAGEMENT AREA GUIDEBOOK

A guidebook to the establishment of riparian management areas and reserve zones under the *Forest Practices Code of B.C.* (from: *Riparian Management Area Guidebook, December 1995*).

RIPARIAN MANAGEMENT ZONE

An area adjacent to a stream, wetland or lake where constraints to forest practices apply for the purpose of maintaining the integrity of the stream, wetland or lake and associated wildlife habitat (from: *Riparian Management Area Guidebook, December 1995*).

RIPARIAN RESERVE ZONE

An area adjacent to a stream, wetland, or lake, within the Resource Management Zone, where no forest practices may occur (from: *Riparian Management Area Guidebook, December 1995*).

RECREATION OPPORTUNITY SPECTRUM (ROS) DELINEATION CRITERIA

ROS classes are determined by considering the three basic criteria of remoteness, size and evidence of humans.

- **Remoteness:** Remoteness from the sights and sounds of human activities is used as one of the criteria for the opportunity to experience greater or lesser amounts of social interaction and primitive to rural influences as one moves across the spectrum. To identify remoteness, delineate all roads, railroads and trails on the base map or overlay. Distinguish between two levels of roads: primitive roads and better-than-primitive roads. Trails with motorized use are included in the primitive road category.
- **Road Classification:** For roads which are difficult to classify into the primitive road or better-than-primitive road categories, apply these definitions:
 - better-than-primitive roads are constructed and maintained for the use of highway-type vehicles having more than two wheels
 - primitive roads are not constructed or maintained for vehicles primarily intended for highway use
- **Road Patterns:** In most cases all roads and trails are mapped. In areas with dense road patterns it may not be necessary to identify each road for ROS class delineation. Based on main roads alone, the entire area may be road-influenced and become the same ROS class. In these cases only the roads along the periphery of the densely roaded area are needed to define the Recreation Opportunity Spectrum class boundaries.
- **Traffic Volume:** Although volume of traffic may vary widely on the better-than-primitive roads, depending upon the specific road involved, volume need not be recorded on the base map or overlay. The physical presence and sight of a road, even with no traffic on it still affects the visitor experience, and is accounted for through the Recreation Opportunity Spectrum criteria. If traffic volume results in sounds from a road at distances greater than the line of sight, then sound may become the determinant criterion in delineating the appropriate ROS class.
- **Water Travel:** Where motorized water travel routes provide the only access, consider them in a manner similar to primitive roads. These specialized types of access may also provide a basis to determine the need for subclasses within the ROS continuum.

RECREATION OPPORTUNITY SPECTRUM (ROS) CLASSES		
CLASS	REMOTENESS	EVIDENCE OF HUMAN CRITERIA
Primitive	_____ ≥ 8 km from a 4-wheel drive road _____ ≥ 5000 hectares	<ul style="list-style-type: none"> • Very high probability of experiencing solitude, closeness to nature, self-reliance and challenge • Unmodified natural environment • Very low interaction with other people • Little on-the-ground evidence of other people • Restrictions and controls generally not evident • Non-motorized access and travel on trails, cross-country & waterways • Generally no facilities except where required for safety & sanitation • Generally no site modification
Semi-Primitive Non-Motorized	_____ ≥ 1 km from a 4-wheel drive road _____ ≥ 1000 hectares	<ul style="list-style-type: none"> • High probability of experiencing solitude, closeness to nature, self-reliance and challenge • Natural or natural-appearing environment • Low interaction with other people • Some on-the-ground evidence of other people, some on-site controls • Non-motorized access and travel on trails, cross-country & waterways • Facilities may be present for signing and for sanitary and safety needs using natural, rustic materials wherever possible • Minimal to no site modification
Semi-Primitive Motorized	_____ ≥ 1 km from a 2-wheel drive road _____ ≥ 1000 hectares	<ul style="list-style-type: none"> • Moderate opportunity for solitude, closeness to nature; high degree of self-reliance and challenge in using motorized equipment • Natural or natural-appearing environment • Low interaction with other people • Some on-the-ground evidence of other people, some on-site controls • Motorized access on trails, primitive roads & cross-country may occur • Limited facilities for signing, sanitary and safety needs using natural, rustic materials wherever possible • Minimal site modification
Roaded Resource Land	Often within 1 km of a 2-wheel drive road with a gravel or dirt surface	<ul style="list-style-type: none"> • Opportunities for both privacy and social interaction; feelings of independence and freedom • Natural environment may be substantially modified • On-the-ground evidence of other people, some on-site controls • Access and travel is by motorized vehicle • Facilities generally present; natural, rustic materials preferred

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 (*MoF VQO Policy*).

SELECTION SILVICULTURAL SYSTEM

A silvicultural system with the following characteristics:

- harvesting timber at specified repeated intervals
- harvesting single scattered individuals or small groups of individual trees
- encouraging relatively frequent establishment of regeneration in canopy gaps
- encouraging and maintaining an uneven canopy and an uneven-aged stand structure of at least three well-represented age classes
- including intermediate cuttings in immature age classes, concurrent with the harvest of mature timber or otherwise during the cutting cycle, to meet specified stand management goals (*IPT*).

SENSITIVE SPECIES

Those plant or animal species susceptible or vulnerable to activity impacts or habitat alterations (*IPT*).

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 becomes altered over time (*IPT*).

SIGNIFICANT RISK

Those circumstances resulting from the construction, use or rehabilitation of roads or linear access corridors which have a high probability of negatively compromising an identified resource feature or value.

SILVICULTURAL SYSTEMS

A planned cycle of activities by which a forest stand, or group of trees, is harvested, regenerated and tended over time (*IPT*).

SOIL CONSERVATION ACT

The *Soil Conservation Act* is companion legislation to the *Agricultural Land Commission Act*. The purpose of this legislation is to control the movement of soil and fill from and into land within the Agricultural Land Reserve.

SPECIAL MANAGEMENT AREA

A land use designation under the plan used to identify areas where enhanced levels of management are required to address sensitive values such as fish and wildlife habitat, visual quality, recreation and cultural heritage features, etc. The management intent is to maintain these values while allowing compatible human use and development (*IPT*).

SPECIES AT RISK

(a) any wildlife species that in the opinion of the deputy minister of MELP or a person authorized by that deputy minister is threatened, endangered, sensitive or vulnerable (b) any threatened and endangered plants or plant communities identified by the deputy minister of MELP or a person authorized by that deputy minister, as requiring protection, and (c) regionally important wildlife as determined by the deputy minister of MELP or a person authorized by that deputy minister (*FPC*).

STAND

A community of trees with common characteristics; one stand can be distinguished from another by age, species, site type and other ecological characteristics (*IPT*).

STAND ATTRIBUTES

Components of a forest stand that are to be retained to maintain biodiversity. These components include: dead wood, standing dead trees, coarse woody debris, large living trees, tree species diversity, structural diversity, and forest soils (*from: Biodiversity Guidebook, September 1995*).

STAND LEVEL

The level of forest management at which a relatively homogeneous land unit can be managed under a single prescription, or set of treatments, to meet well-defined objectives (*IPT*).

STRUCTURAL ATTRIBUTES

Components of a forest stand (including living and dead standing trees, canopy architecture and fallen trees) which together determine stand structure (*from: Biodiversity Guidebook, September 1995*).

SUITABILITY MAPPING

A habitat interpretation that describes the current potential of a habitat to support a species. Habitat potential is reflected by the present habitat condition or successional stage.

SUSTAIN

The utilization of a renewable resource under management procedures which ensure replenishment. Such replenishment is subject to overall ecological processes, and may vary spatially and temporally.

THREATENED OR ENDANGERED SPECIES

Indigenous species that are either threatened or endangered, and identified as 'red-listed' by MELP (*from: Biodiversity Guidebook, September 1995*).

TOPOGRAPHY

The general configuration of the land surface, including relief and position of natural and man-made features (*IPT*).

TRADITIONAL USE SITES

Any geographically defined site that has been traditionally used by one or more groups of people for some type of activity. These sites will often lack the physical evidence of human-made artifacts or structures, but will maintain cultural significance to a living community of people. Traditional use sites are usually documented with the assistance of oral, historical and archival sources. Examples of such sites include: sacred sites, ritual bathing pools, resource gathering sites and sites of legendary significance, or a past event of cultural significance (*IPT*).

TRIBUTARY

A stream that contributes its water to another stream or body of water (*IPT*).

TURBIDITY

Term used to describe the cloudy or hazy characteristics of water which is usually due to the presence of suspended particles of silt and clay (*from: Draft Community Watershed Guidebook, March 1996*).

UNGULATE

A hoofed mammal (pertaining to wildlife) (*IPT*).

VIALE POPULATION

A population that can withstand the normal cycles of environmental factors without going to extinction (*IPT*).

VISUAL QUALITY OBJECTIVE

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 concerns for the area (*from: Visual Impact Assessment Guidebook, April 1995*).

VULNERABLE SPECIES

Species that are not threatened or endangered but are sensitive and particularly at risk, and identified as 'blue-listed' by MELP (*from: Draft Wildlife Habitat Areas Field Guide, October 1994*).

WATER LEVEL STREAMFLOW

Measure of the water flowing in the stream at any point in time (*from: Draft Community Watershed Guidebook, March 1996*).

WATER QUALITY PARAMETERS

Includes turbidity, bacteria counts (total and faecal coliforms), and water level streamflow. These would be used to characterize existing water quality conditions and to establish a reference database for future comparison (*from: Draft Community Watershed Guidebook, March 1996*).

WATERSHED

An area drained by a particular stream or river. A large watershed may contain several smaller watersheds (*IPT*).

WATERSHED ASSESSMENT

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. The assessment has three levels:

- Level I: reconnaissance level analysis; identifies watersheds at risk and cumulative effects and identifies specific hazards that need to be addressed, such as peak flows, suspended sediment and landslides;
- Level II: an overview channel stability assessment, only conducted on streams that have a high impact based on Level I analysis;
- Level III: detailed field investigation by a watershed specialist on highly impacted streams and is used to develop management prescriptions to mitigate hydrological impacts (*IPT*).

WETLAND

Swamp, marsh or other similar area that supports natural vegetation that is distinct from the adjacent upland areas. More specifically, an area where a water table is at, near, or above the surface or where soils are water saturated for sufficient length of time that excess water and resulting low oxygen levels are principle determinants of vegetation and soil development (*IPT*).

WILDLIFE

(a) a vertebrate that is a mammal, bird, reptile or amphibian prescribed as wildlife under the *Wildlife Act*, S.B.C. 1982, c.57 (b) a fish, or including (i) any vertebrate of the order Petromyzoniformes (lampreys) or class Osteichthyes (bony fishes), or (ii) any 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 (*from: Wildlife Act*).

WILDLIFE CAPABILITY

Adaptability is the potential of a habitat unit to produce an animal species under specified technological controls, irrespective of the numbers of that species that are currently being produced on that unit (*IPT*).

WILDLIFE HABITAT AREA

A unit of land necessary to meet the requirements of identified wildlife (*IPT*).

As defined by the FPC regulations, means:

- a mapped area of land that the Deputy Minister of Environment, Lands and Parks, or a person authorized by that deputy minister, and the chief forester, have determined is necessary to meet the habitat requirements of one or more species of identified wildlife.

WILDLIFE HABITAT FEATURE

As defined by the FPC regulations, means:

- a significant mineral lick or wallow;
- an active nest of a bald eagle, osprey or great blue heron, or;
- any other feature agreed to by the district manager and a designated environment official.

WILDLIFE MANAGEMENT AREA

Areas of critical wildlife habitat or rare ecosystems that are administered by BCE. WMA's are not equivalent to wildlife habitat areas (WHA's) (*IPT*).

WILDLIFE TREE

A standing live or dead tree with special characteristics that provide wildlife 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 (*from: Biodiversity Guidebook, September 1995*).

WILDLIFE TREE PATCH

Synonymous with a *group reserve* and is an area specifically identified for the retention and recruitment of suitable wildlife trees. It can contain a single wildlife tree or many (*from: Biodiversity Guidebook, September 1995*).

WOODLOT

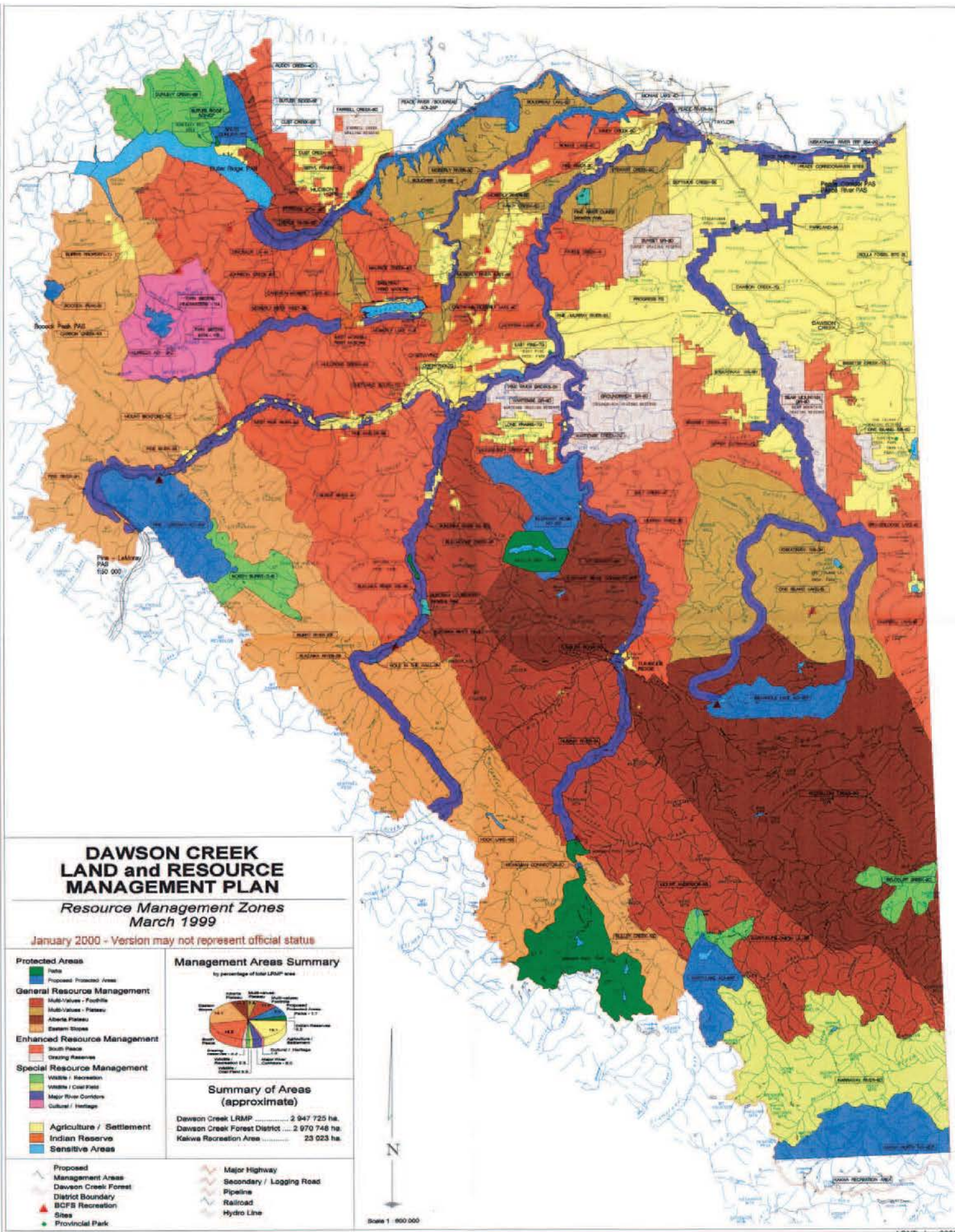
A license issued to an individual to manage a specific area of Crown timber, plus any private woodlands the individual owns. Requires the holder to file a management plan and to harvest at a pre-determined date (*IPT*).

YELLOW-LISTED SPECIES

Species identified by MELP that require a management emphasis on a regional basis (*from: Conservation Data Centre*).

Appendix A

Map of Dawson Creek Planning Area



Appendix B

Summary of Socioeconomic and Environmental Implications of the Dawson Creek LRMP

Introduction & Significance of the “Base Case”

This section provides a summary socioeconomic and environmental assessment of the impacts of the proposed Land Use Plan generated by the Dawson Creek LRMP Working Group (Version #4: May 1998) vs. the “Base Case” land use scenario. The Base Case consists of current/anticipated socioeconomic and environmental trends and the Inter-agency Planning Team’s (IPT) best estimate of the “default” land management regime that would occur in the absence of the LRMP. The assessment is a qualitative (i.e., descriptive) and quantitative (i.e., numeric) analysis of the key implications of the Plan vs. the Base Case, given existing knowledge of the cause/effect relationships between Crown land use changes and various socioeconomic/environmental values. Since the LRMP document is a strategic plan which provides “high level” direction to lower level planning, the assessment must also take a “broad-brush” approach and thus assesses only *the main differences between the Base Case and the proposed Land Use Plan*. The assessment utilizes the Geographic Information System (GIS) area statistics and resource analyses for timber, mining, and energy values undertaken by government agencies. The assessment was undertaken independently from the LRMP process, and was authored by the Economics Branch of the Ministry of Employment & Investment (with assistance from Robinson Consulting and J. Paul and Associates) and by Eliot Terry (R.P. Bio.) of Keystone Wildlife Research. The assessment is consistent with the approach specified in the provincial government’s *Social and Economic Impact Assessment for Land and Resource Management Planning in BC - Interim Guidelines*, 1993.

The Base Case includes the implications of the Timber Supply Review (TSR)¹ management regime, the Forest Practices Code (FPC), the Protected Areas Strategy, and other “current management” initiatives, e.g., the caribou and grizzly management intentions outlined in the most recent Dawson Creek TSA Allowable Annual Cut (AAC) determination by the Chief Forester.² The impacts of new Protected Areas are included in the Base Case since it was not felt appropriate to attribute their implications to the LRMP, given that the Protected Areas Strategy is a government initiative that would be implemented in the Plan Area (at the target level of an incremental 5.1% of the Plan Area) even if the LRMP did not exist.³ The Plan Area’s Resource Management Zones (RMZ’s) has been designated by the LRMP into 13 land use categories: Existing Parks, Proposed Protected Areas, four Special RMZ’s (Wildlife/Recreation, Wildlife/Coalfield, Major River Corridors, Cultural/Heritage), four General RMZ’s (Foothills, Plateau, Alberta Plateau, & Eastern Slopes), two Enhanced RMZ’s (South Peace & Grazing Reserves), and an Agriculture/Settlement RMZ. To simplify, these zones were grouped into six categories, as per Table 1.

¹ This can also be thought of as the “pre-Forest Practices Code” management regime. Note that by comparing the Land Use Plan only to the TSR regime, which does not include the FPC, the impacts of the Plan would be exaggerated.

² See *Dawson Creek Rationale for Allowable Annual Cut Determination*, Ministry of Forests, December 30, 1996, p. 30. It is apparent from this document that the Ministry of Forests intends on including and managing for at least 348,000 ha. of Caribou habitat and 369,000 ha. of Grizzly habitat (not including TFL land) in its Base Case management regime, which were not included in the TSR document of September 1994.

³ Normally in the Base Case, the government’s Regional Protected Areas Team (RPAT) Areas of Interest that were prioritized to meet the Plan Area’s provincial PAS target for Dawson Creek (an incremental 5.1% of the Plan Area) are used as the “best estimate of what would occur without an LRMP.” However, due to a mapping problem, this was not feasible for the Dawson Creek analysis. It should also be noted that the area statistics quoted in this report were generated when the former Chain Lakes proposed protected area was part of the proposed Land Use Plan, rather than the current Bearhole Lakes area - however, this will not affect the key conclusions reached in the assessment.

Table 1**Land Use Designations - Assessment vs. Land Use Plan**

Designations used in Assessment	Designations as per Land Use Plan Map
1. Enhanced RMZ's (34.9% of Plan Area)	Agriculture/Settlement Land Use Areas (13.1%) South Peace & Grazing Reserve RMZ's (21.8%)
2. Multi-Value Foothills and Multi-Value Plateau RMZ's (18.8%)	General Resource Management Zones (46.8%) (includes Multi-Value Foothills, Multi-Value Plateau, Alberta Plateau, and Eastern Slopes RMZ's)
3. Alberta Plateau RMZ (11.7%)	
4. Eastern Slopes RMZ (14.3%)	
5. Special Resource Management Zones (12.9%)	Special Resource Management Zones (12.9%) (includes Major River Corridors and Wildlife/Recreation, & Cultural/Heritage RMZ's)
6. Existing & Proposed Protected Areas (6.8%)	Existing (1.7%) & Proposed Protected Areas (5.2%)

In addition, in order to have an appropriate "benchmark" to compare the Plan to, the IPT labelled each RMZ (using the same designations as contained in the Land Use Plan) based upon what level of management would most likely prevail in both the TSR Regime and the Base Case regime. Table 2 provides a summary of the distribution of these land use designations for the TSR, Base Case and Land Use Plan.⁴ It is apparent that due to the combination of government initiatives in the Base Case and the "zoning" undertaken by the LRMP Working Group, significant changes in the Crown land management regime has occurred since the (pre-FPC) TSR regime of a few years ago.

Table 2**Resource Management Zones as a % of Gross Land Base of Plan Area***

	Protected Areas	Special RMZ's	Alberta Plateau RMZ's	Eastern Slopes RMZ's	Foothills & Plateau RMZ's	Enhanced RMZ's
TSR (pre-FPC)	1.7%	6.3%	-	-	-	92%
Base Case	6.8%	14.3%	11.7%	15.6%	14.4%	37%
Land Use Plan	6.8%	12.9%	11.7%	14.3%	18.8%	34.9%

* Gross Land Base of Plan Area estimated at 2,966,225 ha.

Forestry

The Ministry of Finance and Corporate Relations' (MFCR) economic dependency analysis (using 1991 Census labour force data) estimates that direct employment in the forest sector is about 1,470 jobs, or 12-14% of the local economy. Of the Plan Area's total Gross Land Base (GLB), an estimated 1,086,441 ha. of Crown land (786,295 ha. in coniferous and 300,146 ha. in deciduous leading stands) is considered available for supporting commercial forest harvesting activities, i.e., is the pre-FPC "Timber Harvesting Land Base" (THLB); note these amounts also include in Canfor's Tree Farm License #48. The standing

⁴ It should not be concluded that the overall management regimes in the Plan and those that would prevail in the Base Case are therefore almost identical.. While there may be little difference in terms of the gross area statistics, the key "value-added" by the proposed Land Use Plan are its publicly-crafted and documented management objectives and strategies, which form the key part of any Plan and would not exist in the Base Case.

volume of mature timber on the THLB is estimated to be almost 78 million cubic metres (m3) of coniferous leading stands (mainly spruce and lodgepole pine) and just over 26 million m3 of deciduous leading stands (aspen and cottonwood). There is also an estimated 66 million of immature coniferous and 11 million m3 of immature deciduous stands, which will support future harvest levels.

The deciduous component is almost entirely allocated under two Pulpwood Agreements (PA 10 and PA 13) of 452,000 m³ each, held by Louisiana Pacific. The fibre requirements, at full capacity, for their OSB plant in Dawson Creek and pulp mill in Chetwynd are about 600,000 m3/yr and 450,000 m3/yr respectively. Under the terms of these Agreements, the licensee is to make "best efforts" to find fibre from other than Crown sources. This would be supplemented by harvest from the Pulpwood Agreement to the extent the alternative sources fell short of the required volumes. Recent estimates are that only about 200,000 m3 annually is being harvested via the Pulpwood Agreements.

Potential harvest flow estimates were prepared by Timberline Forest Inventory Consultants for the (pre-FPC) TSR regime, Base Case, the Plan, and the Plan at the Landscape Unit level, with the latter using the Biodiversity Emphasis Options (BEO's) that the IPT expected would be implemented as of April 1997 (see Attachment) prior to the development of the Regional Landscape Planning Strategy (RLPS). The timber analysis concluded that there is no downward impact on the current harvest levels for the TSA Coniferous, TFL deciduous volumes, and only a marginal effect on TFL Conifer for either the Base Case or the Plan, simply because current harvest levels are far enough below the potential Long Term Harvest Levels to absorb the impacts; however, it is acknowledged that some opportunities for higher harvest levels are lost in the longer term. Even if the 100,000 m3/yr. unutilized small pine harvest is not counted, the attainable coniferous Long Term (sustainable) Harvest Level of 796,000 m3/yr. in the post-LRMP period is above recent actual average harvest levels.⁵ Details pertaining to the estimated timber harvest impacts are summarized in Table 3, with the area analysis breakdown of the Landscape Unit analysis contained in Table 4.

Table 3
Dawson Creek Forest District Estimated Long Term Harvest Levels ('000 m3/yr.)

	TSR (Pre-FPC)	FPC	PAS Areas	LRMP Strategies	Landscape Units*	Total	Current AAC
TFL Deciduous	66	58	57	57	54	54	54
TSA Deciduous	480	447	440	425	410	410**	887
TFL Coniferous	534	486	462	462	454	454	460
TSA Coniferous	986	886	846	846	796	796	747
TSA Small Pine***	-	-	-	-	52	52	100

Source: Timberline Forest Inventory Consultants, for the Ministry of Forests

* Using April 1997 anticipated Biodiversity designations, not the Interim BEO's resulting from the RLPS. Note for the RLPS, there is an estimated net change of 72,609 ha. of coniferous or mostly coniferous THLB in more constraining BEO's vs. the April 1997 scenario assessed by Timberline; there is also 67,795 ha. of deciduous THLB in less constraining BEO's. Thus the actual figures should be marginally lower for coniferous and marginally higher for deciduous.

** This LTHL would be reached in approximately 20-30 years

*** The timber supply analysis indicates that a harvest of 100,000 m3/yr. for 20 yrs. is achievable.

Table 4
Breakdown of Plan Area by Biodiversity Emphasis Category

⁵ There is an argument that the unallocated small pine resource should not be considered as a mitigating factor (due to the current inability of local mills to process the resource) used to lead one to the conclusion that there are no impacts on existing harvest/jobs from the LRMP and other government initiatives. However, even if one subtracts Timberline's estimated small pine potential harvest of 100,000 m3/yr. from the post-LRMP LTHL level of 896,000 m3/yr., it is apparent that the 1990-96 average harvest level of 771,000 m3/yr. (MoF Valuation Branch) can be maintained even without that resource. Moreover, many mills in the BC interior are utilizing Height Class 2 small pine, although incremental capital investments (likely several million dollars) are necessary for such utilization. For example, dimension lumber mills in the Prince George TSA are currently utilizing a 250,000 m3/yr. small pine license.

	Low Biodiversity	Intermediate Biodiversity	High Biodiversity	Protected Areas
Base Case (GLB)	56%	31%	6%	7%
Land Use Plan (GLB)	41%	41%	11%	7%
Base Case (THLB)	59%	31%	6%	4%
Land Use Plan (THLB)	43%	44%	9%	4%
RLPS* (THLB)	41%	50%	10%	n/a

* Refers to "Regional Landscape Planning Strategy" for PG Forest Region.

Note: GLB = Gross Land Base (2,966,225 ha.); THLB = Timber Harvesting Land Base (1,086,441 ha.)

The implications for the existing TSA deciduous component, due Base Case trends/initiatives, are a significant issue, however. In the TSR regime alone (i.e., even without the FPC, new Protected Areas, or the Plan), the potential deciduous harvest is projected to fall by 46% to 480,000 m³/yr over the next 30 years. The FPC⁶ is estimated to result in a further reduction in the Long Term Harvest Level (LTHL) to 447,000 m³/yr. New Protected Areas would have no impacts for 20 years, and then cause the LTHL to decline to 440,000 m³/yr., with the Plan resulting in a further decline to 410,000 m³/yr. The major forest product processing plants are in Chetwynd (two sawmills and a pulp mill) and Dawson Creek (an oriented strand-board or "OSB" plant). The combined deciduous requirement for the OSB plant and pulp mill is about 1 million m³/yr., but only about 200,000 m³/yr. of the current allowable harvest of 886,500 m³/yr is being cut. In addition, with a total standing mature deciduous volume of about 26 million m³/yr., supplemented by at least some non-Crown purchases, it appears that harvest (and therefore employment) impacts could be deferred for 10-20 years, subject to Chief Forester AAC determinations.

There are also two mitigating factors. First, the timber supply model assumes that the full AAC of 886,500 is being harvested - since it is not, the "step-down" to the LTHL should occur more slowly than indicated in Table 3. Second, deciduous supplies could be made available from other TSA's where not fully allocated, e.g., in the Ft. St. John TSA. This implies there is a low risk of foreseeable forest sector job impacts from harvest reductions due to Base Case or LRMP initiatives, although the risk is higher in 20-30 years for the current Dawson Creek OSB processor dependent on the deciduous resource.

Agriculture and Range

Agriculture has long been an important industry in the Dawson Creek Plan Area, with grains and oilseeds grown on private lands traditionally dominating. According to the 1991 MFCR analysis, the area's agriculture sector employed approximately 1200 area residents, contributing about 12% of overall employment and 6% of personal after-tax incomes.

The Plan recognizes this significance in part by designating 13.5% of the Plan Area as an Agriculture / Settlement RMZ, in addition to 3.3% in a Grazing Reserves RMZ. (As noted previously, for purposes of simplifying the assessment, these RMZ's are grouped with the Enhanced Resource Management RMZ, as they all comprise the least development-constraining zones proposed by the LRMP.) Note that crop production is primarily on private lands and therefore is not subject to LRMP recommendations.

Cattle ranching is highly dependent on use of Crown range for forage to sustain livestock in the summer months. There is a total of 307,190 ha of range tenures, covering 10% of the Plan Area. Of this total tenured area, about 3% falls within the proposed Protected Areas included in the Base Case and Land Use Plan. The Plan suggests that grazing be an allowable use in Protected Areas subject to a management plan, but future new opportunities would not be encouraged (Appendix "F").

⁶ Includes effects of riparian reserves and wildlife tree patches only.

In the Base Case, 82% of MoF tenured range land is overlain by the less restrictive RMZ's (i.e. Enhanced, Multi-Value Foothills/Plateau); this figure drops to approximately 75% in the Plan, but the General Management Direction in the document states as an objective that existing tenures are to be sustained (pp. 24, 174), including in new Protected Areas. There are also some objectives/strategies that are supportive for the sector contained in the General Management Direction (p. 24).

The Agricultural Land Reserve (ALR) covers 19% (558,648 ha.) of the Plan Area. Almost 90% of the ALR is contained in Enhanced RMZ's under the TSR Regime, with about 87% in Enhanced/Multi-Value (Foothills & Plateau) in the Base Case and 79% in the Land Use Plan. Only about 2% of ALR lands fall in proposed Protected Areas in the Base Case and Plan, and are predominantly Class 2, 3 & 4 (Canada Lands Inventory) in terms of agricultural capability; over 80% of this amount is located with the Peace-Boudreau proposed Protected Area, at least some of which may be precluded under the TSR regime due to the Crown flood reserve related to the potential future BC Hydro "Site C" project.

Therefore, while approximately 2% of the Plan Area's ALR lands are in proposed Protected Areas, there appears to be no significant or identifiable socioeconomic impacts (e.g., no job loss) on existing agricultural and range activities from the proposed Protected Areas or Land Use Plan management strategies. While there is some potential for an increase in costs of range activities due to both the FPC and certain Land Use Plan strategies, the Plan also recommends that these costs be mitigated with a source of funding such as the Grazing Enhancement Fund (p.135).

Energy

The Plan Area contains a rich endowment of energy resources including oil and natural gas, hydro-electric and geothermal potential. As of 1991, MFCR analysis indicates that about 400 residents of the Plan Area (centered mostly around Dawson Creek, and driving at least 4% of the local economy⁷) work in the petroleum industry, of which about half are engaged in processing the resource, with the remainder in the exploration/extraction sub-sector. It is these latter jobs that are most closely linked with changes in Crown land use in the short-medium term, since they are quite dependent on industry's ability/willingness to add to existing reserves; the processing (and downstream jobs) are more dependent on existing proven reserves and infrastructure and thus are less vulnerable in this shorter time horizon.

Research by the Geological Survey of Canada provides quantitative estimates of proven (i.e. discovered and economic) and potential (i.e. not presently discovered or economic, but likely) reserves of oil and natural gas in Northeast B.C. This work was used by the Ministry of Energy & Mines (MEM) to estimate reserves within the Plan Area. MEM concluded that proven oil/gas reserves are not affected by the Base Case or the Plan, since in both the Base Case and the Plan, over 90% of the proven oil/gas reserves are located in RMZ's where the constraints are not onerous enough to affect development of existing reserves. Note also that only 2% of all proven gas reserves and under 1% of proven oil reserves are precluded by new Protected Areas, and even in the Special RMZ's, the Plan has as an objective to "provide opportunities and access for oil and gas exploration, development, and transportation" (p. 26).

Relative to the TSR regime, access to potential reserves are reduced in the Base Case due to the Protected Areas and because of exploration cost increases from the implementation of the FPC. MEM estimated that these Base Case initiatives would reduce the potential reserves available for discovery by 1.2 Trillion cubic feet (Tcf), or 6% of the maximum available estimate of 21.6 Tcf, with half the reduction attributed to proposed Protected Areas. The LRMP management strategies outside of Protected Areas are estimated by MEM to further reduce available potential reserves available by an additional 1.4 Tcf.

⁷ It is likely higher than 4%, since an estimate from the Oil and Gas Section of the Ministry of Energy & Mines indicates there may be an additional 700-800 seasonal jobs taken by non-area residents which are not accounted for in the Census data. Also not included are jobs in "Utilities," most of which would be "downstream" gas distribution jobs.

The Plan also recommends directional drilling be permitted under the Peace River/Boudreau Lake "Goal 1" and under Kiskatinaw River and Klin-se-za "Goal 2" proposed Protected Areas (p. 132). This recommendation should mitigate a small portion of the impacts for this sector.

Proven and potential natural gas reserves will support current production rates in Northeastern B.C. for another 50 - 100 years. Neither the Base Case nor the Land Use Plan will cause the Plan Area to "run out" of gas or oil in the foreseeable future. Moreover, it is the demand for energy in distant markets and other events external to the Plan Area will largely influence the pace of development. Nevertheless, reductions in availability potential reserves due to access restrictions and other management strategies are likely to reduce exploration effort, production, employment and government revenues *over time and into the future from what they otherwise would have been.*

In 1995 Canadian Energy Research Institute (CERI) estimated the impact of removing Northeast B.C. land from oil and natural gas development⁸. A simulation model of the North American gas market (the North American Regional Gas model, originally developed by Decision Focus Inc. of California) was used to forecast demand for and production of BC gas in the face of land use changes. The key conclusion reached was that even with new Protected Areas, the FPC, and the Plan, gas production from the Plan Area and industry size is still expected to increase substantially over the next 20 years, just somewhat more slowly than would have occurred under the TSR regime.

The model was also used to approximate employment and government revenue impacts. Assuming that average Plan Area upstream resident employment is reduced proportionately by the amount of foregone available reserves, Table 5 indicates that the Base Case employment level would be 376 and the Scenario 20-year average employment would be 352 - note that both amounts are higher than estimated present employment. In addition, the "opportunity cost" of the Base Case plus the Plan in terms of foregone gas revenues over the next 20 years is about \$20 million annually less than what they otherwise would be (not vs. today's amount.) This amounts to about \$15 per B.C. household annually, based upon 1.373 million households as of 1994.

⁸ Canadian Energy Research Institute, *The Potential Impact of Land Use Restrictions of British Columbia's Natural Gas Supply*, September 1995.

Table 5**Estimated Resident Employment and Government Revenue Implications for the Dawson Creek Plan Area: 20-Year Average**

	TSR Regime (Pre-FPC)	Base Case Regime		Land Use Plan	Cumulative Result
		PAS	FPC		
Total Estimated Potential Gas Volume (Trillion cubic feet)	21.6	21 (-3%)	20.4 (-3%)	19.0 (-6%)	19.0 (-12%)
Average Total Resident Exploration/Extraction Jobs over 20 yrs. (1996 Jobs = ~330*)	400	388 (- 3%)	376 (-3%)	352 (-6%)	352 (-12%)
Average Annual Resource Revenue Cost in \$ millions (1994 Revenues = \$67 million)	0	\$8 mill.		\$12 mill.	\$20 mill.
Annual Revenue Cost per B.C. Household (Dollars)	0	\$6		\$9	\$15

Sources: MEM, CERl, Robinson Consulting, & Ft. St. John LRMP Base Case Report (ARA Consulting, March 1996)

There is not adequate inventory of the resource to assess the land use implications on the potential for Coal Bed Methane. However, it is an untapped (although presently uneconomic) resource that could mitigate a significant amount of the impacts on the conventional gas resource in the long term, assuming world market prices increase and/or technology improves sufficiently.

As of early 1998, there are 1,206,553 ha. of oil/gas tenured land in the Plan Area, of which only about 5% is considered to be in Special RMZ's under the TSR regime. In both the Base Case and the Plan, just over 1% are in or partly in proposed Protected Areas and approximately 38% are in the Special, Alberta Plateau, or Eastern Slopes RMZ's. . While there may be some cost implications for development and possibly some compensation issues, this situation is not likely to result in any significant impacts regarding existing tenure from the perspective of the overall industry in the Plan Area.

The 54 tenures potentially in conflict with new Protected Areas represents 3% of the total number of tenures in the Plan Area. However, 35 of these tenures lay wholly or partly within the proposed Peace-Boudreau Protected Area - while the Plan does not specifically suggest grand-fathering, it does recommend that these areas be designated for protection under the *Environment and Land Use Act* (rather than the *Park Act*) and proposals for further exploration and development be assessed on a case-by-case basis (pp. 130-131). All existing tenures in the Butler Ridge and Bearhole proposed Protected Areas are specifically mentioned for grand-fathering, however (pp. 38,41).

Table 6
Petroleum Tenures within Proposed Protected Areas

Proposed Protected Area:	Goal #:	Number of Active Tenures:	% of entire PPA covered by tenure (approximate):
Butler Ridge*	1	12 tenures	15%
Peace River/Boudreau Lake	1	35 tenures	30%
Bearhole Lake*	1	2 tenures	3.5%
Elephant Ridge	1	3 tenures	2%
Klin-se-za	2	1 tenure	100%
Peace Corridor River Sites	2	1 tenure	15%

* The LRMP recommends that these tenures not be impacted by a new Protected Areas.

As for hydro-electric resources, the provincial government maintains the necessary flood reserves required for a potential BC Hydro "Site C" project on the Peace River, but development does not appear to be in the crown corporation's current planning horizon. The Plan recommends that the proposed Peace River/Boudreau Protected Area not preclude the Site C project (pp. 130-131), which is consistent with the direction suggested by the Ft. St. John LRMP.

Mining

Coal

The coal resource dominates the Plan Area's mining sector. Coal mining accounts for almost 20% of the Plan Area economy. The workforce, most of whom reside in Tumbler Ridge, was recently down-sized at the Quintette and Bullmoose operations from about 1,300 to 1,000 individuals. Employment may decline further due to weak world coal markets and the fact that the current coal contracts for Quintette and Bullmoose are due to expire in 2003. There are also 100-200 jobs associated with industrial minerals and/or mineral exploration, located mainly in Dawson Creek. The undeveloped coal potential in the Plan Area is significant, for it is estimated that there are over a billion tonnes of measured reserves⁹ (G.G. Smith, *Coal Reserves of Canada*, 1989) in the Plan Area and the most recent estimate of coal tenured land is 99,482 hectares or 3% of the Plan Area.

The GIS analysis results in the following key area statistics:

- no existing or proposed coal mines would be alienated by new Protected Areas
- less than 0.5% of the 92,042 hectares (ha.) of High Potential Coal lands are overlain by proposed Protected Areas, and about 35% is covered by a combination of the Special Management, Alberta Plateau, and Eastern Slopes RMZ's where access is most restricted
- approximately 1.5% of the 138,929 ha. of Medium Potential Coal lands are alienated by proposed Protected Areas, and just under 35% is covered by portions of the Special Management, Alberta Plateau, and Eastern Slopes RMZ's
- virtually none of the 99,482 ha. in coal tenured lands conflict with proposed Protected Areas

⁹ Coal resources are classified into an hierarchy of "Measured," "Indicated," and "Inferred" Resources, with the former being that portion of the estimated resource that has the highest probability of being economic to mine at some point in the future. For purposes of comparison, the Quintette property has 90 to 150 million tonnes of measured reserves, and considerably more indicated/inferred reserves.

- of 25 developed coal prospects with defined reserves, one (Coal Ridge) is in the Kakwa North proposed Protected Area, one (Saxon)¹⁰ is in the Wildlife/Coalfield RMZ, three (Goodrich, Windfall, & Carbon Creek) are in the Eastern Slopes RMZ, and one (Wapiti) is in the Alberta Plateau RMZ.

The Plan states that mining is acceptable outside of Protected Areas (pp. 24-25). Therefore, very little of the known resource would be alienated outright and about 60% of High/Medium potential lands and 19 of 25 developed coal prospects remain in the relatively non-constraining Foothills, Plateau, and Enhanced/Agriculture-Settlement RMZ's. Thus there is no evidence that coal exploration and development activities would be reduced by the LRMP, but costs are likely to increase in those lands (i.e., the 30%-35% of High/Moderate coal potential lands and 10%-15% of tenured land in the Wildlife/Recreation, Wildlife/Coalfield, Alberta Plateau, and Eastern Slopes RMZ's¹¹) subject to somewhat more stringent access constraints. It should also be noted that the Wildlife/Coalfield Special RMZ is smaller when compared to a previous draft LRMP scenario (i.e., Version #1: January 1997.)

Metallic and Industrial Minerals

There are no metallic or industrial mines presently operating in the Plan Area but there are some intermittent placer operations. MEM indicates some 26,000 hectares of high potential land (1% of the Plan Area); high industrial mineral potential was identified on 129,000 hectares (4% of the Area). There are virtually no implications from Protected Areas, but virtually 100% of high metallic potential areas are in the Special/Eastern Slopes/Alberta Plateau RMZ's, as is about 60% of high industrial mineral potential, and up to 7 of 25 developed prospects. This may have some negative implications for future exploration, however the limited inventory suggests the area is quite under-explored and thus at least some activity could be diverted to the lesser constraining RMZ's.

Under 1% of the Plan Area is under tenure for mineral activities. However, in the past year, a claim for a phosphate resource was staked in a significant proportion of the proposed Wapiti Lake Protected Area. Because the LRMP does not recommend grand-fathering of this tenure, alienation under current PAS policy is implied along with a potential compensation/negotiation issue for government.

Tourism, Guide-Outfitting, and Recreation

Tourism Capability

The Plan Area offers a variety of both "front-country" and "back-country" tourism and recreation opportunities. As of 1991, tourism employed 750-800 workers (primarily in front-country occupations, i.e. Accommodation & Food Services, many of which rely heavily on business travellers) and accounted for up to 8% of the area economy. It is the back-country component that is more likely to be "nature-based," and therefore is more strongly linked to the management regimes on Crown land. A "tourism resource inventory" was undertaken for the Northeast region of B.C.¹² This capability mapping combines those resources which are important to a range of tourism activities and 34% of the Plan Area was judged to have "high tourism capability." Both the Base Case and Plan place about 3% of these lands in proposed Protected Areas and 25%-30% in Special Management, Alberta Plateau, and Eastern Slopes RMZ's, which

¹⁰ Subject to access/infrastructure considerations, the Saxon deposit appears quite promising and has a measured "run of mine" resource of 70 million tonnes, according to the proponent.

¹¹ As noted previously, the special access management strategy for these RMZ's states that there may be "access restrictions, or in special circumstances, site specific access prohibition." See pp. 86, 93, 112, and 120.

¹² Julie Paul and Associates was retained by Ministry of Small Business, Tourism and Culture to undertake this work, which involved rating the Northeast area of BC for future tourism capability based on various map overlays (e.g., wildlife/fish resources, scenic quality, water resources, existing tourism infrastructure, etc.) and consultation with area tourism businesses.

is a significant improvement over the (pre-FPC) TSR regime. The Plan also offers supportive management strategies as part of both the General Management Direction and in most RMZ's.

Guide Outfitting

There are portions (quite small, in some cases) of 14 Guide-Outfitting tenures covering approximately 93% of the Plan Area, with about half of these territories accounting for more than 100,000 ha. of territory in the Area. The Plan specifies that existing guide-outfitting opportunities will be sustained (pp. 20-21) which implies that current tenures will remain, including in new Protected Areas.

At present, 1.8% of the guide outfitting tenured land falls in existing parks. In the Base Case and Land Use Plan, this would increase to 6%-7% and seven guide outfitters would have a portion of their territories falling in new Protected Areas; also, 40-45% of the tenured land would be in Special Management, Eastern Slopes, or Alberta Plateau RMZ's. However, as resource development proceeds, there is still likely to be some deterioration in some species habitat/populations and wilderness attributes, which may place some nature-based businesses at risk in the long term.

Recreation

The Plan Area supports local resident and visitor use of a wide range of summer and winter activities. The Plan offers some management strategies that provide for a range of recreational activities, both motorized and non-motorized. In terms of "wilderness" attributes, according to the MoF Recreation Inventory, about 3% of the Plan Area is classified as "Primitive, Non-Motorized" (>8 km from a 4-wheel drive road & >5,000 ha.) and 29% is "Semi-Primitive, Non-Motorized (>1 km from a 4-wheel drive road & >1,000 ha.). The Plan places about 11% of these combined lands in Protected Areas and 55%-60% in the Special Management, Alberta Plateau, or Eastern Slopes RMZ's, which provides for a better opportunity to manage for these wilderness values vs. the current situation. The Goal 1 and Goal 2 proposed Protected Areas would preserve a significant amount of both front and back-country recreation opportunities and special features (pp. 38-45).

Considerable opportunities will continue to exist for motorized recreation, although winter recreation (e.g., snowmobile use) may be restricted in some areas, and motorized activities would not be allowed in the Klin-se-za Goal 2 Protected Area and is likely to be constrained in the Goal 1 Protected Areas, Special Management (excepting Major River Corridors) RMZ's, and the East Slopes RMZ.

Visual Quality

The Land Use Plan recognizes that scenic landscapes are valuable and important to the aesthetic integrity of the Plan Area. The General Management Direction has managing for scenic values in visually sensitive areas as its objective (p. 16), primarily through a future processes involving public consultation. There are currently 137,132 ha (5% of the Plan Area) which are identified as having a highly sensitive visual quality. Under the (pre-FPC) TSR regime, it is estimated that only about 26% of these areas are located in specially managed corridors. The Land Use Plan places approximately 17% in Protected Areas with about 40% in either Special Management, the Eastern Slopes, or Alberta Plateau RMZ's. Thus the combination of new Protected Areas and LRMP management objectives and strategies will result in lower visual impacts from resource development than the TSR regime, but the improvement may not go much beyond what would have occurred under the FPC.

In summary, there will be little noticeable impact on front-country tourism or on roaded recreation opportunities (which will still increase over time) as a result of the either Base Case initiatives (i.e. FPC, PAS, etc.) or the Plan. For outdoor/wilderness related tourism operations like guide-outfitters, the short/medium term benefits will likely be positive, but back-country wilderness values are likely to continue to be compromised over time.

Trapping

Trapping is a traditional resource use within the Plan Area. The furbearer populations of marten, fisher, lynx, coyote, wolf, fox and beaver (and others, including river otter, weasel, and wolverine, according to local trappers) are commercially harvested via 83 registered trapping areas within the Plan Area, many held by First Nations. There is very limited data on most of these species.

In the Land Use Plan's General Management Direction, it states that long term trapping opportunities are to be provided, with several supportive management strategies, including the need to identify and manage critical furbearer habitat, primarily for marten, fisher, and lynx (p. 20). The Plan also states that trapping be an allowed use in all Goal 1 and Goal 2 proposed Protected Areas, with maintenance of existing full trapping rights (p.133).

Over the longer term, the environmental assessment concludes that even with the Plan, marten populations are likely to decline over the next 50-100 years as mature coniferous forests are harvested.

No mapped fisher (which is blue-listed) habitat was available for this assessment, but in Base Case it is likely that this species will continue to decline in population, in part due to losses in habitat and possibly also due to excessive trapping activity (the latter is exacerbated by new access.) The management strategies outlined in the Plan may reduce the rate of decline, especially in the Major River Corridors RMZ where important habitat is believed to exist.

Such trends may lead to losses in trapping income from these species over that time frame, although world prices and market demand will also play an important role.

Communities / First Nations Implications

The four communities with the highest populations are Dawson Creek, Tumbler Ridge, Chetwynd, and Hudson's Hope. Overall, the Dawson Creek Plan Area is one of the more economically diversified resource-based regions in the province, given the significance of the five key industrial sectors, i.e. Mining, Forestry, Agriculture, Energy, and Tourism. Public sector jobs and government transfer payments also bring in about 36% of all incomes, which lends considerable stability to the area when there are fluctuations in the private sector activities. Tumbler Ridge, however, is the most dependent on a single industry, with 76% of its economy being driven by the coal mines (the future of which are highly uncertain) and Chetwynd is one of the more forestry dependent communities in B.C. (although some diversification is provided by the pulp mill) with 30% of its local economy accounted for by that sector.

There are no losses in existing resident jobs (although there will be some foregone opportunities, primarily in the forestry and petroleum sectors) that can be identified and associated with either Base Case initiatives (i.e., the FPC or new Protected Areas) or the Land Use Plan. However, as noted in the Forestry section, due almost exclusively to the existing current management situation and the FPC, the allowable deciduous harvest (only about 20% of which is currently being utilized) is likely to be reduced by over the next 30 years. This would likely only have job implications no sooner than 10-20 years from now, and only if the licensees in Dawson Creek (OSB mill) and Chetwynd (pulp mill) are unable to secure adequate fibre supplies from private lands or Crown sources in other TSA's. Given its relatively low level of economic diversification, the economic stability of Chetwynd would be most affected of all the Plan Area communities by any significant future curtailment of forest product processing.

The three aboriginal communities in the Plan Area are the Kelly Lake Metis, West Moberly, and Saulteau Lake First Nations. These individuals number 600-700 on reserve, with several hundred also living off-reserve. The implications of the Plan on aboriginal peoples are difficult to assess since participation in the LRMP process was infrequent and no mapping of their resource values was available. However, the Plan attempts to address key First Nations interests by including a number of supportive objectives and strategies, including avoidance of unjustifiable infringement of aboriginal and treaty rights, enhancing

aboriginal participation in future planning, conservation of cultural/heritage resources (pp. 17-19). The Plan also specifies continuation of First Nations use of proposed Protected Areas for sustenance and other traditional activities, subject to conservation objectives (p. 37).

A key aspect of the Plan, designed to address some specific environmental and cultural concerns of the West Moberly and Sauteau First Nations, is the establishment of the Twin Sisters Special Management RMZ, which surrounds the Klin-se-za proposed Protected Area. For example, the proposed Biodiversity Emphasis Option is intermediate to high, there are numerous strategies to conserve fish and wildlife values, recreation activities are to be restricted, First Nations and development interests are to engage in cooperative planning, and new access development is to be minimized (pp. 124-129).

In general, the proposed Protected Areas and those RMZ's slated for more sensitive management regimes will better preserve key aboriginal values than otherwise would be the case. For example, there are important First Nations cultural values contained in the Klin-se-za, Butler Ridge, Pine/LeMoray, and Peace River/Boudreau proposed Protected Areas that would no longer be at risk from resource development.

Environmental Assessment

Protected Areas and Ecosystem Representation

Seven "Goal 1" (146 889 ha) and 9 "Goal 2" (5 328 ha) Protected Areas are contained in the proposed Land Use Plan. These proposed Protected Areas (including existing parks) represent 6.75% of the Plan Area. The Land Use Plan would provide similar ecosystem representation as the Base Case, which would achieve representation in all 6 ecosections and 6 of 6 major subzone/variants. Although about 3.6 % of the BWBSmw1 is allocated to Protected Areas, a relatively large percentage (57%) remains in Enhanced RMZ's which poses relatively high risks to these ecosystems.

Biodiversity and Old Growth Forests

The Land Use Plan moderately reduces the risks to biodiversity compared to the Base Case by decreasing the amount of the Timber Harvesting Land Base (THLB) in Low Biodiversity from about 59% in the Base Case to approximately 41%, with the latter assuming implementation of the interim BEO options suggested by the Regional Landscape Planning Strategy. This results in more of the Plan Area (i.e., landscape units) being managed to meet Intermediate (50%) and High Biodiversity (10%) age class objectives. Overall, the relative proportions of BEO's proposed by the Land Use Plan closely reflects the suggested guideline of 10% High, 45% Intermediate, and 45% Low outlined in the FPC *Biodiversity Guidebook* and therefore can also be viewed as a very similar to the Base Case.

About half of the old growth coniferous forests and half of the mature deciduous forests occur in the THLB, with the remainder distributed in forested exclusions. Species dependent on mature and old deciduous stands are at high risk in both the Base Case and the Land Use Plan. This is largely due to the relatively high percentage of mature deciduous forests that occurs in the THLB and allocated to Enhanced RMZ's, i.e., 59% and 52% for the Base Case and Land Use Plan respectively.

Overall, the proposed Biodiversity Emphasis Options (BEO's) together with the age class projections reported in the *Timber Supply Review* suggest species dependent on early seral habitats will potentially benefit due to an increase in habitat availability over time while those dependent on mature and old seral forests will be at increased risk due to decreasing habitat supply over time.

Marten

Both the Base Case and the Land Use Plan allocate about 25% of high capability marten habitat to RMZ's assumed to pose relatively low risks (i.e., Protected Areas and Special Management). The remaining marten habitat occurs in General and Enhanced RMZ's and are considered to pose relatively high risks to marten habitat due to the low to intermediate Biodiversity Emphasis Options (BEO's) proposed for these RMZ's. These designations suggest marten habitat supply will become limiting over time which will result in lower population levels. Consequently, both the Base Case and Land Use Plan will result in lower densities of marten over the long term as mature forests are harvested over the next 50-100 years.

The objectives and strategies outlined by the Land Use Plan to maintain furbearer habitat (e.g., incorporate wildlife habitat features and known furbearer refuge areas into operational plans) may mitigate to some degree the potential decline of furbearers over time. Alternative silvicultural systems proposed in the Eastern Slopes RMZ may also help reduce the risks to marten habitat by maintaining adequate forest cover and structural attributes (e.g., large coniferous trees, coarse woody debris).

Mountain Goat

Both the Base Case and the Plan have almost half of the high capability mountain goat habitat in RMZ's that pose relatively low risks (i.e., Protected Areas 21% and Special Management 25%). The remaining goat winter range is distributed among the Eastern Slopes and Foothills/Plateau RMZ's and is considered to pose moderate to high risk levels. However, the special access management proposed for the Eastern Slopes subzone will partly mitigate potential negative impacts of an increased road network.

Woodland Caribou

Although no specific management regime is in place, the AAC *Rationale* identified caribou as a management priority where forest cover requirements would likely be managed to meet high biodiversity age class objectives. Consequently, the Base Case outlook for caribou habitat in this portion of the Plan Area is generally positive. However, the proposed Land Use Plan improves the outlook for caribou slightly by providing further direction to landscape and stand-level planning processes. The majority of the woodland caribou habitat would be managed according to the directions outlined for the Alberta Plateau RMZ. This area includes summer and winter habitat for resident caribou as well as low elevation winter habitat (predominately lodgepole pine forests) for an inter-provincial herd of woodland caribou that migrate between Alberta and British Columbia. Specifically, the Plan provides management direction to maintain large contiguous patches of mature and old seral forest, extend timber harvesting rotations to reduce the potential negative impacts of reduced winter habitat supply over the long term and manage access through the use of special access management strategies (e.g., deactivation, road restrictions).

Stone's Sheep and Rocky Mountain Bighorn Sheep (Blue-listed)

Both the Base Case and the Plan provide low to moderate risks to mountain sheep. This is largely due to about two-thirds of sheep winter range being contained in new Protected Areas. The remaining sheep winter range that occurs outside of the Protected Areas lies within Special Management RMZ's (i.e., Wildlife/Coalfield RMZ) which poses increased risks to sheep populations, primarily due to increased road and seismic line access. However, the Plan also provides explicit special access management strategies (e.g., access restrictions, deactivation) within the Wildlife/Coalfield RMZ, which will help reduce the potential adverse effects of increased road access (e.g., disturbance, poaching). The ability of access management strategies to significantly reduce the risks to sheep populations will vary with the effectiveness of the measures implemented and how well they are enforced.

Elk

The outlook for elk is generally positive under both the Base Case and the Land Use Plan. However, the Plan improves the outlook for elk slightly by providing a more even distribution of Biodiversity Emphasis Options that appear more compatible with maintaining elk habitat. The Land Use Plan (assumed to be consistent with the RLPS) reduces the amount of elk winter range in Low Biodiversity landscape units from over half in the Base Case to about one-third, and increases the amount of winter range in Intermediate Biodiversity from under one-fifth to about one-third. The Plan further improves the outlook by outlining objectives and strategies to maintain and enhance ungulate winter range. However, uncertainty remains with regard to access management; and therefore risks remain for elk and other ungulates. It also provides direction designed to reduce conflicts with agriculture and other domestic grazing livestock.

Grizzly Bears (Blue-listed)

Although the most recent AAC *Determination* indicated high capability grizzly bear habitat (NDT1) would be managed (in the interim) to meet intermediate biodiversity age class objectives, considerable uncertainty remains regarding access management. Therefore, relatively high risks remain to grizzly bears in the Base Case over the short and long term. The Land Use Plan addresses these concerns and attempts to minimize the risks to grizzly bears by providing special access management (e.g., seasonal road restrictions), winter harvesting to reduce bear/human conflicts and the encourages the use of alternative silvicultural systems to maintain forest cover in appropriate areas. It also reduces the risks to grizzly bear by providing more mature forest cover compared to the Base Case via reducing the amount in Low Biodiversity and substantially increasing the amount in High Biodiversity, again assuming that the RLPS is consistent with the Land Use Plan.

While this BEO distribution and the management objectives and strategies outlined in the Plan reduce the risks to grizzly bears, it should be emphasized that the cumulative impact of resource development activities that will occur over time in the Eastern Slopes RMZ will be substantial relative to grizzly bear survival. Therefore, the ability of access management strategies to significantly reduce the risks to grizzly bears will vary with the effectiveness of each measure(s) implemented and how well they are enforced.

Riparian Habitat

Although implementation of FPC *Riparian Management Area (RMA) and Lakeshore Management Guidebooks* will reduce the impacts to riparian values (e.g., fish habitat, hydrological function), primarily by retaining trees along *Riparian Reserve Zones*, discretionary management practices in RMZ's suggests moderate risks remain to fully maintain functional riparian ecosystems. Consequently, the Base Case trend is generally positive for fish and wildlife species that benefit from narrow riparian buffers, however, the extent to which riparian values are fully maintained will vary according to how well the suggested management practices outlined in the RMA Guidebook are followed.

The Plan reduces the risks to riparian values by designating the Major River Corridors RMZ as Special Management. In addition, 75 km of the Peace River has been proposed as one of seven "Goal 1" Protected Areas (i.e., Peace River/Boudreau). It also enhances riparian and regional connectivity by extending the Major River Corridors RMZ to include both the East and West Kiskatinaw Rivers and the Bearhole proposed Protected Area.

Overall, the designation of the Major River Corridors RMZ as Special Management as well as the objectives and strategies in the Land Use Plan provide increased certainty that riparian values will be addressed in lower level planning processes, thereby reducing the risks to species and ecological processes dependent on riparian ecosystems over much of the Plan Area.

Warblers

Almost two-thirds of the high capability warbler habitat occurs in Enhanced RMZ's in the Base Case which suggests some warbler species are at very high risks due to declining amounts of mature and old forests. In addition, almost all (95%) of the high capability warbler habitat will be managed to meet Low Biodiversity age class objectives, which further suggests very high risks to warblers that require large contiguous areas of mature forests. Therefore, the Base Case outlook for warblers dependent on mature is extremely poor, due to declining habitat availability over time, resulting in significantly lower abundance levels. For some warbler species and other passerine songbirds, however, retention of *Wildlife Tree Patches* (WTP's) required under the FPC, as well as trees retained in inoperable areas, may provide adequate habitat and partly reduce the risks from forest harvesting.

The Land Use Plan / Regional Landscape Planning Strategy would significantly reduce the risks to warblers by shifting about 37% of high capability warbler habitat from Low Biodiversity to Intermediate. The Plan also provides management strategies to identify and map red and blue-listed songbirds which suggests increased certainty that warblers will be addressed during landscape and stand-level planning. In addition, management strategies that attempt to incorporate the habitat requirements of warblers into Mixed wood management further suggests reduced risks to bird species dependent on Mixed coniferous-deciduous forests. However, over half of the high capability warbler habitat remains in landscape units that will be managed to meet Low Biodiversity age class objectives, indicating relatively high risks to some warbler species would continue.

Overall, the proposed allocation of RMZ intensity categories and likely BEO's would result in increased habitat for warbler species that prefer younger seral forests, as well as those that can successfully survive and reproduce in edge-dominated landscapes. However, for species that require large contiguous patches of mature and old forests, these songbirds remain at high risk in managed forests and would occur at lower abundance compared to natural levels, even with the Plan.

Table 7
Dawson Creek LRMP - Anticipated Biodiversity Options for Landscape Units

Landscape Unit	THLB (ha.)	Biodiversity Designation		
		Base Case*	Land Use Plan (April 1997)**	Interim BEO** (May 1998)
	Total: 1,086,444 ha.			
Beaudette	22,890 (Coniferous)	I	I	I
Belcourt	17,554 (Coniferous)	I	H	I
Beryl Prairie	16,750 (Deciduous)	L	L	L
Burnt River	33,139 (Coniferous)	I	I	H
Carbon	34,209 (Coniferous)	I	I	I
Dawson Creek	19,707 (Deciduous)	L	L	L
Dunlevy	12,694 (Mixedwood)	H	H	H
Flatbed	44,423 (Mostly Coniferous)	I	L	I
Gething	29,715 (Coniferous)	I	L	L
Gwillim	37,293 (Mostly Coniferous)	I	H	I
Hasler	59,204 (Coniferous)	I	L	L
Imperial	11,678 (Coniferous)	H	I	H
Johnson Creek	32,519 (Mixedwood)	L	L	L
Kinuseo	14,873 (Coniferous)	L	I	I
Kiskatinaw	38,703 (Deciduous)	L	L	L
Lower Moberly	51,840 (Deciduous)	L	I	L
Lower Murray	40,890 (Deciduous)	L	L	L
Lower Sukunka	47,313 (Mostly Coniferous)	L	L	L
Monkman	6,808 (Coniferous)	I	I	I
Narraway	8,490 (Coniferous)	H	H	I
One Island	120,260 (Mixedwood)	L	I	I
Peace River	15,955 (Deciduous)	I	H	I
Pine Pass	31,662 (Coniferous)	H	H	I
Pine River	51,186 (Mixedwood)	I	L	L
Puggins	55,863 (Deciduous)	L	L	L
Red Deer	19,692 (Coniferous)	I	I	I
Redwillow	45,880 (Mostly Coniferous)	I	I	H
Septimus	38,012 (Mixedwood)	I	I	I
Upper Sukunka	32,693 (Coniferous)	I	I	I
Upper Moberly	38,390 (Mostly Coniferous)	I	I	I
Wapiti	23,670 (Coniferous)	I	I	I
Wolverine	32,488 (Coniferous)	I	L	I

* IPT best estimate of likely Biodiversity designation in the absence of an LRMP.

** Middle column is the April/97 initial IPT interpretation of Biodiversity based upon Land Use Plan document. Interim BEO options are the more likely biodiversity assignments based on the ongoing Regional Landscape Planning Strategy.

Note: All existing/proposed Protected Areas are designated as "Protected" in the Base Case and the Land Use Plan and any overlap of Protected Areas (with above Landscape Units) take precedence over the Landscape Unit Biodiversity labels.

Appendix C

Dawson Creek LRMP Working Group

Sector	Representative
Ranching/Agriculture	Carl Rose Darwin Dunbar
Tourism/Economic Development	Fred Banham Ella Fraser
Trapping	James Rhymer Carl Gitscheff
Environment	Wayne Sawchuk Ron Hunter
Recreation (consumptive)	Carl Gitscheff Jere Franklin
Recreation (non-consumptive)	Court Wright Bud Grunewald
Guide Outfitter	Gary Koopman
Oil and Gas (CAPP)	A.C. (Sandy) Laing Doug Mead Craig Popoff
Mining	Kim Bittman
Forest Sector Coniferous	Tony Fazekas Jim Magowan
Forest Sector Deciduous	Lyle Mortenson Mike Byl
Small Business	Steve Rison
Organized Labour	Jeff Hecker
Local Government	Joe Judge Bob Nicholson
Saulteau First Nations	Art Napoleon
B.C. Hydro	Bob Westcott
Utilities and Transmission	R.A. (Richard) Williams

Appendix D

Red and Blue Listed Species

(Conservation Data Center)

B.C. Conservation Data Centre: Rare Vertebrate Animal Tracking List
Dawson Creek Forest District (FD #47)
June 10, 1996

Common Name	Latin Name	Provincial List
Birds		
American Bittern	<i>Botaurus lentiginosus</i>	Blue
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Yellow
Black-Throated Green Warbler	<i>Dendroica virens</i>	Red
Broad-Winged Hawk	<i>Buteo platypterus</i>	Blue
Canada Warbler	<i>Wilsonia canadensis</i>	Blue
Cape May Warbler	<i>Dendroica tigrina</i>	Red
Connecticut Warbler	<i>Oporornis agilis</i>	Red
Nelson's Sharp-Tailed Sparrow	<i>Ammodramus nelsoni</i>	Red
Philadelphia Vireo	<i>Vireo philadelphicus</i>	Blue
Short-Eared Owl	<i>Asio flammeus</i>	Blue
Trumpeter Swan	<i>Cygnus buccinator</i>	Blue
Upland Sandpiper	<i>Bartramia longicauda</i>	Red
Yellow-Bellied Flycatcher	<i>Empidonax flaviventris</i>	Blue
Freshwater Fish		
Arctic Grayling, Williston Watershed Population	<i>Thymallus arcticus pop 1</i>	Red
Bull Trout	<i>Salvelinus confluentus</i>	Blue
Northern Redbelly Dace X Finescale Dace	<i>Phoxinus eos X</i>	Red
	<i>Phoxinus neogaeus</i>	
Pearl Dace	<i>Margariscus margarita</i>	Blue
Mammals		
Fisher	<i>Martes pennanti</i>	Blue
Grizzly Bear	<i>Ursus arctos</i>	Blue
Northern Long-Eared Myotis	<i>Myotis septentrionalis</i>	Red
Rocky Mountain Bighorn Sheep	<i>Ovis canadensis canadensis</i>	Blue
Wolverine, Luscus Subspecies	<i>Gulo gulo luscus</i>	Blue
Woodland Caribou, Southern Population	<i>Rangifer Tarandus pop 1</i>	Blue

B.C. Conservation Data Centre: Rare Vascular Plant Tracking List
Dawson Creek Forest District (FD #47)
November 12, 1996

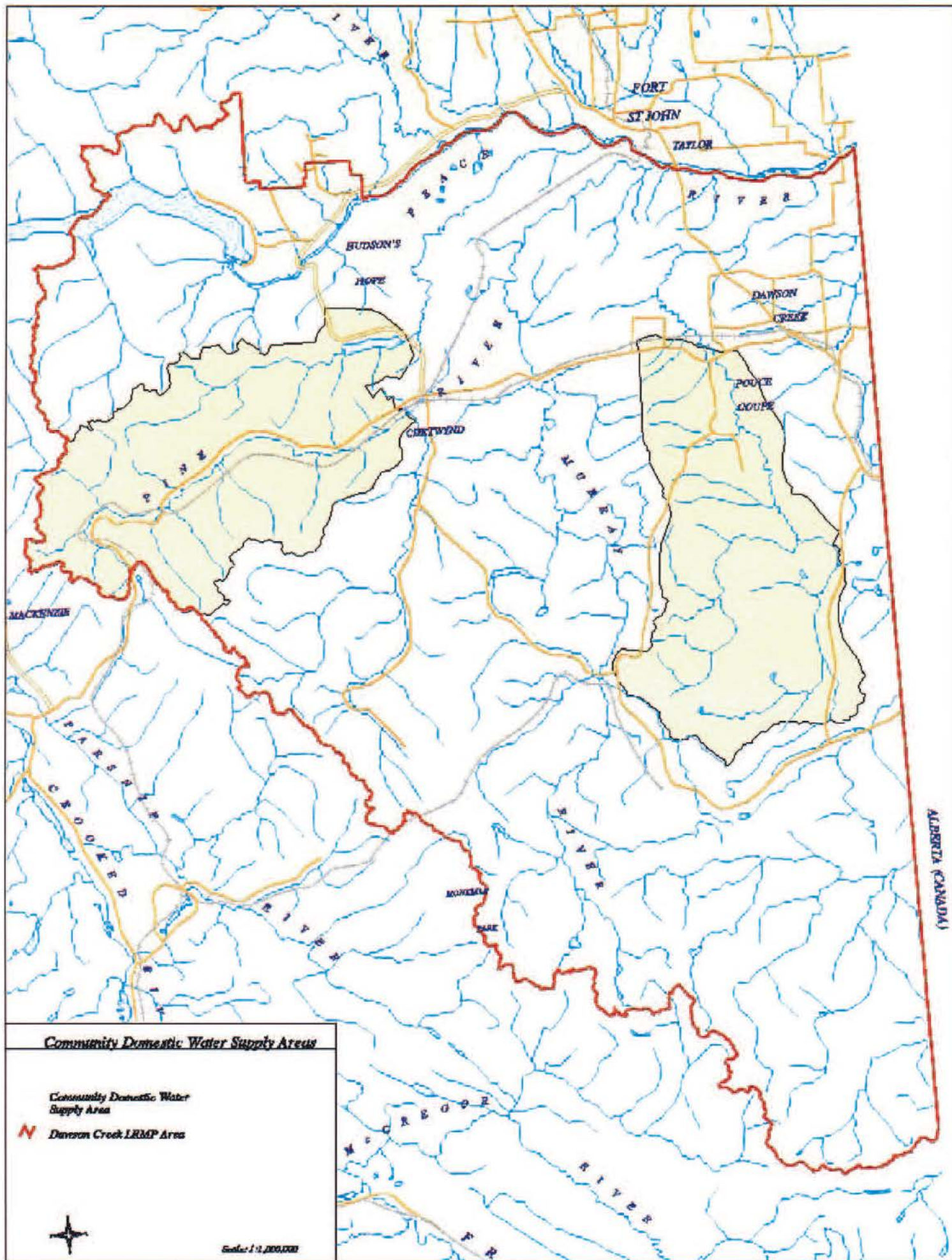
Common Name	Latin Name	Provincial List
Ferns and Allies		
Least Moonwort	<i>Botrychium simplex</i>	Blue
Dicots		
Canada Anemone	<i>Anemone canadensis</i>	Blue
Woody-branched Rockcress	<i>Arabis lignifera</i>	Blue
Boreal Paintbrush	<i>Castilleja fulva</i>	Red
Golden Carpet	<i>Chrysosplenium iowense</i>	Red
European Water Hemlock	<i>Cicuta virosa</i>	Blue
Alpine Draba	<i>Draba alpina</i>	Blue
Austrian Draba	<i>Draba fladnizensis</i>	Blue
Milky Draba	<i>Draba lactea</i>	Blue
Small-flowered Willowherb	<i>Epilobium leptocarpum</i>	Blue
Woolly Daisy	<i>Erigeron lanatus</i>	Blue
Three-lobed Daisy	<i>Erigeron trifidus</i>	Red
Arctic Eyebright	<i>Euphrasia Arctica</i> var. <i>disjuncta</i>	Blue
Nuttall's Sunflower	<i>Helianthus nuttallii</i> var. <i>nuttallii</i>	Red
Northern Sandwort	<i>Minuartia elegans</i>	Blue
Jordal's Locoweed	<i>Oxytropis jordalii</i> ssp. <i>davisii</i>	Blue
Tall Jacob's Ladder	<i>Polemonium caeruleum</i> ssp. <i>amygdalinum</i>	Blue
Seneca-root	<i>Polygala senega</i>	Red
Purple Rattlesnake-root	<i>Prenanthes racemosa</i> ssp. <i>multiflora</i>	Red
White Wintergreen	<i>Pyrola elliptica</i>	Blue
Heart-leaved Buttercup	<i>Ranunculus cardiophyllus</i>	Red
Birdfoot Buttercup	<i>Ranunculus pedatifidus</i>	Blue
Prairie Buttercup	<i>Ranunculus rhomboideus</i>	Red
Arkansas Rose	<i>Rosa arkansana</i>	Blue
Meadow Willow	<i>Salix petiolaris</i>	Blue
Autumn Willow	<i>Salix serissima</i>	Blue
Common Pitcher-plant	<i>Sarracenia purpurea</i> ssp. <i>purpurea</i>	Blue
Tall Butterweed	<i>Senecio serra</i>	Blue
Edible Valerian	<i>Valeriana edulis</i> ssp. <i>edulis</i>	Blue

B.C. Conservation Data Centre: Rare Vascular Plant Tracking List
Dawson Creek Forest District (FD #47)
November 12, 1996

Common Name	Latin Name	Provincial List
Monocots		
Plains Reedgrass	<i>Calamagrostis montanensis</i>	Red
Pointed Broom Sedge	<i>Carex scoparia</i>	Blue
Slender Sedge	<i>Carex tenera</i>	Blue
Torrey's Sedge	<i>Carex torreyi</i>	Blue
Dry-land Sedge	<i>Carex xerantica</i>	Blue
Sheathed Cotton-grass	<i>Eriophorum vaginatum ssp. spissum</i>	Blue
Slender Mannagrass	<i>Glyceria pulchella</i>	Blue
Spike Oat	<i>Helictotrichon hookeri</i>	Blue
Smith's Melic	<i>Melica smithii</i>	Blue
Canada Ryegrass	<i>Oryzopsis canadensis</i>	Red
Sprange-top	<i>Scolochloa festuacea</i>	Blue
Prairie Wedgegrass	<i>Sphenopholis obtusata var. major</i>	Red

Appendix E

Map of Community Domestic Water Supply Areas within the Dawson Creek Planning Area



Appendix F

Compatibility of selected activities, services and use in Protected Areas

Activity/Use/Facility	Allowed/Not Allowed	Comments
Logging	Not allowed	As approved by Cabinet (PAS)
Mining	Not allowed	As approved by Cabinet (PAS)
Oil and Gas Exploration and Development	Not allowed	As approved by Cabinet (PAS)
Hydroelectric Development	Not allowed	As approved by Cabinet (PAS)
Grazing	Allowed subject to the Protected Area Management Plan (PAMP)	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 (PAMP).
Hunting	Allowed subject to the PAMP	
Fishing	Allowed subject to the PAMP	
Fish stocking and enhancement	Allowed subject to the PAMP	The use of species or stocks not native to the watershed will not be allowed.
Trapping	Not allowed/existing tenures grandparented	May be permitted for expressed management purposes as defined by PAMP. Existing tenures are normally renewable and transferable.
Horse Use	Allowed subject to the PAMP	Limited to designated zones and/or trails.
Pack Animal Use	Allowed subject to the PAMP	Limited to designated zones and/or trails.

Activity/Use/Facility	Allowed/Not Allowed	Comments
Water Control Structures	Allowed subject to the PAMP	Only in intensive recreation zones to enhance recreational opportunities or for expressed management purposes as defined by PAMP. Infrastructure existing at the time of area establishment normally allowed to remain.
Powerline/Transmission Line and Other Rights-Of-Way	Not allowed	Allowed if there are no practical and feasible alternatives. If present at time of area establishment, normally allowed to continue.
Communication Sites	Not allowed	Allowed for essential Protected Area management communication needs or if there are no practical or feasible alternatives. If present at time of area establishment, normally allowed to continue.
Commercial Guiding Hunting Fishing Nature, Wildlife, Photo Tours River Rafting	Allowed subject to the PAMP	Permits from managing agency will be required.
Tourism-Related Infrastructure Resorts	Not allowed	
Lodges/Cabins Guest Ranches Backcountry Huts	Allowed subject to the PAMP	As approved by Cabinet (PAS). Facilities existing at time of area establishment allowed to remain.
Roads within Protected Areas	Allowed subject to the PAMP.	New road developments must be identified in management plans.
Off-Road Activities Snowmobiling	Allowed subject to the PAMP	Limited to designated zones and/or trails.

Activity/Use/Facility	Allowed/Not Allowed	Comments
Motorized Activities (vehicles with motors)	Not allowed	Limited to designated zones and/or trails.
Mechanical Activities (vehicles which are not motorized, e.g., mountain bikes)	Allowed subject to the PAMP	Limited to designated zones and/or trails.
Water: Motorized Activities	Allowed subject to the PAMP	
Aircraft Access	Allowed subject to the PAMP	For destination access purposes only (drop visitors off)
Heli-Skiing	Allowed subject to the PAMP	
Heli-Hiking	Allowed subject to the PAMP	
Cat-Assisted Skiing	Allowed subject to the PAMP	
Fire Management: Wildfire Management	Allowed subject to the PAMP	Wildfires are a naturally occurring ecological process. Policy recognizes need to protect public safety/facilities, values on adjacent lands, etc.
Prescribed Fire Management	Allowed subject to the PAMP	Only for expressed management purposes as defined by a Protected Area Management Plan.
Prevention and Preparedness	Allowed subject to the PAMP	
Insect/Disease Control	Allowed subject to the PAMP	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. Commercial logging to remove infected trees may be allowed.

Activity/Use/Facility	Allowed/Not Allowed	Comments
Exotic Organisms Control	Allowed subject to the PAMP	
Scientific Research	Allowed subject to the PAMP	Manipulative activities normally not allowed. Specimen collections only allowed if the research results in increased scientific knowledge (e.g., geology, forestry, etc.) or protection and/or understanding of Protected Area values. Permits from managing agency will be required.
Ecosystem and Habitat Restoration	Allowed subject to the PAMP	

Appendix G

Directional Drilling under proposed Protected Areas

Minutes from Subcommittee on Directional Drilling under proposed Protected Areas, Sept. 6, 1995

Wayne Sawchuk of CES, Rob McManus from CAPP, Rob Jeffries and Sandy Laing of Amoco, George Smith from CPAWS, Don Mitchell of the World Wildlife Fund and Craig Popoff of Canadian Hunter met on December 6th to determine if the oil and gas industry and the environmental representatives could reach consensus on areas that might be appropriate for directional drilling under proposed Protected Areas in the Fort St. John, Dawson Creek and Fort Nelson planning areas.

After reviewing all Goal 1 and 2 proposed Protected Areas in Northeastern B.C., the group developed the following draft criteria for determining if directional drilling should be supported underneath proposed Protected Areas. The information was intended as a recommendation from the subcommittee to the Table.

Criteria NOT supporting Directional Drilling beneath Protected Areas

1. designation objective relates to subsurface issues (e.g., hot springs)
2. size/shape of area too large to get seismic data (not technically feasible)
3. ecological values compromised by adjacent directional drilling activity
4. spiritual and/or cultural values
5. adjacent topography
6. drilling tech feasibility unsuitable
7. highest pristine areas
8. visual impact
9. too small, intent agreed to is that the boundary of either a large or small area should not preclude that area outside of the park from being developed - allow tenure sales of that portion of a DSU (drilling supply unit) that falls outside a designated Class A Park, allow production from DSU's even where a portion of that DSU is taken up by a Protected Area.
10. not geologically prospective near term (indicated by geological trends and activity)

Criteria supporting Directional Drilling beneath Protected Areas

- a. designation of Protected Area for recreational/cultural purposes (non-ecological values)
- b. existing tenure in or adjacent to the Protected Area
- c. size/shape technically suitable for directional drilling
- d. existing access/infrastructure in or adjacent to Protected Area
- e. ~~high~~ long term geological potential indicated by geological trends and activity
- f. where *high* pooling operations exist
- g. corridors/linear sites
- h. topography adjacent seems amenable
- i. technical directional feasibility

Implementation Recommendations

- i. Protected Areas where directional drilling is appropriate should be designated such that directional drilling be allowed otherwise they should be administered as a Class A Park.
- ii. List of Protected Areas and their suitability for directional drilling should be reviewed every 10 years. ELU Act sites would move into a Class A park designation where the directional drilling criteria no longer applies, where warranted - long term intent would be to get all ELU Act sites into a Class A designation.
- iii. Long-term goal - to have all ELU Act sites moved to Class A park designation (*Note: This may not be the intent at each of the three LRMP Tables*)

- iv. No surface disturbance (including seismic)
- v. ELU Act sites areas allow for subsurface oil and gas tenures - would allow for new subsurface tenures
- vi. Allow tenure sales on the portion of the DSU which falls outside a designated Class A Park
- vii. Allow production from DSU's even where a portion of the DSU is taken by a Protected Area
- viii. government consider allocation of a portion of the royalties and bonus points to Park management from the revenues from Protected Areas where directional drilling occurs
- ix. where tenure already exists in a Protected Area it will be grandfathered under existing normal rules regarding access, voluntarily surrendered, expropriated by government or resolved under other yet to be determined mechanisms

Dawson Creek LRMP recommendations

Rationale (Criteria numbered 1 through 10 for NOT supporting directional drilling or criteria numbered a through i in support of directional drilling) are included after each proposed Protected Area.

Appropriate

- Peace River/Boudreau Lake B, C, D, E
- Kiskatinaw River B, C, D, E
- Chain Lakes (subject to accepted boundary agreement not Bear Hole option)
- Pine River Dunes*
- Sukunka Lousewort Bog*

Not Appropriate

- Butler Ridge (outside of existing tenure, grandfather tenure)) with normal tenure rights
- Pine LeMoray 7, 2, 3
- Elephant Ridge 2, 5
- Bear Hole 2, 7 (subject to accepted boundary agreement)
- Wapiti Lake 2, 3, 5, 7, 10
- Kakwa North 2, 3, 5
- Gwillim Peak 2, 5, 7
- Pine River Breaks - not E
- Rolla Fossil 9
- Hole in the Wall (grandfather existing tenure) 9, 1
- Bocock Peak 1, 2
- Monkman Connector

* recommended by the sub-committee, but no longer a proposed Protected Area

Appendix H

**Map showing High to Very High Coal Potential within the
Wildlife/Coalfield RMZ**

Appendix I

List of Acronyms

AAC	Allowable Annual Cut	PRRD	Peace River Regional District
ALC	Agriculture Land Commission	RMZ	Resource Management Zone
ALR	Agriculture Land Reserve	ROS	Recreation Opportunity Spectrum
AOI	Area of Interest (re: Protected Areas Strategy)	ROW	Right of Way
AT	Alpine Tundra BEC zone	RPAT	Regional Protected Areas Team
ATV	All Terrain Vehicle	RR	Roaded Resource Land (ROS class)
AUM	Animal Unit Month	RU	Resource Unit
BCE	B.C. Environment	SBFEP	Small Business Forest Enterprise Program
BCTM	Bleached Chemo-Thermo-Mechanical	SBS	Sub-Boreal Spruce BEC zone
BEC	Biogeoclimatic Ecosystem Classification	SPM	Semi-Primitive Motorized (ROS class)
BEO	Biodiversity Emphasis Option	SPNM	Semi-Primitive Non-Motorized (ROS class)
BWBS	Boreal White and Black Spruce BEC zone	STI	Standing Timber Inventory
CLI	Canada Land Inventory	TFL	Tree Farm License
COSEWIC	Committee on the Status of Endangered Wildlife in Canada	TSA	Timber Supply Area
CRMP	Coordinated Resource Management Plan	VQO	Visual Quality Objective
DSU	Drilling Supply Unit	WHA	Wildlife Habitat Area
ECA	Equivalent Clearcut Area	WMA	Wildlife Management Area
ELUA	Environment and Land Use Act		
ESSF	Engelmann Spruce-Subalpine Fir BEC zone		
FEN	Forest Ecosystem Network		
FLC	Forest Land Commission		
FLR	Forest Land Reserve		
FN	First Nations		
FPC	Forest Practices Code of B.C. Act		
FRBC	Forest Renewal B.C.		
GMD	General Management Direction		
GWM	General Wildlife Measure		
IAMC	Interagency Management Committee		
IPT	Interagency Planning Team		
IWMP	Integrated Watershed Management Plan		
LUCO	Land Use Coordination Office		
LRMP	Land and Resource Management Plan		
LRUP	Local Regional Use Plan		
MAFF	B.C. Ministry of Agriculture, Food and Fisheries		
MELP	B.C. Ministry of Environment, Lands and Parks		
MEM	B.C. Ministry of Energy and Mines		
MoF	B.C. Ministry of Forests		
MOU	Memorandum of Understanding		
NDT	Natural Disturbance Type		
NSR	Not Satisfactorily Restocked		
OSB	Oriented Strand Board		
PA	Pulpwood Agreement		
PAS	Protected Areas Strategy		
PRIM	Primitive (ROS class)		

Appendix J

Twin Sisters Special Management Committee

Recommendations

**for
Management Objectives and Strategies
for the
Special Management Zones
and proposed Protected Area**

October 21, 1997

Terms of Reference for the Twin Sisters Special Management Committee

Purpose

1. The primary purpose of the Twin Sisters Special Management Committee (TSSMC) is to provide strategic direction to all levels of planning for all land and resources in this land area that has unique cultural, heritage, spiritual and traditional values of significance to local First Nations. The land area being considered by the TSSMC is consistent with the CMAC (Co-Management Advisory Committee) boundaries set in 1994, (see attached map).
2. The secondary purpose of the TSSMC is to identify land and resource values (including economic viability), and subsequently provide land and resource management objectives to manage the identified values.

These recommendations will aid in resolving higher level planning issues in the *Mt. Frank Roy, Mt. McAllister and Carbon Creek* Resource Management SubZones (sub-RMZ's), providing they are complete by about May 30th, 1997.

3. The tertiary purpose of the TSSMC is to make recommendations for more detailed levels of planning as may be required for resource development or access management (e.g., the Mt. Monteith Interagency Project Committee, providing the recommendations are available by May 30th, 1997; or subsequent Forest Development Plans).
4. Beyond the numbered purposes, the greatest purpose of the TSSMC is for First Nations, resource agencies and resource tenure holders to work cooperatively to resolve resource management issues in a small, but very unique land area called Twin Sisters.

Scope

1. The scope of the committee is limited to meeting the purposes outlined above.
2. The recommendations from the TSSMC would be an appropriate foundation for discussions pertaining to consultation with First Nations regarding future resource developments in the Twin Sisters land area.

TSSMC Participants

The TSSMC participants will include representatives of:

- Dawson Creek Interagency Planning Team (MOF, MELP, MEI Energy Div.);
- West Moberly First Nations & Halfway River First Nations, Sauleau First Nations
- Canadian Forest Products Ltd., Chetwynd Div. (Tree Farm License # 48),
- Chetwynd Forest Industries Ltd. (West Fraser Mills), and;
- Amoco Canada Petroleum Company Ltd., Calgary.

Guiding Principles

1. The participants will be mindful of all other interests and values in this area, especially those of sectors not represented on this TSSM Committee.
2. The TSSMC participants should focus on presenting their values and interests rather than fixed positions. This approach will foster a greater understanding of the land and resource values requiring varying types of management, and in making recommendations about the types of management.
3. The objective is to achieve agreement on TSSMC recommendations by consensus. When consensus is unattainable, then participants withholding agreement are responsible for explaining how their interests are adversely affected and to suggest alternatives which will meet all other interests.

Methodology

1. The TSSMC will identify all resource, cultural, spiritual, and traditional values of interest in the Twin Sisters Special Management land area. Locations of values will be mapped where possible.
2. The TSSMC will verify or redefine the TSSMC land area for discussion.
3. The TSSMC will discuss the potential for management subzones within the TSSMC land area (e.g., 1-3 levels of varying management intensities), and if required delineate these subzones.
4. The TSSMC will develop strategic management objectives and strategies (in that order) to assist in managing the variety of resource, cultural, spiritual, and traditional values in the TSSMC land area or subzones.
5. The TSSMC will:
 - (i) discuss the approaches for implementing the recommended management directions (e.g., zonation / objectives / strategies applied to Resource Management Zone subzones, Landscape Units; or incorporated into Forest Development Plans), and
 - (ii) make recommendation to the resource agencies and tenure holders as to the “best fit” for implementation of the TSSMC recommended directions.

Time Frames

1. The TSSMC will forward draft or final recommendations to the Mt. Monteith Interagency Project Committee by May 30th, 1997 and subsequent dates as required, in order to be considered in Amoco's formal gas well application process.
2. The TSSMC will forward draft or final recommendations to the Dawson Creek Interagency Planning Team by May 30th, 1997 and subsequent dates as required.

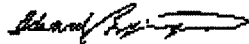
**A Consensus Recommendation
of the
Twin Sisters Special Management Committee**

The TSSMC agrees that the resource management objectives and strategies for the Twin Sisters RMZ herein, is a consensus recommendation.

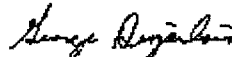
This recommendation asserts that the identification of First Nations' spiritual values and natural resource values, and the statement of management objectives and strategies constitutes a workable approach to meet the collective values in the Twin Sisters Resource Management Zone. Further, it will serve as the basis for consultation between government and First Nations, pertaining to all future resource developments.

Continued use of the Twin Sisters area for spiritual gain, recreation, wildlife management, and forest and energy development will be done in concert with other higher level plan direction and a new level of cooperative, consultative action between First Nations, government and resource development tenure holders. The parties agree to this model of relationship due to the unique spiritual and resource values, a growing understanding and mutual respect of each other, and a mutual need to work together.


SIGNED this 31st day of October 1997, in the presence of:



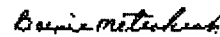
Witness



Chief, West Moberly First Nations



Witness




Chief, Halfway River First Nations

Witness


Chief, Saulteau First Nations



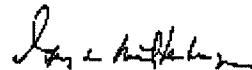
Witness



District Manager,
Ministry of Forests, Dawson Creek



Witness



Operations Manager,
Ministry of Employment & Investment,
Charlie Lake




Witness



Regional Manager,
Ministry of Environment, Lands & Parks,
B.C. Environment, Peace Region



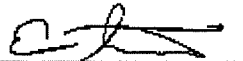
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District Manager,
Ministry of Environment, Lands & Parks,
B.C. Parks, Peace Region



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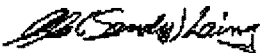
Canadian Forest Products Ltd.,
(Chetwynd Division)



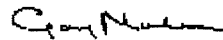
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Chetwynd Forest Industries Ltd.



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Amoco Canada Petroleum Company Ltd.

Interagency Planning Team Recommendations for BC Government Implementation

- *The Dawson Creek Interagency Planning Team will:*
 1. *Make the TSSMC recommendations available to the Mt. Monteith Interagency Planning Committee, for use in the planning and review of gas-well applications made to the Operations Manager, Ministry of Employment and Investment, Charlie Lake, BC.*
 2. *(a) Recommend that the TSSMC recommendations be adopted by the local sub-regional strategic planning process, and*
(b) Recommend that the resource agencies use the TSSMC recommendations to guide operational planning and development in the Twin Sisters Resource Management Zone.
 3. *Make a presentation to the Interagency Management Committee, regarding the model for cooperative, consultative resource development and management. The IPT will seek IAMC recommendations, and endorsement.*
- *Government implementation of some of the resource management objectives and strategies (e.g., Access Management Areas and Protected Area Management Plans) requires that further stakeholder and First Nations review, involvement and consultation will take place.*

Resource Management Zone Description and Values

Area Description

The Twin Sisters Resource Management Zone (RMZ) is located in the northwest portion of the Dawson Creek Forest District planning area. It is the headwaters of several drainages to the Peace and Moberly river systems. It has resource development potential and contains areas of critical habitat that sustain populations of grizzly bear, caribou, Stone's sheep and mountain goat. The area is valued for its prime trapping, fishing and hunting grounds with several well known, actively used mineral licks.

The Engelmann Spruce-Subalpine Fir biogeoclimatic zone predominates at higher elevations while Sub-Boreal Spruce dominates lower elevation valleys. The Alpine Tundra biogeoclimatic zone is found at upper elevations. Most of the RMZ is within the Hart Ranges ecosection.

An area around the proposed Protected Area is currently being pursued by the Halfway River and Moberly Lake First Nations under a federal treaty land entitlement claim.

Resource Values

Fish and Wildlife

The predominantly coniferous forests and riparian areas of this mountainous RMZ provide medium to high capability habitat for provincially significant populations of blue listed grizzly bears. Marten and other furbearers common to coniferous forests are also found in the area. Mountain caribou and mountain goats are locally abundant and moose, elk and deer are common in the mountain valleys during the summer.

Critical habitat for bull trout, mountain whitefish and Arctic grayling is found in many of the mountain streams.

Biodiversity values within the RMZ are primarily focused on maintaining adequate high quality habitats for a number of species. Seral stage distribution, the orientation and timing of proposed cut and leave areas, old growth forest stands, and connectivity between upland areas and riparian areas are important landscape level biodiversity attributes.

Recreation

A diversity of activities occur in the RMZ including wilderness recreation, hunting, fishing, and hiking. The Recreation Opportunity Spectrum (ROS) class throughout the RMZ is generally 'semi-primitive non-motorized'. Guide outfitting is tenured and active within the RMZ.

Visual Quality

Scenic values are important, especially along traditional access corridors and from the Twin Sisters Peaks (Beattie Peaks).

Culture and Heritage

The Twin Sisters RMZ is an area of profound spiritual significance and traditional use value to the First Nations people of northeastern British Columbia. It is the center of a spiritual prophecy that shapes the belief systems and culture of the First Nations. The area has been relied upon by the First Nations for hunting and gathering medicinal plants, food, and wildlife resources. This unique area contains many

historic trails including old routes south to MacLeod Lake and north to the Halfway River, and some burial sites, heritage campsites, and old cabins.

The spiritual and cultural heritage significance of the Twin Sisters (Beattie Peaks) to the local First Nations is recognized by the general populace and has led to a proposal for protecting the core area, to be referred to as the Klin-se-za proposed Protected Area (Beattie Peaks), under the Protected Areas Strategy (cultural-heritage). The surrounding area will comprise a Special Management Area that will be managed with careful sensitivity to the values and special concerns.

Trapping

The entire RMZ is under tenure to trappers. The maintenance of furbearers and furbearer habitat is important to the continuation of these trapping tenures.

Water

Water use by humans in the area is limited to short-term industrial use by the oil and gas exploration industries and outdoor recreationists. A portion of the area is within the upper reaches of the upper Moberly River watershed, the community domestic water supply area for Moberly Lake area residents.

Range

The range resources in this RMZ are primarily utilized by wildlife. Range resources in portions of the RMZ may provide opportunities for grazing in support of commercial recreation operations.

Coal and Other Mineral Resources

The Moberly geological coal trend in this RMZ has high potential.

Energy

Oil and gas exploration currently occurs in this RMZ. Tenures are located in the RMZ. No proven reserves have been located in this area, however, potential for gas reserves is high and therefore, the area may be important for future discovery and development of oil and gas.

Forestry

Timber values are generally high to moderate below 1400 meters. Forest cover is predominantly Engelmann spruce, subalpine fir, and lodgepole pine. Some portions of this RMZ contain substantial standing inventories of older seral stage timber.

Access

Roaded access is limited to all-weather roads along the perimeter of the RMZ.. The management of roads is critical to the sustainability of all values.

Resource Management Objectives and Strategies

Value 1. Spiritual/Traditional/Cultural/Heritage

Protected Area

Objectives	Strategies
A. Protect the spiritual values in the <i>Klin-se-za</i> protected area as identified by First Nations.	1. Encourage government agencies, industries, First Nations and other stakeholders to participate in educational processes.
◇	◇
B. Spiritual values are not easily understood. Government agencies and proponents should increase awareness and appreciation of spiritual and cultural values held by First Nations.	1. Prior to formal consultation, it is recommended and encouraged that meetings and relationship building take place between government agencies, proponents, and First Nations to come to a common understanding of First Nations values. This may result in formal cooperation agreements.
◇	◇
C. Encourage the collection of traditional use information within the <i>Klin-se-za</i> protected area.	1. Traditional use information is owned by First Nations and will be managed using information sharing agreements between the First Nations and government agencies.

Level I (*Twin Sisters mountain sub-RMZ*), and

Level II (*Twin Sisters headwaters sub-RMZ*) Management Zones

Objectives	Strategies
A. Manage and maintain spiritual values along traditional access corridors as identified by First Nations (<i>applies to both Twin Sisters Sub-RMZs</i>).	1. Identify and map traditional access routes used by First Nations.
	2. Minimize impacts of development to maintain spiritual integrity of traditional access corridors, through landscape and operational level planning (e.g., buffers, screening etc.).
	3. Traditional access trails will be managed by First Nations.
	4. Recognize, protect, or conserve special spiritual features by incorporating features into operational level planning, in consultation with First Nations.
B. Encourage the collection of traditional use information within the Twin Sisters RMZ (<i>applies to both Twin Sisters sub-RMZs</i>).	5. Traditional use information is owned by First Nations and will be managed using information sharing agreements between the First Nations and government agencies.

Value 2. Access

Protected Area

Objectives	Strategies
A. Manage recreational access to maintain the spiritual values of the <i>Klin-se-za</i> protected area.	<ol style="list-style-type: none"> 1. No new access. 2. No motorized or snowmobile access. 3. No aircraft access. 4. Monitor access via cooperative management process. 5. Further planning may limit horse use to appropriate areas in consultation with the users.

Level I (*Twin Sisters mountain sub-RMZ*), and

Level II (*Twin Sisters headwaters sub-RMZ*) Management Zones

Objectives	Strategies
A. Maintain existing motorized access corridor, (<i>applies to Twin Sisters mountain sub- RMZ, only</i>).	1. Permit existing all weather access (Carbon Creek road). (<i>applies to Twin Sisters mountain sub- RMZ, only</i>).
◇	◇
B. Maintain existing motorized access corridor, (<i>Twin Sisters headwaters sub-RMZ, only</i>).	2. Permit existing all weather access (Carbon Creek, Gething Creek, Johnson Creek and Moberly roads), (<i>Twin Sisters headwaters sub-RMZ, only</i>).
C. Limit new industrial and recreational access to a specified range of conditions, (<i>applies to both Twin Sisters sub-RMZ's</i>).	<ol style="list-style-type: none"> 1. Minimize new access development. 2. Plan new access routes to avoid loop roads. 3. Require winter access unless a need for all-weather access can be demonstrated through further planning. 4. Upon cessation of tenure holder's activities return linear development, (e.g.: roads, pipeline and utility corridors - not seismic lines) to a vegetative state which over time approximates natural conditions using reclamation, rehabilitation, recontouring, bridge removal and where possible, native species. 5. Coordinate new access with other users. 6. Maintain traditional modes of transportation for trappers to allow for the harvest of furbearers. 7. Restrict the use of motorized access, including snowmobiles, to designated roads and trails; except for non-motorized and approved industrial uses. The intent is to implement this through the establishment of an Access Management Area under the <i>Wildlife Act</i>.

Value 3. Visual

Protected Area,

Level I (*Twin Sisters mountain sub-RMZ*), and

Level II (*Twin Sisters headwaters sub-RMZ*) Management Zones

Objectives	Strategies
A. Identify and manage the scenic areas (viewsapes) within the Twin Sisters RMZ, as seen from the <i>Klin-se-za</i> Protected Area, (<i>applies to both Twin Sisters sub-RMZ's</i>).	<ol style="list-style-type: none">1. Manage the visual values following government guidelines, and in consultation with First Nations.2. Develop and apply visual quality objectives in visually sensitive areas.3. Quantify impacts of scenic area management on timber resources, and use the information in landscape and operational planning processes.

Value 4. Wildlife

Protected Area

Objectives	Strategies
A. Sustain and manage wildlife and their habitat for the following species: marmot, Stone's sheep, caribou, grizzly bear, Rocky Mountain goat, wolverine and furbearers, ptarmigan and blue grouse, porcupine, hares, and pikas.	<ol style="list-style-type: none"> 1. Develop cooperative wildlife management approaches between First Nations and government agencies with the intent of conserving wildlife populations in the <i>Klin-se-za</i> Protected Area. 2. Wildlife management will not unjustifiably interfere or infringe on First Nations' aboriginal and treaty rights. 3. Encourage inter-agency cooperation in the development and assessments of projects that may impact critical wildlife habitats.

Level I (*Twin Sisters mountain sub-RMZ*), and

Level II (*Twin Sisters headwaters sub-RMZ*) Management Zones

Objectives	Strategies
A. Sustain and manage wildlife and their habitat for the following species: marmot, Stone's sheep, caribou, grizzly bear, Rocky Mountain goat, wolverine and furbearers, ptarmigan and blue grouse, porcupine, hares, pikas, moose, wolves, black bear, lynx, rainbow trout, grayling, bull trout, kokanee, white fish, harlequin duck, raptors, elk, mule deer and whitetail deer, (<i>applies to both Twin Sisters sub-RMZ's</i>).	<ol style="list-style-type: none"> 1. Develop cooperative wildlife management approaches between First Nations and government agencies. 2. Wildlife management will not unjustifiably interfere or infringe on First Nations' aboriginal and treaty rights. 3. Encourage inter-agency cooperation in the development and assessments of projects that may impact critical wildlife habitats. 4. Adopt a biodiversity emphasis option for the RMZ of intermediate to high. 5. Identify and maintain connectivity corridors at the landscape level. 6. Incorporate habitat protection criteria into operational plans. 7. Habitat enhancement may be an acceptable activity and will be addressed in landscape unit and operational plans. 8. Consider identifying and designating critical habitat areas as Wildlife Habitat Areas

Value 5. Energy

Protected Area

Objectives	Strategies
A. No surface drilling locations in the <i>Klin-se-za</i> protected area.	1. Through consultation with First Nations identify areas under the <i>Klin-se-za</i> Protected Area where directional drilling may be acceptable.

Level I (*Twin Sisters mountain sub-RMZ*), and

Level II (*Twin Sisters headwaters sub-RMZ*) Management Zones

Objectives	Strategies
A. Maintain opportunities for oil and gas exploration, development and transportation, (<i>applies to both Twin Sisters sub-RMZ's</i>).	<ol style="list-style-type: none"> 1. Participate in detailed consultation and preplanning with First Nations in all stages of exploration, development and production of oil and gas resources. 2. Integrate oil and gas exploration and development activities with other resource use activities. 3. Permit exploration and development of oil and gas resources using the appropriate regulatory framework that promotes environmentally responsible development of subsurface resources. 4. Consider potential infrastructure requirements for development when exploring for oil and gas resources. 5. Encourage low impact/low intensity exploration methods where appropriate.

Value 6. Forestry

Level I (*Twin Sisters mountain sub-RMZ*), and

Level II (*Twin Sisters headwaters sub-RMZ*) **Management Zones**

Objectives	Strategies
A. Maintain opportunities for timber harvesting and related forest management activities, recognizing that low impact activities will be used where required to maintain First Nations and other resource values, (<i>applies to both Twin Sisters sub-RMZ's</i>).	<ol style="list-style-type: none">1. Establish a long term plan for forest management and access to accommodate and address the concerns of the First Nations.2. Agreements between forest tenure holders and First Nations on proposed forest management activities will include agreement on activities, consultation, and planning procedures. Agreements will be concluded by March 31, 1999 in order to facilitate agreed upon activities.3. Activities permitted in the interim are salvage, silviculture, and road maintenance.

Value 7. Recreation

Protected Area

Objectives	Strategies
A. Maintain an unmodified, natural environment in the <i>Klin-se-za</i> Protected Area.	<ol style="list-style-type: none"> 1. Restrict commercial recreation tenures. Do not promote the protected area as a tourism-recreation destination. 2. Restrict all recreation development. 3. Further planning will address the effects of recreational activity on ecological and spiritual values.

Level I (*Twin Sisters mountain sub-RMZ*), and

Level II (*Twin Sisters headwaters sub-RMZ*) Management Zones

Objectives	Strategies
1. Manage recreation activities which may impact the probability of experiencing solitude and closeness to nature (<i>applies to the Klin-se-za Protected Area, and both Twin Sisters mountain sub-RMZ's</i>).	<ol style="list-style-type: none"> 1. Restrict commercial recreation tenures. Do not promote the <i>Klin se za</i> Protected Area as a tourism-recreation destination. (<i>applies to the Twin Sisters mountain sub-RMZ only</i>). 2. Restrict recreation development. (<i>applies to the Twin Sisters mountain sub-RMZ only</i>). 3. Manage motorized recreation to designated roads (i.e., Carbon Creek, Gething Creek, Johnson Creek and Moberly River roads), and to future roads defined in forest tenure-First Nations agreements (<i>applies to the Twin Sisters headwaters sub-RMZ only</i>). 4. Manage recreation for low intensity non-motorized impacts. (<i>applies to the Twin Sisters headwaters sub-RMZ only</i>). 5. Maintain existing routes and modes of transportation to Wright Lake (<i>applies to Twin Sisters headwaters sub-RMZ only</i>). 6. Further planning will address the effects of recreational and guide outfitting activity on ecological and spiritual values. This will be done by government, First Nations and other stakeholders. (<i>applies to both Twin Sisters sub-RMZ's</i>).

Value 8. Water

Protected Area

Objectives	Strategies
A. Maintain the water quality and quantity within the headwater reaches of rivers and streams.	1. Manage activities to avoid or minimize negative impacts to water quality and water quantity.

Level I (*Twin Sisters mountain sub-RMZ*), and

Level II (*Twin Sisters headwaters sub-RMZ*) Management Zones

Objectives	Strategies
A. Maintain the water quality and quantity within the headwater reaches of rivers and streams. (<i>applies to both Twin Sisters sub-RMZ's</i>).	<ol style="list-style-type: none"> 1. Manage activities to avoid or minimize negative impacts to water quality and quantity. 2. Conduct watershed assessments to determine potential impacts to water. 3. Assess and where appropriate, adopt recommendations to conserve water.

Value 9. Air

Protected Area

Level I (*Twin Sisters mountain sub-RMZ*), and

Level II (*Twin Sisters headwaters sub-RMZ*) Management Zones

Objectives	Strategies
A. Meet or exceed the established provincial air quality standards established and monitored by MELP.	1. Manage emissions to meet air quality standards.