



# Redfern-Keily Park Management Plan

Draft Nov 2011





# Redfern-Keily Park Management Plan

**Approved by:**

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First Nation

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Date

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# Acknowledgements

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# Vision Statement

This vision statement describes the future state and management regime that is desired for Redfern-Keily Park over the next 25 to 50 years. It provides long term direction for park managers, while aiding them in making decisions regarding current issues. It is based on prevailing environmental and socio-economic attitudes concerning protected areas, and is also based, in part, on the conservation and recreation contributions of Redfern-Keily Park to the provincial Protected Areas Strategy. It is, however, dynamic and conceptual and therefore allows for change due to evolving ideas regarding conservation and recreation.

## The 'Vision'

*Redfern-Keily Park remains a largely untouched wilderness area. The ecosystem is allowed to evolve through natural processes (i.e. fire, erosion, migration, colonization, death...) and a dynamic equilibrium has been achieved in the wildlife populations. It has become part of a large, interconnected system of protected areas that encompasses great tracts of land from the South America to the Arctic Ocean. Comprehensive inventory work is ongoing and management decisions are made based on the accumulated information.*

*Redfern-Keily Park continues to play an important role in providing backcountry recreation opportunities at a local, national and international level. Development has been kept at a minimum and the few facilities that exist have been maintained with the goal of providing a 'rustic' wilderness experience. Levels of use, both public and commercial, have been kept low and are closely monitored to ensure that the carrying capacity of the area is not exceeded.*

## **TREATY 8 FIRST NATIONS VISION STATEMENT**

WELCOME to our homeland. The Beaver (Dunne-za, Dane-zaa), Cree, Saulteau, Slavey (Dene), and TseK' hene indigenous groups have occupied these lands since time immemorial. Treaty 8 was signed in the spirit of Peace and Friendship June 21, 1899. British Columbia Treaty 8 Territory is hundreds of thousands of square kilometers in size and includes 8 groups: Blueberry River First Nations, Doig River First Nation, Fort Nelson First Nation, Halfway River First Nation, McLeod Lake Indian Band, Prophet River First Nation, Saulteau First Nations and West Moberly First Nations. Our relationship to the land has and continues to be the spiritual basis for our mode of life. The land has always, and will continue to, provide shelter, food, clothing, and the economic resources for our livelihood. As a First Nation, we have an obligation to implement our inherent rights that are affirmed by the Constitution Act, 1982. This includes sustainability of our resources in order for us to hunt, trap, fish, and continue our mode of life. Prior to the arrival of the Europeans we were actively involved in the management of our territories: the lands understood us and we understood the land. Today, we continue to manage our Territory.

BC Treaty 8 First Nations were not involved in the initial development plans of this park in regards to its location and why the area was chosen. We would like neighbouring First Nations, outdoor enthusiasts and other visitors to our land who are enjoying the bounties of this Park to acknowledge and respect that you are on Treaty 8 Territory. Please act as a steward of Treaty 8 Territory so that together we will maintain its natural beauty, and cultural resources. This maintenance will be respectful to our current use and for future generations. Please conduct yourself in a manner that respects cultural heritage resources and values. Treaty 8 Territory will always be the home of First Nations for as long as the sun shines, the grass grows and the water flows.



# Plan Highlights

The overarching goal, as described in the vision statement, is for this park to maintain a wilderness character that contributes ecosystem representation to the British Columbia Protected Areas System; with few developed facilities, visitors may be assured that a rustic backcountry recreation experience has been attained. The majority of the park is remote, and is therefore zoned as a Wilderness Recreation Zone, according to the Provincial Protected Areas Zoning Descriptions. A small portion of the park is more readily accessible to visitors and has been zoned as a Nature Recreation Zone. The following are a few of the key strategies that were developed for Redfern-Keily Park.

## Strategies:

- Maintain Redfern Trail (including bridges) to ensure limited environmental and aesthetic degradation.
- Determine if conservation values in aquatic and riparian ecosystems are being impacted by motorized boating and implement restrictions as necessary, in consultation with interest groups.
- Allow traditional forms of access e.g. aircraft/boats/snowmobiles to continue; subject to restrictions based on identified impacts to conservation values and consultation with interest groups.
- Allow ATV use on designated M-K Access Management Area routes only.
- Require that replacement or modification of facilities or structures is approved by the Environmental Stewardship Division, occurs within the same ecological footprint as the original development, and mirrors the rustic nature of the park. Establish no new facilities; exception for BC Parks Staff requirements.
- Consult with those agencies and companies that are involved in adjacent land management regarding activities and road development adjacent to the park boundaries.
- Recommend that horse users utilize local weed free feed, and rest their horses outside of the park for 24 hours to ensure that exotic plants/noxious weeds are not introduced to the park; monitor impacts.
- Conduct inventories and map fauna, flora, critical habitats, red- and blue- listed species, aquatic resources, archaeological sites and important features, access, and recreational use of the park; research, assess and monitor these items.
- Ensure consultation with First Nations regarding historical use of the park and potentially conflicting activities.
- Evaluate proposals for enhancement of fisheries and/or aquatic ecosystems on a case-by-case basis.
- Maintain current recreational fishing opportunities; subject to current provincial freshwater regulations.
- Monitor use levels and impacts of recreational activities; parks staff may close areas
- Assess all proposed commercial operations individually to determine if they are compatible with the park vision and roles.
- Develop plans for individual aspects of park management e.g. fire management, vegetation management and range use.



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# 1.0 Introduction

## 1.1 Management Plan Purpose

The Redfern-Keily management plan provides management direction for the Park for the next 10 to 20 years. This plan addresses both immediate management issues and provides long-term management direction.

This Redfern-Keily management plan was developed with direction from two higher level management plans. The Fort St. John Land and Resource Management Plan and the Muskwa-Kechika Management Plan; Both provided guidance concerning conservation, recreation and cultural heritage roles and values. Redfern-Keily Provincial Park, located within the Muskwa-Kechika Management Area (M-KMA) in the Fort St. John Land Resource Management Plan area, is part of the Ministry of Environment, BC Parks in the Peace Section. The park is amongst most accessible of the larger provincial parks that are located in the M-KMA.

This Management Plan was developed with the input of a public mail –out process, and consultative meetings, to address the outstanding values of this significant area, from a conservation as well as recreation perspective. As with all Park and Protected Area Management Plans, the approaches and methods used in the plan are adapted to the unique nature of the Park and will not necessarily be used in other Parks and Protected Areas. Throughout this document the term BC Parks will be used and will refer to the BC Parks Component of the Ministry of Environment, Peace Section.

Under direction provided by the *Park Act* this management plan provides objectives and strategies to manage for conservation, recreation and to maintain recreation values, and to maintain cultural heritage values. The plan also provides direction for potential development, education, and park operation programs. To ensure that the planning process was well informed, all available information relating to natural and cultural values, recreational opportunities within the park, and resource opportunities surrounding the park has been considered in the drafting of this plan.

The management planning process involved a complete analysis of overall management goals, traditional, recreational and wildlife use patterns, management objectives, and potential areas of conflict. Several different management options were developed and assessed for compatibility with management goals and objectives. The management direction which best balanced human use of the area with the conservation of wildlife and their respective habitats was chosen.

A management plan responds to strategic issues by defining a set of management strategies and the range of uses and activities that can occur within a Park. The Protected Area Strategy (PAS) states:

**“...a Park management plan will be prepared with public involvement for each area designated, and will provide the objectives and guidelines by which the area will be managed”**

This management plan:

- Establishes a long-term strategic direction for this Park;
- Sets out a vision for the future state of the area;
- Addresses current issues affecting that long-term vision; and,
- Guides day-to-day management.

## **1.2 Planning Area**

Redfern-Keily Park is located in the Peace Region of northeast British Columbia. The two closest large communities are Fort Nelson and Fort St. John. Fort Nelson lies approximately 200 km North East of the park and has a year-round population of about 6400. Fort St. John is the largest city in the Peace region and services more than 45000. Both cities have a resource extraction based economy, with oil and gas, agriculture, and forestry providing the greatest percentage of direct income in the area.

Redfern-Keily Park is part of the Muskwa-Kechika Protected Area, and therefore has close ties to several other new and existing protected areas. The three closest are the Northern Rockies Park, Prophet River Hot Springs Park, and Sikanni Chief Ecological Reserve. The Northern **Rockies** Park is approximately 20 km north of Redfern-Keily and is the largest protected area in the Muskwa-Kechika, with unparalleled conservation and recreation values. Prophet River Hot Springs Park lies between the Northern Rockies Park and Redfern-Keily Park; its main goal is to protect the sensitive hot spring habitats and the associated wildlife. Sikanni Chief Ecological Reserve can be found approximately 3 km south west of the park; its primary function is the maintenance of biological diversity, with research and education as its main uses.

Redfern-Keily Park is located within the Eastern Muskwa Ranges and Muskwa Foothills ecosections. It is characterized by long, cold winters and cool, short summers with the hottest temperatures being recorded in July and the coldest in January. The mountains receive much more moisture than the adjacent foothills. This leads to a greater snow pack in the mountains. In early summer when air masses are shifting, periods of prolonged heavy rainfall are common.

Serrated peaks, glaciers, waterfalls and large valley lakes are features found within the Rocky Mountains of the park. The foothills can be characterized by rounded ridges and alpine meadows. Steep sided, wide bottomed side valleys containing lakes, such as Redfern and Trimble, open into the main broad valley. Tall castellated peaks are common in the mountainous regions; and Mount Ulysses is the highest peak in the Muskwa-Kechika Management Area.

The geological foundation of the area is primarily sedimentary rocks. Mountainous regions are composed of Palaeozoic rock, and the foothills are made of slightly younger Triassic rock. Valley bottoms are covered with a thin layer of glacial till. The area has been significantly shaped by tectonic activity; folding and faulting can be seen in exposed rock. This is especially evident south of Trimble Lake to the west of Trimble Mountain where a thrust fault emerges.

The main hydrological features of Redfern-Keily Park are Redfern, Fairy, and Trimble lakes. Other freshwater resources are the many waterways that are fed from ice fields found in the mountainous regions in the west of the park. All drainage systems in the area eventually feed into the Arctic Ocean. The park contains the undeveloped drainage system of Keily Creek and the Besa River; Trimble Lake in the southern portion of the park drains into the Upper Sikanni Chief River Watershed.

The vegetation in Redfern-Keily Park is categorized into two biogeoclimatic zones. Within the Spruce-Willow Birch (SWBmk) zone found along the valley bottoms, white spruce and sub-alpine fir dominate and scrub birch and willow are common. The Alpine Tundra (AT) zone is found at higher elevations and contains dwarf willows, grasses, sedges, and lichens. Sections of old growth spruce forests can be found along rivers in the valley bottoms.

Redfern-Keily Park is home to a wide variety of wildlife. Large mammals such as caribou, moose, elk, Stone's sheep, mountain goat, grizzly bear, and wolf can be found in the area. There are many species of resident birds and the avian community grows in the spring when migratory birds either pass through the area or settle to nest. Smaller mammals known as furbearers (i.e. fisher and marten) live in the old growth forests associated with valley bottoms. Several species of rodents, reptiles, amphibians and many species of invertebrates can also be found in the area.

The park is home to both indigenous and introduced fish species. Lake trout, lake whitefish, pigmy whitefish, bull trout, slimy sculpin, rainbow trout and Arctic grayling can be found in many of the lakes and streams. Redfern, Fairy, and Trimble Lakes were legally stocked with rainbow trout in 1984. Arctic Grayling has reportedly been illegally stocked into Trimble Lake from as early as 1959.

Redfern-Keily Park has a diverse cultural heritage background. It is found within the traditional territory of the Slavey, Beaver, and Sekani cultures from the Fort Nelson, Prophet River, Halfway River, Doig River, Saulteau, West Moberly, McLeod Lake and Blueberry River First Nations. There are three known archaeological sites, and the Keily Creek area is considered sacred. Post-colonially, the region was important for hunting, trapping and supplying furs to the Hudson's Bay Company outposts in Fort St. John and Hudson's Hope. Several expeditions into the area took place in the early 1930's. Knox McCusker, a Dominion land surveyor, measured glaciers and snowfields in the Ulysses group in 1932. Also, the ill-fated Bedaux expedition camped at Redfern Lake in 1934 before heading north into the Muskwa River area.

Redfern-Keily Park has many recreational values that make it a prime destination for different types of users. A variety of natural features make the area a very attractive

backcountry destination for wilderness seekers. These include Redfern Lake, which has been called the “Lake Louise of the North”, the old growth spruce forest along Keily Creek, and the hoodoos on Besa River below Mount Dopp. The abundance of wildlife and game licks in the area make it an attractive destination for hunters. Activities such as fishing, camping and hiking are also popular.

Land access to the park is achieved along two main trails. The 80 km Redfern Trail, which runs along Nevis Creek and up Besa River to Redfern Lake, is open to both motorized and non-motorized access. Trimble Trail, which follows Sikanni Chief River and its tributaries to Trimble Lake, is only open to non-motorized access (except snowmobiles) within the park boundary. Redfern-Keily Park can also be accessed by rotary or fixed wing aircraft.

Facilities within Redfern-Keily Park are fairly limited. There is a BC Parks ranger’s wall tent platform (not for public use) at Redfern Lake, as well as a public use cabin that can accommodate up to twelve people. Twenty-six campsites are found along Redfern Trail and four of these are within the park boundary. Private guide/outfitter companies have cabins at three different sites within the park. Due to existence of established trails within the park, Redfern-Keily is one of the most accessible and frequently used areas in the Muskwa-Kechika Management Area. Redfern-Keily has a large Wilderness Recreation Zone intended to enhance the wilderness quality of the park. The smaller Nature Recreation Zone within the park encompasses the Muskwa-Kechika Access Management route, and is intended to provide for motorized travel by ATV, and associated higher use levels.

Insert Reference Map and possibly a First Nations map depicting their boundaries.

**Figure 1: Park Map**

## 1.3 Legislative Framework

The Redfern-Keily area was first recognized for its recreation potential in 1969 when the province placed a recreation reserve around Redfern Lake. The area of this reserve was subsequently increased in 1973 and 1981 for park study purposes. In 1986, a Wilderness Advisory Committee recommended that a recreation area be designated around Redfern and Fairy Lakes.

Redfern Lake was identified as an Area of Interest to the Protected Areas Strategy in July, 1993. In June of 1995, the Land Use Coordination Office directed the Fort St. John Land and Resource Management Planning table to recommend 4% of its planning area for Protected Area Status; Redfern-Keily was one of eleven areas proposed to meet this requirement. In 1997, the Muskwa-Kechika Management Area was established and Redfern-Keily was designated as a new protected area. It was established as a Class A Park in 1999.

## 1.4 Management Commitments/Agreements

### Muskwa-Kechika Management Area

The Park was established as a result of the recommendations of the Fort St. John LRMP. The M-KMA encompasses 63, 000 sq. km or 6.3 million ha of northeast British Columbia. In 1998 the M-KMA, as recommended by the FSJLRMP, became legally binding with the passing of the M-KMA Act of British Columbia. The intent of the M-KMA is to achieve a balance between economic development and conservation. The overall goal is to maintain in perpetuity the wilderness quality, and the diversity and abundance of wildlife and the ecosystems on which it depends, while allowing resource development in 75% of the non-Park areas. The M-KMA Act specified the creation of five local strategic plans that are consistent with the M-KMA Plan. These five plans are:

#### **Recreation Management Plan**

The purpose of this plan is to produce an overview assessment of recreation resources in the M-KMA consistent with LRMP objectives and strategies and the M-KMA Act. This plan will provide directives for the general management of recreation for Parks and protected areas within the M-KMA.

#### **Wildlife Management Plan**

The purpose of the Wildlife Management Plan is to provide comprehensive and long-term guidelines for the management of wildlife resources in the M-KMA.

#### **Oil and Gas Pre-Tenure Plans**

The purpose of these plans is to ensure environmentally responsible and timely development of oil and gas resources, by providing results-oriented management guidelines and where appropriate specific prescriptions. Several of these Pre-Tenure plans border the Park.

#### **Park Management Plans**

A Park management plan gives direction to the management, conservation, and use of all Class A Parks. Parks and Protected Areas which are adjacent to the Park include: Redfern-Keily, Stone Mountain, Muncho Lake, Dune Za Keyih (includes Dune Za Keyih, Denetiah and Dall River Old Growth) and Kwadacha.

Other Parks and/or Protected Areas within the M-K include Graham-Laurier, Redfern Keily Sikanni Chief Ecological Reserve, Prophet River Hotsprings, Toad River Hotsprings, Liard River Hotsprings, Hornline Creek, and Liard River Corridor;

### **Landscape Unit Objectives**

The purpose of landscape unit objectives is to provide a statement of desirable future condition for a forest resource or forest resource use, which is attainable through management action.

M-K Board??? And insert SEA and CMA's here or below ???

General management direction for all new protected areas includes:

- maintaining the conservation, recreation and cultural heritage values and features for which the protected area was established;
- completing management plans with First Nations and public participation;
- continuing existing eligible tenures (i.e., trapping, guiding, commercial recreation) and hunting and angling opportunities;
- maintaining existing access routes (e.g., trails and traditional trails) within the Park and protected area;
- maintaining existing access opportunities for First Nations, guide outfitters, trappers and other tenure holders where motorized opportunities have been restricted; and,
- identifying and protecting archaeological sites
- 

## **1.5 Relationship with First Nations**

The Province of British Columbia is committed to a new government to government relationship with First Nations based on respect, recognition and accommodation. New approaches to consultation and accommodation are currently being developed in recognition of this duty<sup>1</sup>. Negotiated collaborative management agreements with First Nations are an example of such processes. The Park and/or Protected Area (PPA) Management Plan and subsequent management actions within the plan area will respect First Nations traditional harvesting, cultural activities, and other aboriginal rights and interests. Approval of the PPA Management Plan is without prejudice and is consistent with section .35 (1) of the Constitution Act, 1982<sup>2</sup>, which recognizes and affirms aboriginal rights.

Some First Nations did not participate in the Land and Resource Management Planning that led to this PPA. However, collaboration with First Nation Governments is essential for the effective implementation of the PPA Management Plan. Treaty 8 First Nations have provided the following First Nation's Vision Statement for this PPA.



Redfern-Keily Park falls within the traditional territory of the Slavey, Beaver, and Sekani cultures from the Fort Nelson, Prophet River, Blueberry River, Doig River, Halfway River, Saulteau, Moberly Lake and McLeod Lake First Nations.

BC Parks – Peace Regions vision is to build a locally driven, constructive and collaborative relationship which recognizes the early presence of aboriginal peoples, their knowledge and understanding of the land and its processes. We hope to share ideas, management concepts and concerns in order to provide mechanisms for continuing First Nation participation in planning, long and short-term management, and evaluation.

#### **Principles**

- BC Parks will promote an understanding and respect of cross-cultural differences.
- Ecological integrity is critically linked to social integrity and First Nations are an important component of the wilderness of Northeastern British Columbia.
- First Nations are key in identifying and evaluating cultural resources.
- First Nations traditional resource harvesting activities will continue in all parks, including protection for current ways in which these activities are carried out.

BC Parks – Peace Region believes that the management and planning of protected areas can be improved by incorporating First Nations’ traditional ecological knowledge and cultural knowledge. To achieve this all parties must work to develop and maintain open and effective communication, including other local communities and the general public. All parties must trust the traditional, as well as the non-traditional (Western scientific management) approaches to resource management. The goal will be to gather, collate and integrate local traditional knowledge with other scientific data to identify, design, establish, monitor and manage parks.

## **1.6 Relationship with Other Land Use Planning**

The Fort St. John Land and Resource Management Plan (LRMP) provides a number of directives to guide the management of several values and activities within the protected area. The Muskwa-Kechika Management Plan and Muskwa-Kechika Recreation Plan also provide guidance concerning management issues.

#### **Management Issues**

The following issues were identified and require management action.

Theme	Issue
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<b>Planning</b>	<p>Implementation of the Access Management Area (AMA) controls is strong for this park as the enforcement presence within the park is high in comparison to other parks within the AMA.</p> <p>Maintaining the 'primitive status' of the park will be challenging due to increased use and access.</p> <p>Impacts on the park due to future access to adjacent resources are unknown due to the lack of information.</p> <p>Wildlife, fisheries, and heritage resource management will be difficult until inventory work is completed.</p>
<b>Trail Development/ Management</b>	<p>Visual quality may be at risk along trails within the park due to activities occurring along the sides of the trail.</p> <p>Development of unauthorized trails may be a problem in the future.</p>
<b>Campsites/ Facilities</b>	<p>High impact to areas surrounding campsites may occur due to capacity use during hunting season.</p> <p>Potential impacts to vegetation may occur due to the fact that designated camping locations are limited.</p>
<b>Public Safety</b>	<p>Potential danger to winter recreationists because of the avalanche hazard.</p> <p>Negative wildlife/human interactions may be a problem due to high risk bear encounters around hunting kills.</p>
<b>Protecting Ecological Values</b>	<p>Damage to vegetation may occur due to timber cutting for firewood.</p> <p>Fish populations may be stressed due to increased fishing pressure.</p> <p>Knowledge of ecological values is limited due to a lack of inventory.</p> <p>Impacts to alpine and sub-alpine areas from recreational activities are unknown due to a lack of evaluation and monitoring.</p> <p>Wildlife forage quality and quantity may be negatively affected by the grazing of domestic livestock within the park.</p>
<b>Protecting Recreational Values</b>	<p>Public access to the park may be limited if trails are not adequately maintained.</p> <p>Park enforcement activities are limited due to access.</p>

## 1.7 Relationship with Other Agencies

BC Parks works directly with other land and resource management agencies to address specific management issues in the Parks. For example, there is an understanding between

**Redfern-Keily Park Management Plan**

staff within BC Parks and the Ministry of Natural Resource Operations (MNRO) with respect to the management of fish and wildlife populations and habitats, to clarify the roles of their Ministries and sections as they relate to various government acts and regulations. To manage livestock grazing, BC Parks and MNRO (formerly Ministry of Forests) have a formal protocol arrangement by which the MNRO (Forests) manages range tenures in the Parks under the authority of the Range Act.

BC Parks staff also work directly with staff of the MNRO in managing wildfire, pests and disease problems, and prescribed burns. Fire management and vegetation management plans for the PARK have been prepared in collaboration with the former Forest Service and Wildlife Branch.

BC Parks will work with the Ministry of Sustainable Resource Management, Energy and Mines, and industry, to ensure that resource development plans, more specifically Pre-Tenure Plans, and operations reflect considerations for Park values. To assist in this regard, BC Parks participates in government agency reviews of applications for tenures (permits, licenses, leases) in areas near the Parks where proposed activities could affect Park values or management strategies; this would include crown land Commercial Recreation permits and Pre-Tenure Plans.

## **1.8 Adjacent Land Use Patterns**

The lands surrounding Redfern-Keily Park fall within three different LRMP boundaries: Fort St. John, Fort Nelson and Mackenzie. Plans have been completed and objectives and strategies for management have been established. Each of the following areas has unique values and resources; impacts on the park related to their management must be considered. Detailed descriptions of the following Resource Management Zones (RMZ's), and management direction for these zones are listed in the Mackenzie, Fort Nelson and Fort St. John LRMP's:

Besa-Halfway-Chowade RMZ in the Fort St. John LRMP

Etsho RMZ, Enhanced Resource Development Category in the Fort Nelson LRMP

Upper U Kai (Upper Akie) – Special Resource Management Zone: Wildland in the Mackenzie LRMP

For a detailed description of each RMZ, refer to each LRMP.

## 1.9 Management Planning Process

The Redfern-Keily Park management plan was established as a result of the Fort St. John LRMP (FSJLRMP) process. A draft management plan was developed based on: management direction from the FSJLRMP, M-K Board and Park values (natural, cultural, and recreation).

The management plan has been produced with public involvement through an open house process held in the communities of Chetwynd, Dawson Creek, Fort St. John and Fort Nelson. Advertising to notify the public of each event was provided through local newspapers and radio, by flyer posted in community venues e.g. recreation centers, and by mail outs to various organizations. During the formulation of the plan, interest groups were consulted for information and to identify potential issues within the parks. The general public, special interest groups, First Nations, other levels of government and other government agencies have had a chance to provide valuable input.

Discussions also took place with Ministry of Environment staff, discussions with stakeholders, and public input. Public input into the management plan was also available for review on the BC Parks website for 30 days.

A draft copy of the management plan has been made available for review at the Fort St. John MOE office, and will be posted on the Parks website; and comments have been received through both meetings and personal communications.

Park management planning takes direction and/or recommendations from the Protected Area Strategy (legislation and policy that is directly or indirectly related to Parks) and other land use initiatives undertaken by provincial agencies. Management of British Columbia's Protected Area system is guided by a set of Cabinet approved protected area management principles.

Protected Areas are not islands. They exist as part of the larger ecosystems and cultural landscapes. Management decisions inside and outside of protected areas should be coordinated and integrated to the greatest extent possible.

Locally, BC Parks endeavours to ensure recognition of the significance that the PARK has for a broad range of private and commercial users, conservationists, First Nations and local citizens. BC Parks appreciates that the Park is critical in supporting public recreation, commercial enterprise, and the conservation and management of significant wildlife and wilderness values. Recognition and acceptance of the requirements for management of large ungulates is of key importance.

## 2.0 Role of the Protected Area

### 2.1 Significance in the Protected Areas System

Redfern-Keily Park plays an important role in the provincial protected areas system. It is significant for the following reasons:

- Redfern-Keily Park is one of few areas in the Northern Rockies that is easily accessible to the general public;
- The area represents 45692.78 Hectares of the Eastern Muskwa Ranges and 35058.24 Hectares of the Muskwa Foothills ecosections. Approximately 36% of the park is Spruce-Willow Birch (SWBmk), 62% is Alpine Tundra (AT);
- The area provides representation of old-growth spruce habitat, high mountain valleys of the Rocky Mountains eastern flank, and important transition zones from subalpine to alpine areas;
- The park provides significant wildlife habitat for large mammals such as caribou, Rocky Mountain Elk, moose, Stone's sheep, mountain goat, grizzly bear, and wolves. It also contains populations of red- and blue-listed species of plants, birds, and fish;
- The park conserves a portion of the undeveloped watersheds of Keily Creek and the Besa River. Trimble Lake drains into the Upper Sikanni Chief River.
- The park provides backcountry tourism opportunities to local, provincial, national, and international users. The highly scenic landscape is popular with a wide variety of recreationists, from visitors interested in low-impact nature appreciation to hunters and ATV users.

Redfern-Keily Park contributes to the protected areas system conservation goals concerning representation and special features in the following ways:

- The park protects important areas of the Spruce-Willow Birch (SWBmk) and Alpine Tundra (AT) biogeoclimatic subzones within the Eastern Muskwa Ranges and Muskwa Foothills ecosections. This includes, but is not restricted to, transition zones from subalpine to alpine areas, old-growth spruce habitat, and spruce-pine forests that are characteristic of high mountain valleys of the Rocky Mountains east flank;
- The park provides important habitat for several red- and blue-listed birds, fish, and mammals. It also contains populations of several blue-listed plant species;
- The park preserves a portion of two undeveloped watersheds, Keily Creek and the Besa River, and Trimble Lake;
- Redfern-Keily Park, in association with other surrounding protected areas, protects large mammal predator/prey systems.

Redfern-Keily Park contributes to the protected areas system goals for recreation in the following ways:

- The park provides a backcountry experience which can include, but is not limited to, nature appreciation, hiking, camping, fishing, hunting, snowmobiling, and limited ATV use (designated Muskwa-Kechika Access Management Area route only);
- The park provides local recreation opportunities to residents of northeast British Columbia.
- Redfern Trail provides access to the park via several modes of transportation. This includes snowmobiles, ATV's, horseback, and by foot.

Redfern-Keily Park contributes to the protected areas system goals for cultural heritage values and Parks Division cultural heritage policies in the following ways:

- The park protects significant features; such as the area around Keily Creek which is considered sacred to First Nations, and several historic and prehistoric archaeological sites;
- Traditional use studies may be completed in parts of Redfern-Keily Park by Treaty 8 First Nations and this will add to the inventory of cultural heritage values within the region;
- The park protects portions of the Bedaux expedition trail as well as a known campsite on Redfern Lake.

### **Special Management Considerations**

Redfern-Keily Provincial Park is located in a remote area of British Columbia; however the area sustains use by people for both recreational purposes and to gain a livelihood. At some level the type of access, the use of natural resources, and recreational activities affects the land, water, air, flora and fauna. Activities within the park and adjacent land uses need to be managed to ensure that the park retains its wilderness values.

## **2.2 Cultural Heritage**

Cultural heritage values in Redfern-Keily Park are rich and diverse. It falls within the traditional territory of the Slavey, Beaver, and Sekani cultures from the Fort Nelson, Prophet River, Blueberry River, Doig River, Halfway River, Saulteau, Moberly Lake and McLeod Lake First Nations.

The area has been used in the past for hunting, fishing, and gathering. The Besa River-Keily Creek confluence was a high use camping area for several different groups. Traditional use studies were being contemplated for the area at the time of the development of this plan. Special areas of concern include the Keily Creek area, which is considered sacred, and several prehistoric and historic archaeological sites.

Post-contact cultural heritage values are equally significant. The area was used for hunting and trapping; supplying furs to the Hudson's Bay Company trading posts in Fort St. John and Hudson's Hope. Several surveying expeditions took place in northeast British Columbia. Knox McCusker, a Dominion land surveyor, measured glaciers and snowfields in the Ulysses group in 1932. Another well known expedition, led by Bedaux, camped at Redfern Lake in 1934 and parts of their trail leading north can still be found within the Park.

## **2.3 Natural Heritage**

Redfern-Keily Park has been identified through the LRMP process as having significant natural and cultural heritage values. Important cultural values, spectacular geological structures, pristine freshwater resources, and a diverse assemblage of vegetation, fish, and wildlife make this area a vital part of the provincial protected area system. Its existence also contributes to the sustainability of global ecosystem diversity. This section provides a brief description of the primary natural and cultural attributes of the park, and sets out management objectives and strategies.

### **Geology, Soils and Landforms**

An important part of Redfern-Keily Park is the spectacularly exposed geological structures of the Rocky Mountain area. Thrust faults, rugged castellated peaks, and glacially sculpted U-shaped valleys are a primary component of the area's surface features. In the foothills regions, rounded ridges are the principle surface features. Stratified and sedimentary rock is predominant in the area with limestone, dolomite and shale being most common.

There are seven main mountains in the park, and Mount Ulysses (2990 m) is recognized as the highest peak in the Muskwa-Kechika Protected Area. Erosion and corrosion are significant forces that impact surface features of the area. This can be seen in structures such as the hoodoos on Besa River below Mount Dopp.

Glaciers have also played an important role in shaping the current landscape. The area was covered with ice during the last glaciation which lasted from 25,000 to 10,000 years ago. As the ice sheets receded, the area was inundated by a glacial lake that covered the lowlands between the Muskwa and Prophet Rivers and the lower Sikanni Chief River.





**Plate 1: Serrated Peaks showing Folding due to Tectonic Activity (photo: Diversified Environmental Services)**

## **Water**

Redfern-Keily Park has relatively pristine fresh water resources. The west side of the park contains several large ice fields and includes both the Ithaca and Achaeon glaciers. These feed the waters of the Besa River and Keily Creek. The entire drainage system for Petrie Creek is also within the park. The Besa River passes through Redfern Lake, which is the largest in the park. There are two other relatively large lakes within the park. Fairy Lake and its tributaries feed into the Besa River drainage system. Trimble Lake and its tributaries, in the South East corner of the park, feed into the Upper Sikanni Chief drainage system. All of the waters in the park eventually drain into the Arctic Ocean. Figure 1 describes the size of these three lakes.

The park contains many other significant aquatic features or values. Several waterfalls with heights from 5 to 50m are found on both main and side channels of all the creeks and rivers in the area. Both of the drainage systems represented in the park, the Besa and the Upper Sikanni Chief, are undeveloped. Situations such as this are becoming rare as resource exploration and extraction continue to increase.

**Table 1: Surface Area and Average Depth for Lakes in Redfern-Keily Provincial Park**

<b>Lake</b>	<b>Surface Area (m<sup>2</sup>)</b>	<b>Average Depth (m)</b>
Redfern	5,390,000	43.5
Trimble	3,140,000	13.9
Fairy	1,510,000	29.9



Plate 2: Waterfall on a Tributary to Keily Creek (photo by Diversified Environmental Services)

### Vegetation

Redfern-Keily Park contains two biogeoclimatic subzones. The moist, cool Spruce-Willow Birch (SWBmk) subzone is found along the valley bottoms. This area is predominantly forested with white spruce and sub-alpine fir, with lesser amounts of lodgepole pine, black spruce and trembling aspen. Scrub birch and willow are also common. Areas with poor drainage contain white spruce and tall willow swamps, sedge fens, or marshes. The northern Alpine Tundra (AT) subzone is found at higher elevations. Vegetation consists mainly of shrubs, heathers, herbs, mosses, and lichens. White and Engelmann spruce and sub-alpine fir are the dominant tree species, however they usually exhibit a stunted growth form due to the harsh environmental conditions.

Controlled burning has been used in the past to improve the forage for both domestic livestock and wildlife. The north side of Trimble Lake and the north side of Keily Creek just before the confluence with the Besa River are two areas that have been traditionally burned.

Sections of old growth spruce forests can be found along river valley bottoms. There is an especially significant band of this along Keily Creek. **Redfern-Keily Park contains several provincially blue listed plant species. A listing of these can be found in appendix G.**

### Wildlife

Redfern-Keily Park provides important habitat for several vertebrate species. Ungulates, such as caribou, moose, elk, Stone's sheep, mountain goat, mule deer, and white-tailed deer, use the area as transitional range as well as year round habitat. The valleys and south facing slopes are especially important winter range for many of these species. Large

carnivores, such as wolves, black bears, and grizzly bears, can also be found in the area. Many furbearer species use the old growth habitat along the creeks and rivers.

A free roaming herd of Plains bison occasionally moves into the south east corner of the park in the area of Trimble Lake. They find abundant food in the many natural meadows and areas that have been burned.

Controlled burning in this area has improved habitat for many of the ungulate species. Burns along the south-facing slopes above Besa River have increased the quantity of elk habitat within the park.

Other important features in the area are the many mineral licks. Ungulates congregate in these areas to ingest salts that are concentrated on the surface. They are formed due to down slope water movement depositing materials leached from the surrounding rocks and soils.

Redfern-Keily Park also provides important habitat for many species of birds, amphibians, reptiles, and invertebrates. **Appendix H contains a list of provincially red- and blue-listed wildlife.** Special care must be taken when making management decisions to include the habitat requirements of these species.

### **Fisheries and Aquatic Resources**

Redfern-Keily Park has indigenous fish populations typical of many cold water systems. Redfern Lake contains Lake trout, Lake whitefish, Pigmy whitefish, and Bull trout. Trimble Lake contains Mountain whitefish and Arctic Grayling. The creeks and rivers have populations of Mountain whitefish, Bull trout, and Arctic Grayling.

Redfern, Fairy, and Trimble lakes were legally stocked with rainbow trout in 1984. These fish have adapted well to their new habitat and can now also be found in the Besa River and Nevis Creek. Arctic Grayling was illegally stocked into Trimble Lake from as early as 1959.

There are several waterfalls in the area that act as barriers to fish migration. Two sets of falls downstream isolates Fairy Lake it from the rest of the Besa River system. Trimble Lake and parts of the Sikanni Chief River are blocked from the rest of the drainage system by Sikanni Falls. When populations of fish exist upstream of a barrier such as a waterfall, they are genetically isolated and therefore should have special protection to ensure their survival.

Prior to making management decisions, it is vital to know areas that are important habitat for different fish species. Bull trout, which is a provincially blue-listed species, requires specific spawning habitat which can be found within Redfern-Keily Park. Adults' winter in the lower Prophet main stem and move to spawning tributaries by late summer. Petrie Creek has been identified as potentially important spawning area, as well as Keily Creek to a lesser extent. Mature Arctic Grayling use the area for post-summer refuge and they are especially sensitive to over-harvest at this time. Mountain whitefish have been known to spawn in the Besa main stem.

## 2.4 Recreation

Redfern-Keily Park has been identified through the LRMP process as having important outdoor recreation values. It provides the type of wilderness backcountry experience that is becoming difficult to find in parks closer to more populated areas. The Muskwa-Kechika Management Area Recreation Management Plan (Table 2. Values, Current Situation and Assumptions) estimates the current recreation value of the park as being \$500,000 - \$1,000,000. This amount is based on direct monetary purchases by public and commercial users. It also estimates that there will be a 34-66% increase in public use and a 67+% increase in commercial use in the future.

### Landscape Setting and Feature Values

Redfern-Keily Provincial Park contains some of the most scenic landscapes in the Northern Rocky Mountains. Lush alpine meadows, forested valley bottoms, serrated peaks, glaciers, waterfalls and large valley lakes dominate this mountainous landscape. The brilliant blue colours of Redfern, Fairy and Trimble Lakes are among the park's most outstanding features. One of the main drawing points is the parks wilderness landscape. Very few areas in the park have been visually impacted by human presence. Once you have left the main access areas, it is possible to travel without seeing another person or any indication that the area has been visited before.



**Plate 3: Beautiful Scenery Typical of Redfern-Keily Park**

### Access Management

Access into Redfern-Keily Park is an issue that has significant impact on the management of conservation and recreation values. Allowing only limited ATV access ensures that most of the wilderness areas of the park remain free from the influence of people. However, providing an adequate system of trails (for both motorized and non-motorized uses)



ensures that the public will continue to be able to enjoy the natural beauty that the park has to offer.

Currently, the main access into Redfern-Keily Park is along the 80 km Redfern Trail. This is a Muskwa-Kechika Access Management Area (AMA) route that starts at the Alaska Highway, runs along Nevis Creek up Besa River to Redfern Lake. It is open to both motorized and non-motorized access. Within the park, motorized vehicles must stay within 10m of the trail. A second AMA route starts at the highway and runs along Sikanni Chief River to Trimble Creek. At this point the trail ends and access into Redfern is only open to non-motorized users (except snowmobiles) between Trimble Creek and the park boundary. The park can also be accessed by rotary and fixed wing aircraft.

Redfern-Keily Park contains lands that are tenured for guide/outfitting and trapping. There is also a public use cabin built by the Northland Trail Blazers Snowmobile Club that is registered with the government. **For a listing of tenures within the area see appendix E.**

### **Outdoor Recreation Opportunities and Facilities**

Redfern-Keily Park provides many opportunities for outdoor recreation. The most popular activities include hunting, fishing, hiking, camping, boating, photography, ATV use, snowmobiling, and wildlife and scenic viewing. The area is typified by a diverse landscape including rugged mountains, rolling hills, and many lakes and streams. Recreational possibilities are virtually limitless.

Public facilities inside the park are somewhat limited. There are three main trails that provide motorized and/or non-motorized access and movement within the park. Several unmarked trails are also present and can be used by hikers and horseback riders. Four public campsites are located along Redfern Trail. These are very basic and can provide camping opportunities for 5-7 small groups. The Northland Trail Blazers Snowmobile Club has built a public use cabin at Redfern Lake. This structure has a large woodstove and can lodge up to twelve people.



**Plate 4: Hiking in the Alpine is a Favourite Recreational Activity**

Redfern-Keily Park is located within two guide outfitter territories. The two outfitting companies provide several guided recreation opportunities. The most popular activities include fishing, hunting, trail rides, wildlife and bird viewing, photo safaris, hiking, and snowmobiling. Both companies have cabins and/or campsites for their clientele to use.



**Plate 5: Guided Horseback Trips are Popular with Visitors**

Redfern-Keily Park provides recreational opportunities for a wide range of people, from naturalists to big game hunters. It is important that all visitors understand this and be considerate of other users. In the fall, non-hunters must be aware of the potential hazards associated with hunting.

Visitors must keep in mind when planning for their trips that the area is a remote wilderness. There are limited public facilities and it is advisable to come prepared to be self-sufficient, bringing proper camping, cooking, food and water supplies. There are no communication facilities within the park so rescue services are not easily contacted. Information related to pre-trip planning and special concerns can be obtained via the BC Parks website and the local BC Tourism Info-centres.

This park can provide a completely solitary wilderness experience. However, there are specific areas and times of year when use levels are higher than normal. The main access trails, as well as the areas surrounding the three lakes have the highest levels of use in the park. The hunting season brings in the greatest number of people, especially during the September long weekend. Another popular time for people interested in fishing is in June when the ice comes off the lakes.

Redfern-Keily Park is located in a relatively remote, wilderness area, and a number of permitted main campsites are used by the guide outfitters in the Park, and various smaller cabins have been built by guide outfitters in the area for use as hunting and fishing camps.

**See Appendix B for a description of all Tenures and Permits.**

### **Visitor Experience**

Redfern-Keily Park is to be maintained as a wilderness, backcountry area. This means that visitor use levels need to be kept relatively low. Promotion of the park must therefore be minimal. There does, however, need to be some information available to the public to facilitate trip planning. Trails and camping facilities should be identified on a map on the BC Parks website. Also, contact information for commercial operators should be available so that visitors who could not normally access the park on their own have the opportunity to experience the area.

Muskwa-Kechika Management Area plans contain strategies that provide management direction for issues concerning Redfern-Keily Park. One of these states that signage is not generally allowed.

Redfern-Keily Park has several special concerns that must be understood by visitors to the area. It is a remote, wilderness area that is not easily accessible to emergency personnel. This means that it is not a recommended destination for inexperienced or ill-prepared individuals. Also, the park is home to many large mammals which must be treated with respect at all times. Caution and common-sense must be exercised when encountering any animal as there is always a potential for conflict.



## **2.5 Other Park Attributes**

### **Trapping**

Some additional cabins have also been built for use by trappers. ....

### **Grazing**

.....

## 3.0 Management Direction

### 3.1 Vision

The PARK will be managed as a world-class area for wildlife, the preservation of wilderness, and recreation. The Park will maintain in perpetuity a wilderness quality and diverse and abundant wildlife and ecosystems, while allowing a sustainable level of recreation, and will employ a traditional knowledge and science-based ecological approach for all levels of management

### 3.2 Management Issues, Objectives and Strategies

Objectives	Strategies
Manage access to protect the natural, cultural and aesthetic values of the park.	<p>Follow the guidelines of the M-K Access Management Area Regulation. Changes will only be implemented through the existing AMA process, or by Park Permit.</p> <ul style="list-style-type: none"><li>♦ Implement access limitations.</li></ul> <p>Monitor motorized boat use to determine if conservation values in aquatic and riparian ecosystems are being impacted and implement restrictions as necessary, in consultation with interest groups.</p> <p>Maintain Redfern Trail to ensure that limited environmental or aesthetic degradation occurs.</p> <p>Monitor access and its impacts on natural, cultural or aesthetic values. Adjust management strategies accordingly.</p> <p>Continue enforcement presence in the park to ensure compliance with regulations.</p>
Maintain an adequate level of access for public users.	<p>Allow traditional forms of access to continue with some limitations.</p> <p>Snowmobiles are allowed in the wilderness recreation zone. The exception is that trappers are allowed to use snowmobiles in the entire park for purposes relating to their trap-line.</p> <p>Allow ATV use on the designated trail only.</p> <p>Non-motorized forms of access are allowed in the entire park.</p>
	<p>Landings are permitted in all areas of the park.</p> <p>New landing strips and heli-pads will not be developed within the park boundaries, unless authorized by a park permit.</p>
Manage tenures within the park to meet conservation objectives while considering the needs of the holders.	<p>Evaluate current activities of tenure holders.</p> <p>Consult with tenure holders on all aspects of management relating to their activities.</p> <p>Encourage a feeling of stewardship for the park.</p>

Minimize environmental and visual impacts due to the tenured activities.	<p>Regulate facility development/ maintenance.</p> <p>Require that replacement or modification of structures/facilities be approved by BC Parks.</p> <p>Ensure that there is no significant increase in the “footprint” created by man-made structures.</p> <p>Ensure that existing structures are maintained at an acceptable level. The rustic nature of the park should be mirrored in all facilities.</p> <p>Ensure that sanitary facilities conform to environmental health standards and are located away from water sources.</p>
Maintain the wilderness qualities of the park while providing a full range of wilderness recreation opportunities.	<p>Follow the guidelines of the Recreation Management Plans created for the Muskwa-Kechika Management Area. BC Parks can deviate from these when it is deemed necessary to protect natural or cultural values.</p> <p>Use zones and trail regulations to limit motorized access to areas affected by high-impact recreation.</p> <p>Establish no new facilities in the park except for</p> <ul style="list-style-type: none"> <li>♦ the establishment of a BC Parks cabin to provide accommodation for park rangers during seasonal enforcement work, and as a base station in the park,</li> <li>♦ areas where impacts are causing degradation of park values,</li> <li>♦ the establishment of hardened campsites where impacts are noted, and</li> <li>♦ the rebuilding, upgrade and maintenance of existing structures, within the same footprint, may occur.</li> </ul> <p>Review all proposals for public facility development to determine their necessity and impacts.</p> <p>Ensure facilities match the parks wilderness setting.</p>
Ensure continued public access to the park is not jeopardized by commercial access.	<p>Monitor the opinions of public recreationists concerning the levels of commercial use.</p> <p>Assess the impact of existing or proposed commercial recreation activities to public access.</p> <p>Place a greater emphasis on the availability of public access when making management decisions.</p>
Promote low-impact and non-motorized recreational activities within the park	<p>Encourage participation in non-motorized and low-impact activities.</p> <ul style="list-style-type: none"> <li>♦ Allow mountain bike access on designated trails.</li> </ul> <p>Promote nature appreciation and photography. Areas and times to focus on include:</p> <ul style="list-style-type: none"> <li>♦ Experiencing alpine wildflowers in bloom in July and August;</li> <li>♦ Visiting old-growth forests on Keily Creek.</li> </ul>
Ensure that recreational activities are monitored for their potential impacts on natural and cultural values, and are managed appropriately.	<p>Monitor all recreational activities on a continuing basis.</p> <p>If potential negative impacts are identified, research will be conducted to determine the appropriate mitigation measures.</p> <p>If no suitable methods are found, the activity can be regulated or restricted.</p>

Honour existing uses where compatible with conservation goals.	Allow the continued use of the park for hunting, fishing, snowmobiling, ATVs and horses; restrictions may be implemented as necessary to protect park values.
Enhance visitor awareness of parks values, wildlife etiquette and user safety.	Promote the “leave no trace” wilderness ethic for public lands. Educational information will be made available on the internet, in a written format and through inquiries of parks staff. Provide and promote Bear awareness information.
Minimize conflicts between park users.	Use zoning to separate motorized and non-motorized users.
Monitor use levels and manage accordingly in order to maintain the wilderness experience.	<ul style="list-style-type: none"> <li>• Implement appropriate measures if use levels become too high.</li> </ul>
Manage activities associated with recreational horse use.	<p>Monitor horse use impacts.</p> <ul style="list-style-type: none"> <li>♦ Regulate horse use as necessary for conservation purposes.</li> <li>♦ Assess the possible use of permits to limit numbers and length of stay.</li> </ul>
Ensure an acceptable level of safety for park users.	Educate winter users of the potential avalanche hazard and recommend that individuals have avalanche awareness training to travel in the park. Follow the guidelines of the Peace Liard District Bear-People Conflict Prevention Plan.
Maintain commercial recreation opportunities within the park.	Allow existing companies to continue working within the park.
Determine levels of use and management practices for commercial recreation that are consistent with park objectives and protect natural and cultural values.	<p>Collect information from commercial operators regarding use associated with their business.</p> <p>Work with commercial operators to encourage stewardship of the parks and develop a code of conduct appropriate for the area.</p>
Manage activities associated with commercial horse use.	<p>Determine amount of available forage, and appropriate allocation levels for wildlife vs. horses.</p> <p>Research the appropriateness of prescribed burning to enhance forage availability. If complementary to conservation values, parks staff will conduct burning with the cooperation of guide/outfitters, MoF and wildlife management staff.</p>
Increase public understanding and appreciation of natural, cultural and	<p>Work with commercial operators to provide educational messages to park visitors.</p> <p>Use written and verbal information regarding local flora and fauna and its importance to the whole ecosystem.</p>

recreation values within the park.	<p>Include interpretive messages in all written information concerning the park. Some of the key topics include:</p> <ul style="list-style-type: none"> <li>• <b>Natural Heritage:</b> conservation biology, the importance of undisturbed wilderness to wildlife, the park's role in the representation of natural diversity;</li> <li>• <b>Cultural Heritage:</b> early explorers, the history of fur-trading, the importance of the protection of First Nation's traditional sites and practices;</li> <li>• <b>Outdoor Recreation:</b> wilderness and conservation ethics, outdoor safety, multi-user trail etiquette, opportunities within the park.</li> </ul> <p>Ensure all parks staff, especially those in direct contact with the public, are aware of the interpretive information that should be focused on.</p> <p>Schools, community groups and public meetings are just a few of the venues where public understanding and support of the stewardship role of parks can be fostered. Three examples of such messages are:</p> <ul style="list-style-type: none"> <li>• The significance of undisturbed wilderness areas to biodiversity and ecological sustainability;</li> <li>• The value of "low-impact only" areas in provincial parks;</li> </ul>
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### 3.3 Zoning

Redfern-Keily Park contains two of the five management zones. The Nature Recreation Zone encompasses 1,455.1 ha or 1.8% of the park. The Wilderness Recreation Zone encompasses 79,315.5 ha or 98.2% of the park. The protected area zone boundaries were mapped using features such as contours, height of land, and water features.

#### Nature Recreation Zone

The Nature Recreation Zone is located in the south-east region. It includes Redfern Lake and the main M-K Access Management Route. The main goal of this zone is to provide backcountry recreation opportunities while protecting the natural environment. This area of the park is most easily accessible and provides a staging ground for recreational activities in the rest of the park. There has been limited facility development and levels of use are relatively low so the area still retains a feeling of wilderness.

#### Wilderness Recreation Zone

The remainder of the park is zoned Wilderness Recreation. It includes Keily and Petrie Creeks, and all of the mountains and ice fields. The main objective of this zone is to protect the natural environment while providing low-impact, unassisted wilderness recreation. This area of the park contains important wildlife habitat and spectacular landscape features. Future development is not allowed; this will enable visitors to have a solitary wilderness experience in the park. An exception is new trapline cabins in

accordance with a park permit. **Appendix F contains an allowable use matrix which covers activities, use and facilities in each management zone.**

## 4.0 Plan Implementation

Creation of this plan is only the first step in the continuing process of park management. The next is an ongoing procedure of implementation. The strategies outlined above are only useful if they are put into practice in a timely and appropriate manner. Since parks staff cannot accomplish everything at once, strategies need to be prioritized. Then as time and funding becomes available a course of action has already been developed.

### High Priority Strategies

Many of the strategies outlined require immediate attention and should have the highest priority for implementation. These include enforcement of regulations and creation of lower level management plans. The following list is not in order of importance.

#### **Park Management**

Protect important First Nations sites and features by keeping their location undisclosed.

#### **Motorized and Mechanized Use and Access**

Work with industrial interests in adjacent RMZ's to ensure alternative access is considered away from park boundaries.

Snowmobiles, on MK/Park access route, may be subject to temporal limitation (restricted for a specific time period) and weight restriction according to the MKMA plan.

ATVs will only be permitted on the designated M-K AMA access route.

#### **Facility and Infrastructure Management**

Upgrade existing facilities as necessary, but maintain the same ecological footprint as the original structure.

Establish no new facilities within the parks, except for

- areas where impacts are causing degradation of park values
- the establishment of a BC Parks cabin to provide accommodation for park rangers during seasonal enforcement work; and as a base station in the park.

#### **Research and Assessment**

To be prioritized where staff, funding and time permits

Evaluate current activities of the tenure holders. Determine which practices are consistent with park values, and allow these to continue.

Conduct overview and, where strategic, in-depth inventories and research of the flora, fauna (bird, mammal, reptile, amphibian, aquatic organisms and invertebrate), water quality, listed species, critical habitats, the fire regime, fuel loading, and duff layers in the parks. Studies should include population mapping, distribution,



presence/not detected, critical habitat mapping, habitat requirements and migration pattern studies

Assess recreational uses and associated impacts to ecology within the park, if potential negative impacts are identified, then conduct research to determine the appropriate mitigation measures.

Assess all replacement or maintenance of facilities, or activities, to ensure they will not negatively impact natural, cultural or recreational values. Focus on areas of impacts to the natural environment and/or recreational experience.

### **Implementation**

Implement greater spatial or temporal restrictions as necessary and/or adjust management strategies accordingly. Limitations and restrictions will be based on degradation of park values.

Designate and maintain trails and hardened campsites in areas where park values are impacted.

Use zoning to limit motorized access if use levels increase and negative impacts become an identified conservation issue.

## **Task or Project Strategies**

Many strategies involve research projects or short-term tasks. These should be implemented as soon as possible; however it is not vital that they be completed immediately. The following list is not in order of importance.

Follow the guidelines of the Wildlife Management Plan created for the Muskwa-Kechika. BC Parks can deviate from this when it is deemed necessary.

Follow the guidelines of the Muskwa-Kechika Recreation Management Plan.

### **Research and Assessment**

To be prioritized where staff, funding and time permits

Develop vegetation, wildlife and fire management plans; utilize existing plans where necessary e.g. MoF range use plan.

Design a method to collect informal information for various park values from commercial operators and other park visitors.

### **Consultation**

Consult with First Nations, commercial operators, the Ministry of Energy and Mines, Ministry of Sustainable Resource Management, the Oil and Gas Commission, the Ministry of Forests, lease and tenure holders, industry, commercial interests, and user groups to:

- establish requirements and methods to protect park values concerning access, environmental impacts and visual quality,

- ensure that the commercial activities are not negatively affecting the wilderness experience for park visitors,
- encourage a feeling of stewardship for the park,
- ensure protection of significant habitats and listed species by limiting activities in areas with identified vulnerable park values, and to
- plan and implement studies.

## **Education**

Provide management messages through the Parks Internet Website; convey information to visitors in person where possible and by written communication.

Work together with industry and community organizations to provide educational messages to the public.

Educate the BC public and park visitors about concepts such as the

- effects that motorized boat access has on the environment, and
- methods and consequences of introducing non-native or exotic species to the park; plant, animal etc.

Encourage participation in non-motorized and low impact activities by allowing the activities and promoting concepts such as nature appreciation and photography.

Provide recommendations regarding horse use on the Parks webpage

## **Recreation**

Maintain recreational fishing opportunities under the current provincial angling regulations.

Assess all proposed commercial recreation operations individually to determine if they are compatible with the park vision and roles.

## **Implementation**

Issue park permits as necessary, following the appropriate approval process.

Conduct a burning program, if complementary with conservation values, with cooperation from guide outfitters, MoF and wildlife management staff.

Maintain bridges at large water crossings on Redfern Trail

## **○ Ongoing or Monitoring Strategies**

A majority of the strategies require ongoing management responsibility. These include tasks such as consultation and implementation of lower level plans. It is also important to monitor the effects of activities and make the necessary adjustments to management practices. This is the only way to ensure that the conservation and recreation goals of the park are being met. The following list is not in order of importance.

Ensure that tenure holder's practices are consistent with park values and allow these to continue.

Follow the guidelines of the Wildlife and Recreation Management Plans created for the Muskwa-Kechika Management Area.

### **Access**

Follow the guidelines of the Park Act and the M-K Access Management Area Regulation.

Maintain the Redfern Trail to ensure that limited environmental or aesthetic degradation occurs.

Monitor access and its impacts on natural, cultural and aesthetic values to determine if future access restrictions are necessary.

Monitor commercial access along park boundaries and assess the impact that existing or proposed commercial recreation activities have on public access.

Monitor recreational activities such as horse use, recreational fishing activities, snowmobiling and hiking for erosion, soil compaction or impact to the value.

Gather information about the recreational fishery data from anglers.

Monitor aircraft periodically to determine whether there are detrimental effects to wildlife or the recreational experience.

### **Enforcement**

Continue to enforce provincial fish and wildlife regulations.

### **Facility Development and Infrastructure Management**

Regulate facility development and maintenance through mechanisms including approval by BC Parks, monitoring facility condition, requiring that facilities be maintained and uphold a rustic appearance by tenure holders, and regulating garbage disposal.

Review all proposals for public facility development to determine necessity and impacts.

### **Research and Assessment**

To be prioritised where staff, funding and time permits

Monitor recreational fishing activities focusing on Redfern, Trimble and Fairy Lakes. Collect information regarding species caught, numbers caught and fish size.

Monitor human activity e.g. mechanized and motorized activity and its effects on the surrounding natural environment. Consider impacts to ecological integrity, biodiversity, water quality, exotic species introduction and impacts, and specific flora and fauna.

Monitor all recreational activities on a continuing basis, according to identified priorities.

#### **Enforcement**

Ensure that all pertinent regulations and restrictions are enforced.

#### **Horse Use**

Regulate horse use as necessary for conservation purposes e.g. processed supplemental feed and the length of time before a horse may enter the park.

## 5.0 Glossary

**Access:** a way or method of approach, (includes paths, trails, routes, corridors, roads, rails, etc.), to a specified interest

**Access Management:** the process of planning, developing, regulating and deactivating a way or means of approach to a specified interest

**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 (*from: Douglas Glaum communication, April 1996*)

**Backcountry:** an area in a park or recreation area that is farther than one kilometre from either side of the centreline of a park road or a highway

**Biodiversity or Biological Diversity:** the variety of plants, animals and other living organisms in all their forms and levels of organization, and includes the assortment of genes, species and ecosystems, as well as the evolutionary and functional processes that link them

**Biogeoclimatic Zones:** the 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:** those 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 vulnerable to further disturbance

**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-elevation (*from: Biodiversity Guidebook, September 1995*)

**Conservation:** the careful protection, utilization, and planned management of living organisms, and their vital processes to prevent their depletion, exploitation, destruction, or waste

**Conserve:** to keep in a safe or sound state; to avoid wasteful or destructive use of

**Ecosection:** a natural region distinctive in landform, hydrology, vegetation and climate

**Ecosystem:** a community of animals, plants and bacteria and its interrelated physical and chemical environment

**Endangered:** a species is facing imminent extirpation or extinction, COSEWIC

**Facility:** something that is built, installed, or established to serve a particular purpose

**Firearm:** a rifle, shotgun, handgun, spring gun or any device that propels a projectile by means of an explosion, compressed gas or spring, but does not include a longbow or crossbow

**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 due to human actions, such as forestry, mining, road building, seismic activity, etc. It can lead to declines in biodiversity

**Frontcountry:** an area in a park or recreation area within one kilometre of either side of the centreline of a park road or a highway

**Goal:** broad statements that describe a future vision with respect to a particular subject (environmental, social or economic)

**Group:** 15 or more persons

**Guide:** a person who, for compensation or reward received or promised, accompanies, assists or provides a service to another person

**Guideline:** a preferred or advisable course of action respecting park and protected area management. Guidelines imply a degree of flexibility, based on administrative judgment or feasibility to apply the guideline, and are consequently not normally enforceable through legal means

**Habitat:** the place or type of site where an organism or population naturally occurs. Species may require different habitats for different uses throughout their lifecycle

**Issue:** problems and unrealized opportunities respecting land and resources that a management planning process will address. Identification and documentation of planning and management issues is an important step in the planning process as a basis for assembling relevant planning information and for developing appropriate management objectives and strategies

**Land and Resource Management Planning (LRMP):** the sub-regional integrated resource planning process for British Columbia. LRMP considers all resource values and requires public participation, interagency co-ordination and consensus-building in land and resource management decisions

**Maintain:** to keep in an existing state (as of repair, efficiency, or validity): preserve from failure or decline

**Manage:** to handle or direct with a degree of skill or address; to treat with care; to exercise executive, administrative, and supervisory direction of

**Management Strategy:** a method for achieving an end or objective

**Natural:** an event or state within the environment that occurred without direct influence or involvement by humans.

**Natural Resources:** land, water and atmosphere, their mineral, vegetable and other components, and includes the flora on and fauna on and in them

**Objective:** a concise, measurable statement of a desirable future condition for a park value, activity or use which is obtainable through management strategies and actions

**Old-growth:** 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)*

**Operations Permit:** a park use permit or resource use permit issued for the operation of campground and day use facilities in a park or recreation area

**Operator:** a person authorized by a park use permit or resource use permit to operate facilities in any part of a park or recreation area

**Packer:** a non-commercialized activity wherein a person may escort a hunter or group of hunters to an area. A packer may not give any indication as to where game may be residing, however the packer may pack out an animal that was killed by the hunter (s).

**Park:** land managed and administered by the minister under section 6 of the Act; Crown land established or continued as a park by or under this Act or the *Protected Areas of British Columbia Act*

**Park Officer:** an employee of the ministry

**Park Ranger:** a park officer appointed by the minister as a park ranger;

**Park Road:** a road in a park or recreation area that is designed and developed for the passage or parking of motor vehicles licensed under the *Motor Vehicle Act*

**Park Use Permit:** a licence, issued under the Act, authorizing an activity or a course of behaviour or conduct, or the occupancy, use, development, exploitation or extraction of a natural resource on or in a park

**Party:** up to 8 persons, of whom at least one, but no more than 4, is 16 years old or older, and who may have with them (a) one recreational or non-recreational vehicle, and (b) one legally towed trailer

**Permanent Structure:** those that will remain without marked change, i.e. cabins, tent platforms, etc

**Pollution:** any alteration in character of quality of the environment which renders it unfit or less suited for certain uses

**Predator-prey System:** a combination of a population of large predators, a complex of prey populations, and the environment in which this relationship exists. In the Fort Nelson Forest District, there are two large predator-prey systems: bears and wild ungulates; and wolves and wild ungulates. Any network of areas designed to maintain large predator-prey populations must include the centre of their occurrence and the vital linkages or movement corridors between them

**Preserve:** to keep safe from injury, harm, or destruction: protect; to keep up and reserve for personal or special use

**Promote:** to contribute to the growth or prosperity of: further

**Protect:** to cover or shield from exposure, injury, or destruction: guard

**Protected Area:** a designation of areas of land and water set aside to protect natural heritage, cultural heritage or recreational values (includes Provincial Park, ecological reserve and protected area designations)

**Protected Area Role Statements:** articulate the reasons the protected area or park exists; they do not include mandates for management or other legislative requirements

**Protected Area Strategy (PAS):** a BC Provincial strategy to develop and expand the provincial protected area system. The intention is to protect 12 per cent of the provincial land base by the year 2000. The goals of the strategy are to protect viable, representative examples of natural diversity in the province, and special, natural, recreational and cultural heritage features

**Red-listed Species:** those that 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 BC is endangered. Threatened taxa are those indigenous species or subspecies that are likely to become endangered in BC if factors are not reversed

**Regionally Important Species** means those that are not red- or blue-listed, but 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 of critical habitats

**Rehabilitation:** to re-establish to condition of good health

**Resource Use Permit:** a licence, issued under this Act, authorizing an activity or course of behaviour or conduct or the occupancy, use, development, exploitation or extraction of a natural resource on or in a recreation area

**Restoration:** the process of repairing damage caused by humans to the diversity and dynamics of indigenous ecosystems

**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, March 1995)*

**Route:** a general area defined by geography to enable travel from Point A to Point B; may or may not be passable

**Sensitive Species:** those plant or animal species susceptible or vulnerable to activity impacts or habitat alterations

**Snowmobile:** a vehicle designed primarily for travel on snow or ice, having one or more steering skis, self propelled and using one or more endless belts or tracks driven in contact with the ground



**Snowmobile Trail:** a route altered by humans either by or for snowmobile use

**Species at Risk:** (a) any 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

**Strategy:** a method of achieving a management objective

**Structure:** any building or permanent improvement constructed, placed or established on *Park Act* lands, excluding pit toilets

**Summer Season:** the period from June 15 to Labour Day

**Temporary Structure:** those that last for a limited time, i.e. tent frames and tent floors

**Threatened or Endangered Species:** indigenous species that are either threatened or endangered, and identified as 'red-listed' by the Ministry of Environment, Lands and Parks (*from: Biodiversity Guidebook, September 1995*)

**Traditional:** defined through the LRMP process

**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 a legendary or past event of cultural significance (*from: Douglas Glaum communication, April 1996*)

**Tributary:** a stream that contributes its water to another stream or body of water

**Trail:** a route altered by humans (i.e. blazing, cutting, clearing); has some frequency of use; goes from point A to point B; involves some level of maintenance; may also include snowmobile trails

**Trapping Cabin:** a cabin used for shelter and for storage of trapping supplies on a periodic but temporary basis in conjunction with the operation of a trapline; maximum size requirement

**Trip:** a non-exclusive commercial excursion of not more than 10 days within a park or recreation area

**Ungulate:** a hoofed mammal

**Vessel:** a boat, canoe, kayak or other craft used, or capable of use, for navigation on water

**Viable Population:** a population that can withstand the normal cycles of environmental factors without going to extinction

**Vulnerable Species:** those that are not threatened or endangered but are sensitive and particularly at risk, and identified as 'blue-listed' by the Ministry of Environment, Lands and Parks (*from: Draft Wildlife Habitat Areas Field Guide, October 1994*)

**Waste:** waste as defined in the *Waste Management Act*

**Watershed:** an area drained by a particular stream or river. A large watershed may contain several smaller watersheds

**Water Quality Parameters:** include 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*)

**Wetland:** a 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

**Wilderness:** an area generally greater than 1000 hectares that predominantly retains its natural character and on which human impact is transitory, minor and in the long-run substantially unnoticeable

**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;

**Yellow-listed Species:** those identified by the Ministry of Environment, Lands and Parks that require a management emphasis on a regional basis

# Appendix 1:

## Rare Vascular Plant Tracking List: Fort St John Forest District

Scientific Name	English Name	Status
<i>Alopecurus alpinus</i>	alpine foxtail	Blue
<i>Anemone canadensis</i>	Canada anemone	Blue
<i>Arnica chamissonis</i> ssp. <i>incana</i>	meadow arnica	Blue
<i>Artemisia longifolia</i>	long-leaved mugwort	Red
<i>Atriplex nuttallii</i>	Nuttall's orache	Red
<i>Calamagrostis montanensis</i>	plains reedgrass	Red
<i>Carex bicolor</i>	two-coloured sedge	Blue
<i>Carex misandra</i>	short-leaved sedge	Blue
<i>Carex rupestris</i> ssp. <i>rupestris</i>	curly sedge	Blue
<i>Carex torreyi</i>	Torrey's sedge	Blue
<i>Carex xerantica</i>	dry-land sedge	Blue
<i>Draba glabella</i> var. <i>glabella</i>	smooth draba	Blue
<i>Draba lactea</i>	milky draba	Blue
<i>Draba porsildii</i>	Porsild's draba	Blue
<i>Epilobium hornemannii</i> ssp. <i>behringianum</i>	Hornemanns willowherb	Blue
<i>Epilobium leptocarpum</i>	small-flowered willowherb	Blue
<i>Eriophorum vaginatum</i> ssp. <i>vaginatum</i>	sheathed cotton-grass	Blue
<i>Glyceria pulchella</i>	slender mannagrass	Blue
<i>Gymnocarpium jessoense</i> ssp. <i>parvulum</i>	Nahanni oak fern	Blue
<i>Helictotrichon hookeri</i>	spike oat	Blue
<i>Juncus arcticus</i> ssp. <i>alaskanus</i>	arctic rush	Blue
<i>Lomatium foeniculaceum</i> var. <i>foeniculaceum</i>	fennel-leaved desert-parsley	Red
<i>Lomatogonium rotatum</i>	marsh felwort	Blue
<i>Luzula nivalis</i>	arctic wood-rush	Blue
<i>Luzula rufescens</i>	rusty wood-rush	Blue

<i>Minuartia austromontana</i>	Rocky Mountain sandwort	Blue
<i>Oxytropis jordalii ssp. davisii</i>	Jordal's locoweed	Blue
<i>Penstemon gracilis</i>	slender penstemon	Red
<i>Polemonium boreale</i>	northern Jacob's-ladder	Blue
<i>Polemonium occidentale</i>	western Jacob`s-ladder	Blue
<i>Polygala senega</i>	seneca-root	Red
<i>Polypodium sibiricum</i>	Siberian polypody	Red
<i>Ranunculus pedatifidus ssp. affinis</i>	birdfoot buttercup	Blue
<i>Ranunculus rhomboideus</i>	prairie buttercup	Red
<i>Rosa arkansana var. arkansana</i>	Arkansas rose	Blue
<i>Rumex paucifolius</i>	alpine sorrel	Blue
<i>Salix petiolaris</i>	meadow willow	Blue
<i>Senecio plattensis</i>	plains butterweed	Blue
<i>Senecio sheldonensis</i>	Mount Sheldon Butterweed	Blue
<i>Silene drummondii var. drummondii</i>	Drummond's campion	Blue
<i>Silene taimyrensis</i>	taimyr campion	Blue
<i>Solidago nemoralis ssp. longipetiolata</i>	field goldenrod	Blue

#### Rare Vascular Plant Tracking List: Mackenzie Forest District

Scientific Name	English Name	Status
<i>Apocynum x floribundum</i>	western dogbane	Blue
<i>Astragalus umbellatus</i>	tundra milk-vetch	Blue
<i>Botrychium simplex</i>	least moonwort	Blue
<i>Draba cinerea</i>	gray-leaved draba	Blue
<i>Epilobium leptocarpum</i>	small-flowered willowherb	Blue
<i>Erigeron uniflorus ssp. eriocephalus</i>	northern daisy	Blue
<i>Juncus stygius</i>	bog rush	Blue
<i>Minuartia austromontana</i>	Rocky Mountain sandwort	Blue
<i>Nymphaea leibergii</i>	Leiberg's water-lily	Blue

<i>Oxytropis maydelliana</i>	Maydell's locoweed	Blue
<i>Papaver alboroseum</i>	pale poppy	Blue
<i>Polypodium sibiricum</i>	Siberian polypody	Red
<i>Potentilla nivea</i> var. <i>pentaphylla</i>	five-leaved cinquefoil	Blue
<i>Ranunculus pedatifidus</i> ssp. <i>affinis</i>	birdfoot buttercup	Blue
<i>Sagina nivalis</i>	snow pearlwort	Blue
<i>Saxifraga nelsoniana</i> ssp. <i>Carlottae</i>	cordate-leaved saxifrage	Red
<i>Stellaria umbellata</i>	umbellate starwort	Blue

## Appendix 2: Provincially Endangered or Threatened Plants

### Vertebrate Animal Tracking List: Fort St John Forest District

Scientific Name	English Name	Status
<i>Hiodon alosoides</i>	Goldeye	Blue
<i>Salvelinus confluentus</i>	Bull Trout	Blue
<i>Botaurus lentiginosus</i>	American Bittern	Blue
<i>Cygnus buccinator</i>	Trumpeter Swan	Blue
<i>Melanitta perspicillata</i>	Surf Scoter	Blue
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Yellow
<i>Buteo platypterus</i>	Broad-winged Hawk	Red
<i>Grus canadensis</i>	Sandhill Crane	Blue
<i>Bartramia longicauda</i>	Upland Sandpiper	Red
<i>Asio flammeus</i>	Short-eared Owl	Blue
<i>Vireo philadelphicus</i>	Philadelphia Vireo	Blue
<i>Dendroica tigrina</i>	Cape May Warbler	Red
<i>Dendroica virens</i>	Black-throated Green Warbler	Blue
<i>Dendroica castanea</i>	Bay-breasted Warbler	Red
<i>Oporornis agilis</i>	Connecticut Warbler	Red
<i>Wilsonia canadensis</i>	Canada Warbler	Blue
<i>Ammodramus leconteii</i>	Le Conte's Sparrow	Blue
<i>Ammodramus nelsoni</i>	Nelson's Sharp-tailed Sparrow	Red
<i>Myotis septentrionalis</i>	Northern Long-eared Myotis	Blue
<i>Ursus arctos</i>	Grizzly Bear	Blue
<i>Martes pennanti</i>	Fisher	Blue
<i>Gulo gulo luscus</i>	Wolverine, luscus subspecies	Blue
<i>Rangifer tarandus population 14</i>	Caribou, Boreal population	Blue
<i>Rangifer tarandus population 15</i>	Caribou, Northern population	Blue

<i>Bison bison bison</i>	Plains Bison	Blue
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### Vertebrate Animal Tracking List: Mackenzie Forest District

Scientific Name	English Name	Status
<i>Salvelinus confluentus</i>	Bull Trout	Blue
<i>Salvelinus malma</i>	Dolly Varden	Blue
<i>Thymallus arcticus</i> population 1	Arctic Grayling, Williston Watershed population	Red
<i>Botaurus lentiginosus</i>	American Bittern	Blue
<i>Cygnus buccinator</i>	Trumpeter Swan	Blue
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Yellow
<i>Falco peregrinus anatum</i>	Peregrine Falcon, anatum Subspecies	Red
<i>Grus canadensis</i>	Sandhill Crane	Blue
<i>Asio flammeus</i>	Short-eared Owl	Blue
<i>Myotis septentrionalis</i>	Northern Long-eared Myotis	Blue
<i>Ursus arctos</i>	Grizzly Bear	Blue
<i>Martes pennanti</i>	Fisher	Blue
<i>Gulo gulo luscus</i>	Wolverine, luscus subspecies	Blue
<i>Rangifer tarandus</i> population 15	Caribou, Northern population	Blue

### Rare Vascular Plants and Vertebrate Animals Known to be Found in or Around Redfern-Keily Park

Scientific Name	English Name	Status
<i>Dendroica castanea</i>	Bay-Breasted Warbler	Red
<i>Dendroica tigrina</i>	Cape May Warbler	Red
<i>Oporornis agilis</i>	Connecticut Warbler	Red
<i>Epilobium leptocarpum</i>	Small-Flowered Willowherb	Blue
<i>Epilobium hornemannii</i> ssp. <i>Behringianum</i>	Hornemanns Willowherb	Blue
<i>Draba glabella</i> var. <i>glabella</i>	Smooth Draba	Blue
<i>Oxytropis jordalii</i>	Jordal's Locoweed	Blue



<i>Draba porsildii</i>	Porsild's Draba	Blue
<i>Lomatogonium rotatum</i>	Marsh Felwort	Blue
<i>Juncus arcticus ssp alaskanus</i>	Arctic Rush	Blue
<i>Senecio sheldonensis</i>	Mount Sheldon Butterweed	Blue
<i>Minuartia austromontana</i>	Rocky Mountain Sandwort	Blue
<i>Ursus arctos</i>	Grizzly Bear	Blue
<i>Martes pennanti</i>	Fisher	Blue
<i>Bison bison bison</i>	Plains Bison	Blue
<i>Myotis septentrionalis</i>	Northern Long-Eared Myotis	Blue
<i>Botaurus lentiginosus</i>	American Bittern	Blue
<i>Dendroica virens</i>	Black-Throated Green Warbler	Blue
<i>Wilsonia canadensis</i>	Canada Warbler	Blue
<i>Vireo philadelphicus</i>	Philadelphia Vireo	Blue
<i>Grus Canadensis</i>	Sandhill Crane	Blue
<i>Asio flammeus</i>	Short-Eared Owl	Blue
<i>Melanitta perspicillata</i>	Surf Scoter	Blue
<i>Cygnus buccinator</i>	Trumpeter Swan	Blue
<i>Salvelinus confluentus</i>	Bull Trout	Blue

\* This list is not exhaustive and will be updated as more species are identified.

From: Conservation Data Centre, Environment Inventory Branch, Ministry of Sustainable Resource Management, Victoria BC

## Appendix 3: Existing Tenures

Registry/File Number	Description
700599	Guide Outfitter
8002980	License of Occupation – Hunting and Fishing Camp (site 3)
GP0010136	Park Use Permit – Commercial Land Use/ Occupancy
700361	Guide Outfitter
8009749	License of Occupation – Commercial Backcountry Recreation Purposes (site 1)
8009749	License of Occupation – Commercial Backcountry Recreation Purposes (site 7)
GP0010124	Park Use Permit – Commercial Land Use/ Occupancy
8005258	Public Use Cabin
742T001	Trapline

## Appendix 4: Allowable Use Matrix

Activity/Use/Facility	Acceptable Uses by Zone		Comments
	WR	NR	
Licensed Hunting	Y	Y	Subject to hunting regulations.
Licensed Fishing	Y	Y	Subject to fishing regulations.
Commercial Trapping	Y	Y	Traditional activity continues. Existing tenures are renewable and transferable but additional tenures will not be issued. All trapline cabins are acceptable in accordance with a park permit.
Horse Grazing	Y	Y	Backcountry recreation purposes only.
Horse Use / Pack Animals	Y	Y	No exotic species allowed.
Camping (No Trace)	Y	Y	
Camping (Hardened Campsites)	N	Y	Fire rings allowed.
Hiking and Walking	Y	Y	
Natural and Cultural Values Appreciation (i.e. Birding, Photography...)	Y	Y	
Skiing (Helicopter)	N	N	
Skiing	Y	Y	Cross-country and unassisted skiing, telemarking, and snowboarding.
Snowshoeing	Y	Y	
Rock/Ice Climbing	M	M	May be restricted in certain areas depending on wildlife and habitat concerns. No permanent bolts allowed.
Guide/Outfitting	Y	Y	Park Use Permit required.
Packing	Y	Y	Park Use Permit required.
Heli-Assisted Commercial Recreation	N	M	Park Use Permit required. May be restricted in certain areas depending on conservation concerns.
Commercial Recreation (i.e. River Tours, Glacier Tours, Trapline Tours, Rock/Ice Climbing Tours)	M	M	Park Use Permit required.
Commercial Recreation – Horseback Tours, Kayaking Tours	M	M	Park Use Permit required.
Aerial Sight Seeing Tours	N	N	
Training Schools	M	M	Park Use Permit required.
Road Access – Motorized (Vehicular)	N	N	
Snowmobile Access	N <sub>1</sub>	Y	In WR snowmobiling is allowed for trapping

			purpose only, Park Use Permit required.
Motorized Access (Not Snowmobiles)	N	Y	Limited to designated trail.
Mountain Bike Access	Y	Y	Limited to designated trails.
Motorized Water Access	N	N <sub>1</sub>	Allowed for park management or rescue purposes.
Non-Motorized Water Access	N	Y	
Rotary Aircraft Access and Landings	Y	Y	Request that pilots follow the voluntary flight pattern where possible
Fixed Wing Aircraft Access and Landings	Y	Y	Request that pilots follow the voluntary flight pattern where possible
Non-Motorized Access (i.e. Dog Sleds, Horse Sleds)	N	Y	
Fish Stocking and Enhancement	N	N	May be re-evaluated as necessary.
Fire Management (Prevention and Suppression)	N <sub>1</sub>	Y	Policy recognizes need to protect public safety/facilities, values on adjacent lands, etc.
Prescribed Fire Management	N <sub>1</sub>	N <sub>1</sub>	Only for expressed management purposes as defined by protected area Management Plan.
Forest Insect / Disease Control	N <sub>1</sub>	N <sub>1</sub>	Mitigative actions permitted where there is a need to prevent unacceptable damage to values on adjacent lands, prevent damage to significant recreation features or values, etc.
Exotic Organism Control	Y	Y	Under direction of park staff.
Noxious Weed Control	Y	Y	Under direction of park staff.
Removal of Wildlife for Transplants	N	N <sub>1</sub>	May be allowed subject to the findings of more in depth fisheries and wildlife inventories.
Ecosystem and Habitat Restoration	N <sub>1</sub>	N <sub>1</sub>	Subject to consultation with the Fish and Wildlife Branch.
Wildlife Habitat Enhancement	N <sub>1</sub>	N <sub>1</sub>	Subject to consultation with the Fish and Wildlife Branch.
Wildlife Management	N <sub>1</sub>	N <sub>1</sub>	Subject to consultation with the Fish and Wildlife Branch.
Oil & Gas	N	N	
Forestry	N	N	
Scientific Research	M	M	Manipulative activities normally not allowed. Specimen collections allowed only if data conclusions provide increased scientific knowledge or protection and/or understanding of protected area values. Park Use Permit required.
First Nations Rights	Y	Y	
Filming (Commercial)	N	M	If there are no impacts on conservation, cultural, or recreation values in the park. Park Use Permit required.

Administrative Buildings and Compounds	N	M	
Boat Launches	N	N <sub>2</sub>	No new ones built.
Interpretation and Information Structures	N	M	
Trail Maintenance	N	Y	Designated trails will be maintained.
Trail Building	N	M	If deemed acceptable based on the parks conservation roles and vision statement.
Water Control Structures	N	N	
Backcountry Huts and Shelters (Private Use)	N	N	No new private facilities.
Backcountry Huts and Shelters (Public Use)	N	M	May be built if need arises.
Power Lines / Transmission Lines and Other Rights-of-Way	N	N	Allowed if there are no practical and feasible alternatives.
Communication Sites	N	N	Allowed for essential protected area management communication needs or if there are no practical or feasible alternatives.

WC = Wilderness Conservation

WR = Wilderness Recreation

Y = allowed subject to conditions identified in the management plan

M = may be permitted if compatible with protected area objectives

N = not allowed

N1 = allowed for expressed management purposes only

N2 = present and allowed to continue but not normally allowed

## Appendix 5: LRMP Direction

### Management Objectives and Strategies from the Fort St. John LRMP

Value	Objectives	Strategies
<b>Recreation</b>	Maintain guide and outfitting opportunities.	<p>Develop strategies in a Protected Area Management Plan to complement the wildlife management policies and management practices of wildlife managers, to sustain wildlife and guide outfitting opportunities.</p> <p>Identify and protect guide outfitting campsites and cabins.</p> <p>Manage existing tenures and the associated grazing activities of guide outfitters to limit impacts and reduce risk to other resource values.</p> <p>Seasonal access (e.g. snowmobile) may be limited to address wildlife habitat needs. Recreation use should be addressed within the Protected Area Management Plan.</p>
	Provide a full range of recreation opportunities.	Incorporate existing recreational activities and assess potential for the development of new recreational opportunities in a Protected Area Management Plan.
	Provide a full range of wilderness recreation opportunities.	<p>Develop strategies to maintain a range of wilderness recreation opportunities across the Resource Management Zone in a Protected Area Management Plan.</p> <p>Manage Keily Creek watershed to maintain a 'primitive' wilderness experience.</p> <p>Provide for motorized recreation access corridors/trails to similar destinations as currently allowed.</p>
	Maintain opportunities for commercial and non-commercial livestock grazing associated with recreation.	<p>Address issues of forage allocation among tenured users, residents and wildlife within a Protected Area Management Plan.</p> <p>Identify and manage appropriate grazing management activities (e.g. burns).</p>
	Provide backcountry recreation and tourism opportunities in a way that maintains a natural or natural-appearing condition.	<p>The Protected Area Management Plan process will determine the areas that are suitable for backcountry and tourism expansion, while maintaining the objectives of the Resource Management Zone.</p> <p>Provide opportunities for development of backcountry facilities. Plan access in conjunction with tourism and recreation groups in the area. Tourism facilities and development will be matched with intended recreation experiences.</p>

<b>Access</b>	Manage access to protect Protected Areas Strategy values, recreation values and fish and wildlife and their habitats.	Maintain existing access, including provisions for upgrading.  In consultation with users, restrict the use of existing motorized access except along designated roads and trails to non-motorized and approved industrial uses to sustain other resource values (e.g. fish and wildlife populations and habitats, rare ecosystems).
<b>Wildlife</b>	Maintain high capability ungulate winter habitat (e.g. elk, deer, moose, mountain sheep and mountain goat).	Identify and map high capability ungulate wintering areas in a Protected Area Management Plan.  Incorporate the maintenance of high capability ungulate wintering habitat (e.g. thermal and escape cover, sustainability of forage and browse) in a Protected Area.  Consider establishing wildlife habitat areas (WHAs) in a Protected Area Management Plan, on a priority basis, to protect critical wintering habitat.
	Maintain medium and high quality grizzly bear habitat.	Identify and map medium and high quality grizzly bear habitat, in a Protected Area Management Plan, on a priority basis.  Incorporate habitat protection criteria for grizzly bears, in a Protected Area Management Plan (as these criteria are developed).  Incorporate medium and high quality grizzly bear habitats and connectivity corridors, in a Protected Area Management Plan.  Identify and designate critical grizzly bear habitat areas as wildlife habitat areas (WHAs) in a Protected Area Management Plan.
	Maintain caribou habitat.	Identify and map medium and high capability caribou habitat.  Incorporate the maintenance of medium and high capability caribou habitat and connectivity corridors, in a Protected Area Management Plan.  Consider identifying and designating critical caribou habitat areas, on a priority basis, as wildlife habitat areas (WHAs), in a Protected Area Management Plan.
<b>Biodiversity</b>	Maintain functioning and healthy ecosystems in the resource management zone.	The general biodiversity emphasis is high.
<b>Fish</b>	Maintain fish habitat and water quality for priority fish species (e.g. bull trout, grayling and red and blue listed species).	Identify and map critical fish habitat (e.g. pools, migration patterns, spawning and rearing areas).



	Maintain high quality fisheries in natural settings.	Incorporate the protection of fish and fish habitat in a Protected Area Management Plan. Minimize permanent access to remote lakes, streams and rivers with high quality fisheries.
<b>Water</b>	Maintain the headwaters of major rivers and streams in a pristine, undisturbed condition.	Consider identifying and designating the highest order headwater tributaries of specific streams and rivers (in the Resource Management Zone) with a designation such as a sensitive area.
<b>Protected Area</b>	To protect, over the long-term for ecological representation and natural, culture, heritage, and recreation values.	Designate the area under appropriate legislation, consistent with "Protected Areas" definition (PAS Document, 1993) 50 that logging, mining, oil and gas development and exploration, and hydro dams are not allowed uses.  Ensure that the Protected Area Management Plan respects the natural, culture, heritage and recreation values identified by the LRMP Table. The values include: public, commercial and backcountry recreation, hunting and fishing, culture -identified First Nations values: wilderness, wildlife, guide outfitting, trapping, ecological representation, fisheries, heritage - historic trails and existing trail networks, etc.
<b>Visual Quality</b>	Manage visually sensitive areas identified as scenic areas (including travel and recreation corridors as identified by the Ministry of Forests visual landscape inventory).	Manage existing recreation sites by maintaining Visual Quality Objectives for trail systems, campsites and special feature. Establish acceptable limits of use (may include timing) e.g., migration pattern, reproductive cycles.

## Appendix 6: Relevant Plans and Memorandums of Understanding

### **Fort St John, Fort Nelson and Mackenzie Land and Resource Management Plans**

**Contact:**

Ministry of Sustainable Resource Management, Resource Management Division  
Ominica-Peace Region (250)565-6154  
Strategic Land Use Plans Homepage: [srmrpdwww.env.gov.bc.ca/lrmp/index.htm](http://srmrpdwww.env.gov.bc.ca/lrmp/index.htm)

### **Fire Management Plan**

**Contact:**

Ministry of Forests, Protection Branch  
Prince George Fire Centre (250)565-6124  
Protection Branch Homepage: [www.for.gov.bc.ca/protect/](http://www.for.gov.bc.ca/protect/)

### **Muskwa-Kechika Access Management Area Regulation**

**Contact:**

Ministry of Water, Land and Air Protection  
Fort St John Sub-Region (250)787-3411  
Regulation Website: [www.qp.gov.bc.ca/statreg/reg/W/Wildlife/183\\_99.htm](http://www.qp.gov.bc.ca/statreg/reg/W/Wildlife/183_99.htm)  
Muskwa-Kechika Homepage: [www.luco.gov.bc.ca/lrmp/mk/mk0301/index.html](http://www.luco.gov.bc.ca/lrmp/mk/mk0301/index.html)

### **Muskwa-Kechika Management Plan, Muskwa-Kechika Management Area Recreation Management Plan, Wildlife Management Plan, Kaska MOU**

**Contact:**

Ministry of Sustainable Resource Management, Resource Management Division  
Ominica-Peace Region (250)565-6154  
Muskwa-Kechika Homepage: [www.luco.gov.bc.ca/lrmp/mk/mk0301/index.html](http://www.luco.gov.bc.ca/lrmp/mk/mk0301/index.html)

### **Peace Liard District Bear-People Conflict Prevention Plan**

**Contact:**

Ministry of Water, Land and Air Protection, Environmental Stewardship Division  
Parks and Protected Areas Section, Peace Region (250)787-3407

Parks Homepage: [wlapwww.gov.bc.ca/bcparks/index.htm](http://wlapwww.gov.bc.ca/bcparks/index.htm)

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Province of British Columbia. *The New Relationship With First Nations and Aboriginal Peoples: Overview*. Aboriginal Relations and Reconciliation.

[http://www.gov.bc.ca/arr/newrelationship/new\\_relationship\\_overview.html](http://www.gov.bc.ca/arr/newrelationship/new_relationship_overview.html) (April 15, 2008).

<sup>2</sup> Province of British Columbia. 1996. *Constitution Act*. RSBC1996, c.66. Queen's Printer, Victoria, BC.

[http://www.qp.gov.bc.ca/statreg/stat/C/96066\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/C/96066_01.htm) (October 26, 2006).