



Monashee Park Management Plan

October 2014



BC Parks

Cover Page Photo Location: Mount Fosthall from Fawn Lake

Cover Page Photo Credit: Kevin Wilson (BC Parks)

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This document replaces the Monashee
Provincial Park Master Plan (1993).

Monashee Park
Management Plan

Approved by:



October 1st, 2014

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Date



October 1st, 2014

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Special acknowledgement is owed also to Ernest Laviolette, Eugene Foisy and Charlie Foisy. Their wilderness adventure over several months one summer in the 1960s was captured on the film "The Call of the Monashee". This film, and the publicity it created, was another pivotal component towards the protection of this spectacular wilderness area for future generations.

The Friends of Monashee Park and the Cherry Ridge Management Committee were instrumental in providing information on community interests and history within the park as were current members of the North Okanagan Naturalist Club, notably Kay Bartholomew and Pamela Jenkins. Dale Kermode provided invaluable historical photos of his late father's (Doug Kermode) early explorations in the park. Jim Cooperman assisted in supplying historical context and background on the naming of Mount Fosthall within the park.

Erin Nelson (table member of the Okanagan Shuswap Land and Resource Management Plan and Implementation and Monitoring Committee) of Vernon B.C. provided further guidance and background on park management direction based on the findings and recommendations of the 2001 Cabinet-approved land use plan.

Aaron Cooperman of Sol Mountain Lodge assisted BC Parks in providing key information with respect to park use trends (in both winter and summer seasons) within the southern area of the park and neighbouring Crown land, as well as supplying background on wildlife occurrence and movement. Aaron also furnished BC Parks with detailed trail proposals so that BC Parks could make informed decisions on future land use/activities within the park and conveyed in this management plan.

As part of the 50th anniversary celebration for the park, held in the summer of 2012 in Cherryville, planning and operations staff gathered information on management issues and concerns raised by the public.

Several key sections of this management plan were originally researched and prepared by Adrian DeGroot of Drosera Ecological Consulting.

Plan Highlights

The management plan for Monashee Park draws focussed attention on the significant role this park has in protecting wildlife species and habitat, and providing unparalleled recreational opportunities in the Monashee range. Key elements of the management plan include strategies to:

- Conduct ecosystem inventories of the park, with specific emphasis on determining extent and location of species and ecological communities at risk.
- Encourage and conduct monitoring and research in the park to support future management decisions (e.g., long-term ecological monitoring).
- Work with Crown agencies responsible for forest tenuring and operations and with forest licensees to minimize effects of forest harvesting activities on adjacent lands (e.g., monitor/mitigate windthrow events along the park boundary).
- Continue liaison with the Mountain Caribou recovery group and follow recommendations as cited in the Mountain Caribou Recovery Implementation Plan.
- In coordination with the provincial Wildlife Branch, develop a wildlife and habitat inventory with priority on species at risk (particularly as it relates to those species sensitive to climate change).
- Conduct aquatic invertebrate species inventories and amphibian inventories.
- Work with provincial agencies, forest licensees and other tenure holders to ensure access roads leading to key park trailheads are maintained.
- Recommend that the Spectrum Creek trailhead parking lot, feeder trail, and the Order in Council trail corridor be added to the park.
- Install signage where appropriate (e.g., along key Forest Service Roads) to convey that the park is closed to snowmobile use.
- Explore opportunities to have a maintenance contract for the Spectrum Lake trail, trailhead parking lot, and campground facilities.
- Allow horse use on the Bill Fraser route during late summer to late fall (e.g., the middle of August to late October). All other areas of the park will be closed to horse use.
- Perform historical and ethnographic research (e.g., archaeological investigation/assessments).
- Support park advocates in their work to apply to the Geographical Names Unit, Ministry of Forests, Lands and Natural Resource Operations to name or rename some park features.
- Collaborate with the Friends of Monashee in helping to preserve the integrity of the historic/archival photo and motion picture film documentation of the park, and investigate mechanisms to share this information with the broader public.

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1.0 Introduction

1.1 Management Plan Purpose

The purpose of this document is to guide the management of Monashee Park. This management plan:

- articulates the key features and values of the park;
- identifies the types and levels of management activities;
- determines the appropriate levels of use and development;
- establishes the long-term vision and management objectives to be met; and,
- responds to current and predicted future threats and opportunities by defining a set of management strategies.

1.2 Planning Area

Monashee Park was established in 1962 in recognition of the high quality recreational opportunities and scenic attributes of the alpine and sub-alpine mountains and lakes that remained untouched by resource development in the Monashee range. Today, the recreational opportunities include hiking, angling, horse riding, mountaineering, backcountry skiing, wildlife viewing, hunting (in the Vigue Creek and Sitkum Creek park additions) and camping.

Monashee Park covers 22,722 hectares and is located 110 kilometres northeast of Vernon and 90 kilometres southwest of Revelstoke. It is located in the Gold Range of the Monashee Mountains and contains the rugged peaks of Mount Fosthall and Slate Mountain, and a number of scenic lakes including Spectrum Lake, Peters Lake and Margie Lake. The Vigue Creek watershed is entirely within the park, as is a 16 kilometre long section of the upper Shuswap River and the majestic Rainbow Falls on Spectrum Creek. The majority of the park is within the Shuswap River drainage, with a small portion near Margie Lake draining via Fosthall Creek to the Columbia River.

Most recreational access to Monashee Park is from the west side of the park via the Spectrum Creek Forest Service Road and the Spectrum Lake trail. The Spectrum Creek Forest Service Road also provides access to Rainbow Falls (a waterfall site incorporated as part of the park but located approximately 6 kilometres from the larger park area). Secondary access is from the southeast via the Bill Fraser route to Margie Lake, which starts at the end of the resource road that travels parallel to North Fosthall Creek and from Sol Mountain Lodge (a private lodge located outside of the park). Access to the Upper Shuswap River is possible from Sugar Lake Road, which parallels the western boundary of the park.¹

The Monashee Mountains, for which the park bears its name, comes from the Gaelic, *monadh-sith*, "mountain of peace" and so named by Donald McIntyre, a Highlander who travelled the area in the late 1880s.

¹ All roads leading to the key access points/trailheads of the park are classified as 'resource roads'. Resource roads are typically one-lane or two-lane gravel roads built for industrial purposes to access natural resources in remote areas. They include forest service roads, petroleum development roads, mineral exploration roads, *Land Act* roads and special-use-permit roads.

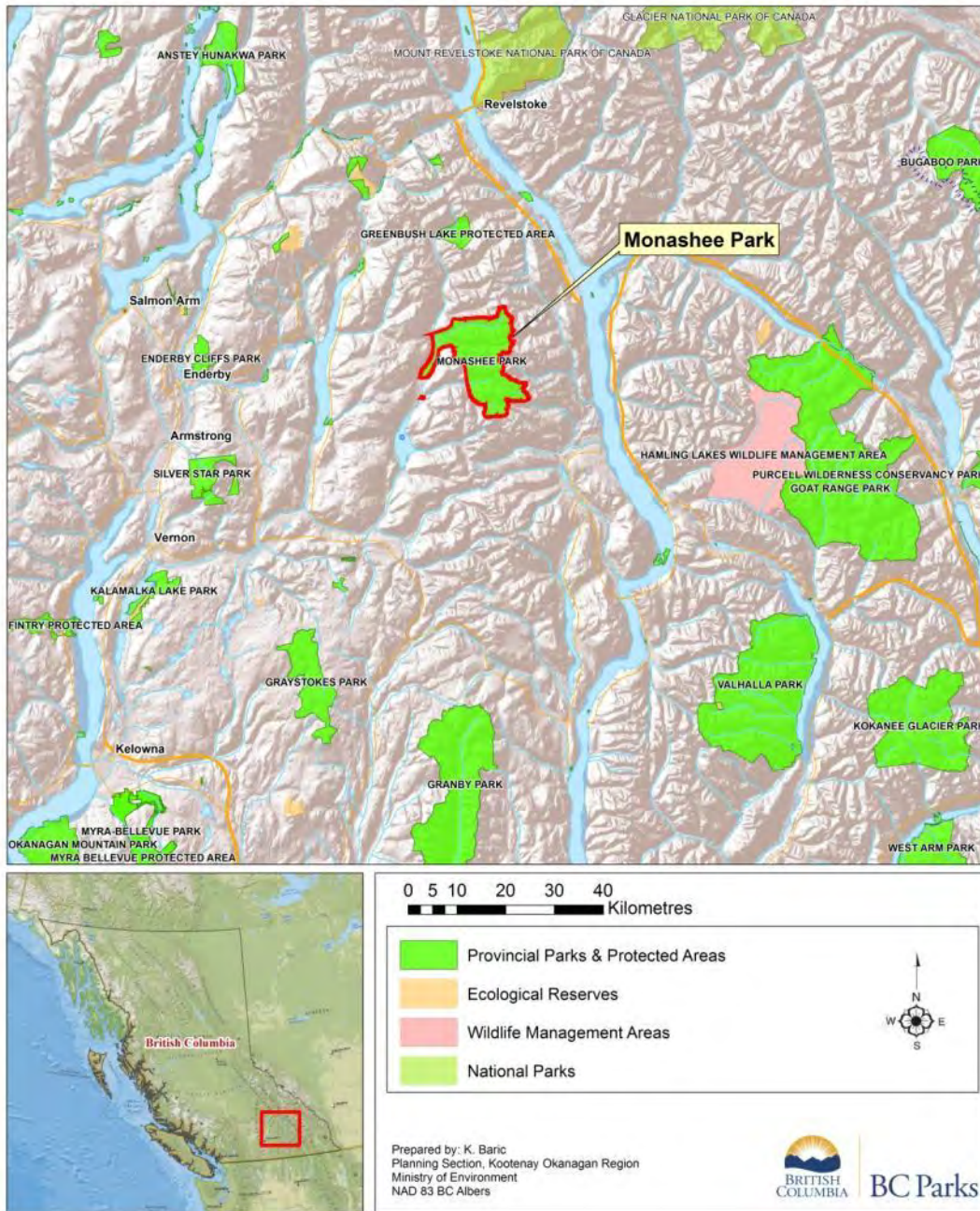


Figure 1: Regional Context Map of Monashee Park

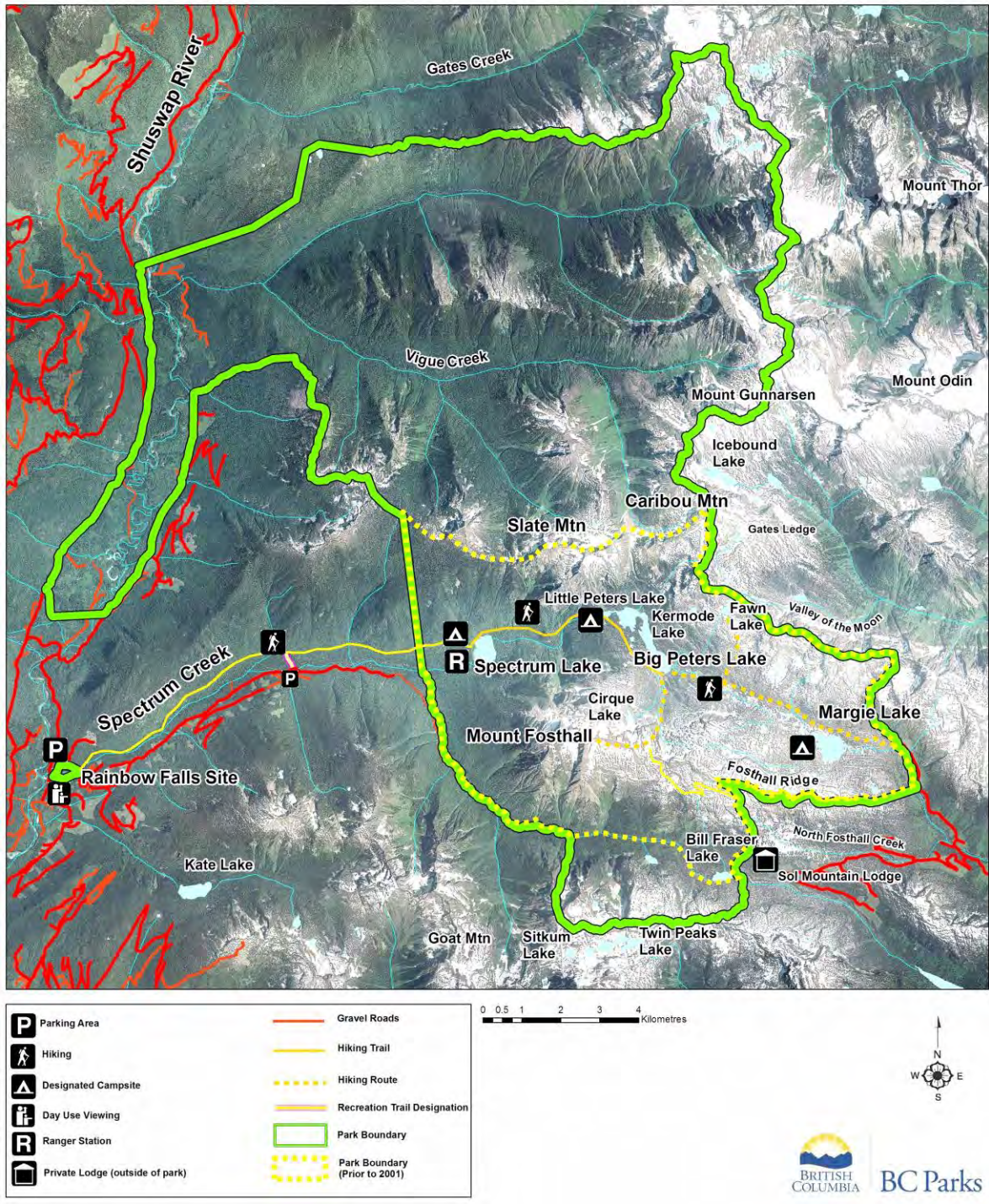


Figure 2: Attributes Map of Monashee Park

1.3 Legislative Framework

Monashee Park was established on June 1, 1962 by Order in Council 1159/62 under the *Park Act*. The original park encompassed 7,531 hectares of land in the Peters Lake and Mount Fosthall area.

In September 2001, the government approved the recommendations of the Okanagan Shuswap Land and Resource Management Plan (LRMP).

Three additions to Monashee Park were identified in the Okanagan Shuswap LRMP: the Sitkum addition, the Vigue Creek addition and the Rainbow Falls addition. These areas were established as Monashee Protected Area (15,189 hectares) in 2001 by Order in Council 523/01 under the *Environment and Land Use Act*, and were added to the Class A park in 2004, increasing the size of the park to 22,722 hectares (see Figure 2). Monashee Park is named and described in Schedule D of the *Protected Areas of British Columbia Act*.

Order in Council 1254/85, under the authority of the *Park Act*, was passed in 1985 establishing a 40 metre wide corridor covering the Spectrum Creek trail that provides access to Monashee Park. This corridor is managed by BC Parks.

Class A parks are dedicated to the preservation of their natural environments for the inspiration, use and enjoyment of the public.

1.4 Management Commitments/Agreements

Land Use Planning Direction and Recommendations

The Okanagan Shuswap LRMP provided specific management direction for each protected area identified in the LRMP document, and general management direction for all of the protected areas. The specific direction for the park is provided below, and the general direction for the land area where Monashee Park is situated is provided in Appendix 2. There is also additional direction for Resource Management Zones (RMZ) in the LRMP; the relevant portions of RMZ direction can also be found in Appendix 2. Specific management direction from the Okanagan Shuswap LRMP relevant to Monashee Park is as follows:

Monashee Provincial Park Addition - Sitkum Site

- The management category should be “Wilderness”.
- There is to be no commercial development within this area.
- There is to be no motorized access.
- The area is to remain free of any livestock tenures.

Monashee Provincial Park Addition - Spectrum Falls Site

- The proposed management categories are “Natural Environment” and “Intensive Recreation”.²

² Management categories as described in the LRMP are included in Appendix 2 - they are separate and distinct from BC Parks zoning categories.

Monashee Provincial Park Addition - Vigue Creek Site

- The management categories should be “Wilderness” for the Vigue Creek portion and “Natural Environment” for the Shuswap River portion.
- There is to be no commercial development within this area and no road access.

1.5 Relationship with First Nations

The Province and First Nations governments are working toward a new relationship based on respect, recognition and accommodation of aboriginal title and rights. The provincial protected areas system contains cultural and natural values that are significant to First Nations. Some parks are important as sources of natural medicines and foods, or as sacred sites. BC Parks works closely with First Nations and incorporates traditional knowledge in park management.

The land established as Monashee Park lies within the overlapping traditional territories of the Okanagan Nation Alliance (ONA) and the Shuswap Nation Tribal Council (SNTC). The Okanagan Nation Alliance consists of eight Indian bands including: Penticton, Okanagan, Osoyoos, Upper Similkameen, Lower Similkameen, Upper Nicola, Westbank First Nation and the Colville Confederate Tribes.³ Three member bands of the ONA are identified as having interests in the Monashee Park area: the Lower Similkameen Indian Band, the Okanagan Indian Band and the Penticton Indian Band.

The Shuswap Nation Tribal Council is composed of ten Indian bands including: Adams Lake, Tk'emlups, Little Shuswap Lake, Neskonlith, Shuswap, Skeetchestn, Bonaparte, Whispering Pines/Clinton, Splitsin First Nation and the Simpcw First Nation. A Reconciliation Framework Agreement (RFA) with five of the ten Shuswap Nation Tribal Council member Bands (Tk'emlups, Skeetchestn, Adams Lake Indian Band, Splitsin, and Shuswap Indian Band) was signed in 2013 to establish an effective government to government working relationship for shared decision making. The RFA identifies many broad areas of engagement and has specific direction for consultation on park management. Splitsin First Nation, the Adams Lake Band, and the Neskonlith Indian Band each have consultative boundaries which overlay with the entire park area. The Shuswap Indian Band has a consultative area which overlays with 1,300 hectares in the southwest corner of the park.

The management plan encourages the expansion of relationships between BC Parks and these First Nations in a number of areas to ensure that management of the park considers their traditional uses and values. The management plan will not limit subsequent treaty negotiations, although neither the SNTC nor the ONA member bands are currently in the treaty process.

³ The Colville Confederate Tribes are located in Washington State.



Film maker and photographer Ernest Laviolette on location during the filming of “The Call of the Monashee” in 1960

Photo courtesy of Ernie Laviolette

1.6 Relationship with Communities

The Friends of Monashee Park has considerable interest in the current and future management of Monashee Park. Its membership is comprised of residents of Cherryville, Lumby, and Vernon, many of whom were instrumental several decades ago in lobbying for the protection of Monashee Park.

Recently, the Friends of Monashee Park has collaborated with the Cherry Ridge Management Committee. The committee’s focus is to monitor and liaise with appropriate agencies on land use issues that affect the community of Cherryville and outlying areas. Of particular concern to the Cherry Ridge Management Committee is the water quality in the Shuswap River system, a system which can be partially affected by activities within and adjacent to Monashee Park.

The Friends of Monashee Park has indicated that they wish to explore mechanisms to expand the park’s boundaries to include such areas as the Twin Peaks Lake, Sitkum Lake, Goat Mountain and more of the Spectrum Creek valley. The stewardship group also wishes to explore renaming some of the peaks and features within the park to reflect the dedication and accomplishment of early pioneers and advocates for park establishment. In January 2014, the group’s formal application to name a small lake within the park as Kermode Lake, in honour of Doug Kermode (1913 to 2001), was approved by the BC Geographical Names Office leading to the official gazettement of the name. Doug Kermode visited the Peters Lake area numerous times in the 1940s and captured many of the early photographic images of what was to become the provincial park.



Images captured by Doug Kermode in 1947 during a horse trip into Peters Lake (photos by Doug Kermode)



Doug Kermode at Big Peters Lake pictured here in 1993 (photo by Dale Kermode)

Another effort of the group is to have Mount Fosthall revert to the name associated with the peak - Mount Fraser, a name which was used for decades. The peak's name was a tribute to William Fraser (an early pioneer and traveller of the Monashee range). The peak was renamed in the early 1960s as Mount Fosthall, which was disagreeable with many local park users and advocates. Reasons behind the renaming are apparently linked to survey work within the Monashee range in the 1950s. It is postulated that the surveyors were unaware that the peak was already locally referred to as Mount Fraser, and erroneously penned the name on a survey map as Mount Fosthall (given its proximity to Fosthall Creek). According to records, Fosthall was a Hudsons Bay Company clerk who resided in the Upper Arrow Lakes during the early- to mid-19th century (Akrigg and Akrigg 1997).



A small monument on Mount Fosthall indicating that in 1928 it was named as Mount Fraser

1.7 Adjacent Land Use

Five licences of occupation (issued under the *Land Act*) for commercial recreation (predominantly for heli-skiing) exist around the perimeter of the park (see Figure 6).

Forest harvesting continues to occur near Monashee Park, with future harvesting planned adjacent to the park in the Spectrum Creek watershed and in the Fosthall Creek watershed.

A recreation trail (REC 98087) designated under section 56 of the *Forest and Range Practices Act* is established over a short section of trail (500 metres) between the Spectrum Lake trailhead parking lot and the Order in Council trail corridor. The recreation trail is under the administration of the Recreation Sites and Trails Branch (RSTB) of the Ministry of Forests, Lands and Natural Resource Operations. The intent of the recreation trail is to provide a level of maintenance and RSTB oversight on this key trail access to the park.

A Wildlife Habitat Area ⁴ (8-230) for Mountain Caribou connectivity was established in 2008 (see Figure 7). The Wildlife Habitat Area (WHA) corridor (averaging 2.5 kilometres in width) extends just north of the Vigue Creek addition of the park to just south of Greenbush Lake Protected Area (a distance of approximately 15 kilometres). Additional WHAs (8-229 and 8-228) extend north beyond Greenbush Lake to assist in conserving caribou connectivity and habitat areas. A Wildlife Habitat Area (8-232) for Grizzly Bear also surrounds the park. The WHA was established in 2006 as a means to provide enhanced connectivity habitat. General Wildlife Measures associated with Mountain Caribou and Grizzly Bear WHAs are located in Appendix 4.

⁴ Wildlife Habitat Areas are established to minimize the effects of forest and range practices on Identified Wildlife (under the *Forest and Range Practices Act*) situated on Crown land and to maintain their limiting habitats throughout their current ranges and, where appropriate, their historic ranges.

Sol Mountain Lodge, a private backcountry skiing/hiking lodge (vehicle accessible in summer and helicopter access in winter), is located on the upper reaches of Fosthall Creek approximately one kilometre from the park boundary. The spacious ten-room lodge has full amenities and resides on Crown land through a licence of occupation. The licence of occupation has an extensive use area demarcated for the lodge area and associated facilities in the immediate surroundings. The lodge currently offers winter and summer activities. A focal point of the lodge is its winter operations, which provides either guided or unguided backcountry ski-touring. For summer use, the operators have constructed a small network of hiking and mountain biking trails within their Crown tenured area, many of which lead to the park boundary.



Sol Mountain Lodge (as viewed from the park boundary looking south)

1.8 Existing Permits and Authorizations

Three trapping territories overlap into the park. TR0823T048 encompasses most of the park (situated in Wildlife Management Unit 8-23); TR0432T005 is located in the southeast corner of the park (Margie Lake area) which is covered by Wildlife Management Unit 4-32. Finally, TR0432T006 (also in Management Unit 8-23) has a small overlap in the eastern portion of the park. TR0823T048 is currently under park use permit as those relevant portions of the park are used for trapping activities. TR0432T005 and TR0432T006 do not currently have activities within the park; as such, they are not under park use permit (see Figure 4). There are no trapping cabins in the park.

As per LRMP direction, trapping tenures within the park are renewable and transferable (i.e., can be bought and sold). BC Parks holds the 'right-of-first-refusal' on the purchase of trap lines within the park.⁵ Should a trapping tenure become vacant (forfeited and not eligible for transfer) only those areas

⁵ Detailed information can be found in the *Protocol Agreement between the BC Trappers Association and the Ministry of Environment*.

located outside of the park are eligible for re-allocation, the remainder that existed within the park would no longer be available for trapping tenure.

There are two guide outfitter territories overlapping the park which replicate the same areas as the trapping territory boundaries. Guide outfitter certificate 800751 covers most of the park and is currently under park use permit. Guide outfitter certificate 400414 encompasses the exact area as the smaller trapping territory in the vicinity of Margie Lake. As no guiding activities are occurring in the park under guide outfitter certificate 400414, no park use permit has been issued. An area northeast of the park remains as an unallocated guide outfitting territory (see Figure 5). Guide outfitting for the purposes of hunting can only occur within the LRMP addition areas of the park (i.e., Sitkum Creek and Vigue Creek). There are no guide outfitting cabins in the park.

There are no grazing tenures within the park. The nearest allocated grazing tenures border the Shuswap River section of the park.

The Vigue Creek addition contained a licence of occupation for commercial recreation (heli-skiing) at the time of park establishment. The licensee now operates under park use permit (see Figure 6). Current park use permit holders in the park are:

- Sol Mountain Touring Ltd. (Commercial recreation) - Climbing and mountaineering, back country skiing, hiking, snowshoeing, and communication sites.
- Sugar Valley Outfitters Ltd. (Commercial recreation) - Big game guide outfitting and trapping.
- Canadian Mountain Holidays Inc. (Commercial recreation) - Mechanized skiing.

1.9 Management Planning Process

A Terms of Reference document was developed in early 2012 and, as part of the 50th anniversary celebrations of the park (held in Cherryville), a preliminary management plan framework was presented to the local community. Comments received from the presentation were integrated into the initial first stages of the draft plan. Several key sections of the management plan were originally researched and prepared by Drosera Ecological Consulting. Refinement of the initial draft management plan was based on input and direction from regional staff (located in Penticton) and headquarters staff (located in Victoria).

After the first draft was prepared, public information sessions were conducted (in January 2014) to seek input and comment on the draft plan. First Nations, local government and regional government were also engaged through mail outs of the draft plan. Comments received through this engagement process were embodied within the plan where appropriate. Key stakeholders that helped shape the direction of the management plan included table members of the Okanagan Shuswap LRMP, the Friends of Monashee Park, BC Nature, and the owners of Sol Mountain Lodge. Primary authorship and editing of the plan was conducted by Keith J. Baric, BC Parks Planner – Okanagan.

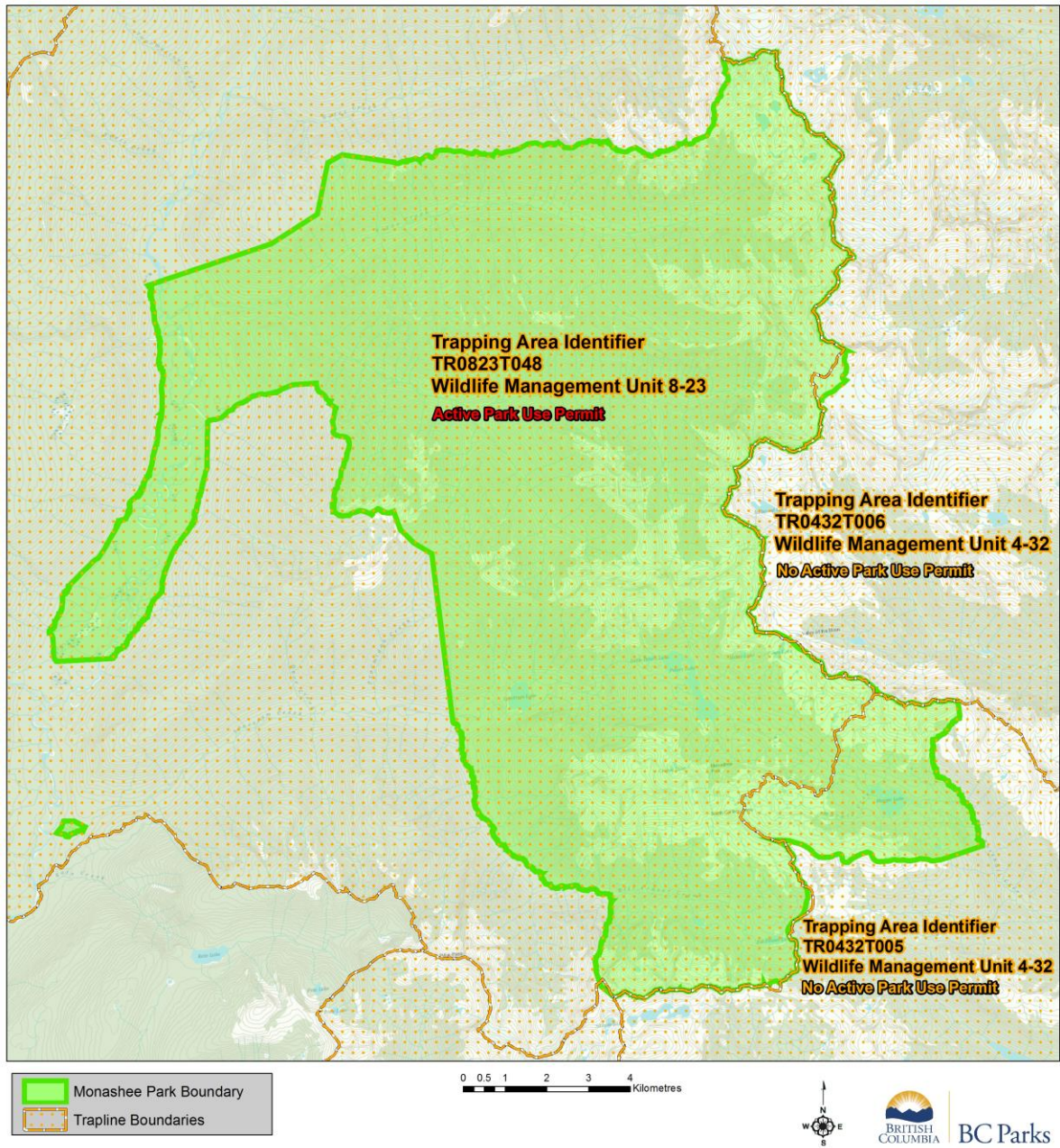


Figure 3: Map of trapping territories and associated park use permits in relation to Monashee Park

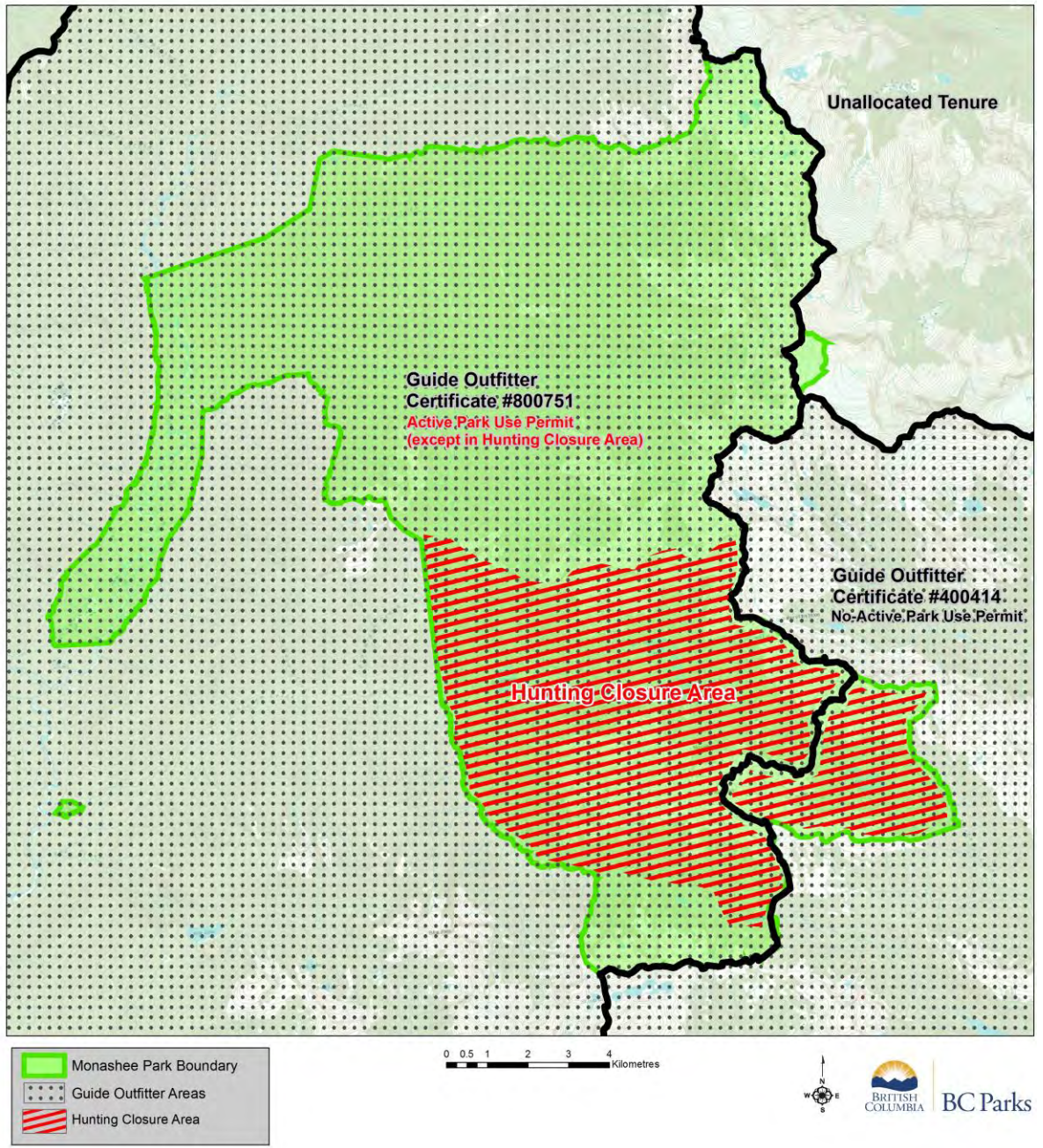
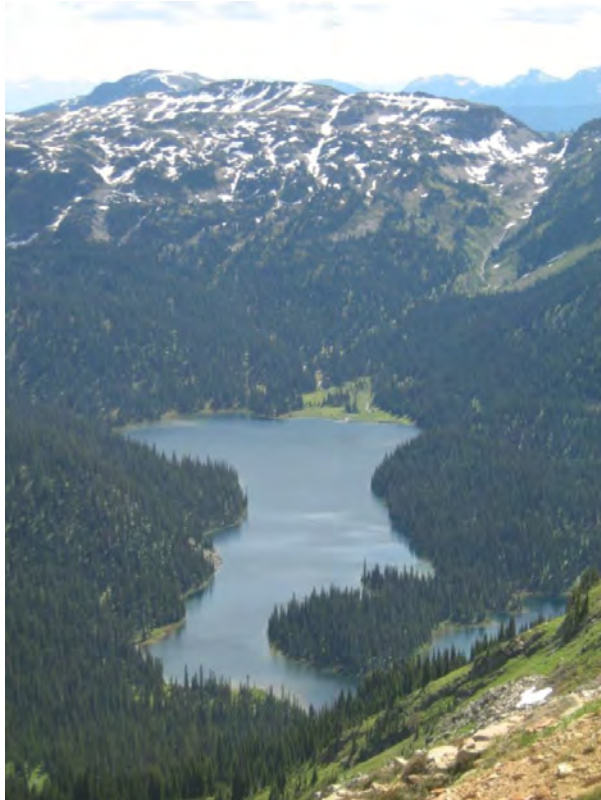


Figure 4: Map of guide outfitting territories and associated park use permits in relation to Monashee Park



Big Peters Lake viewed from Caribou Mountain



Fawn Lake

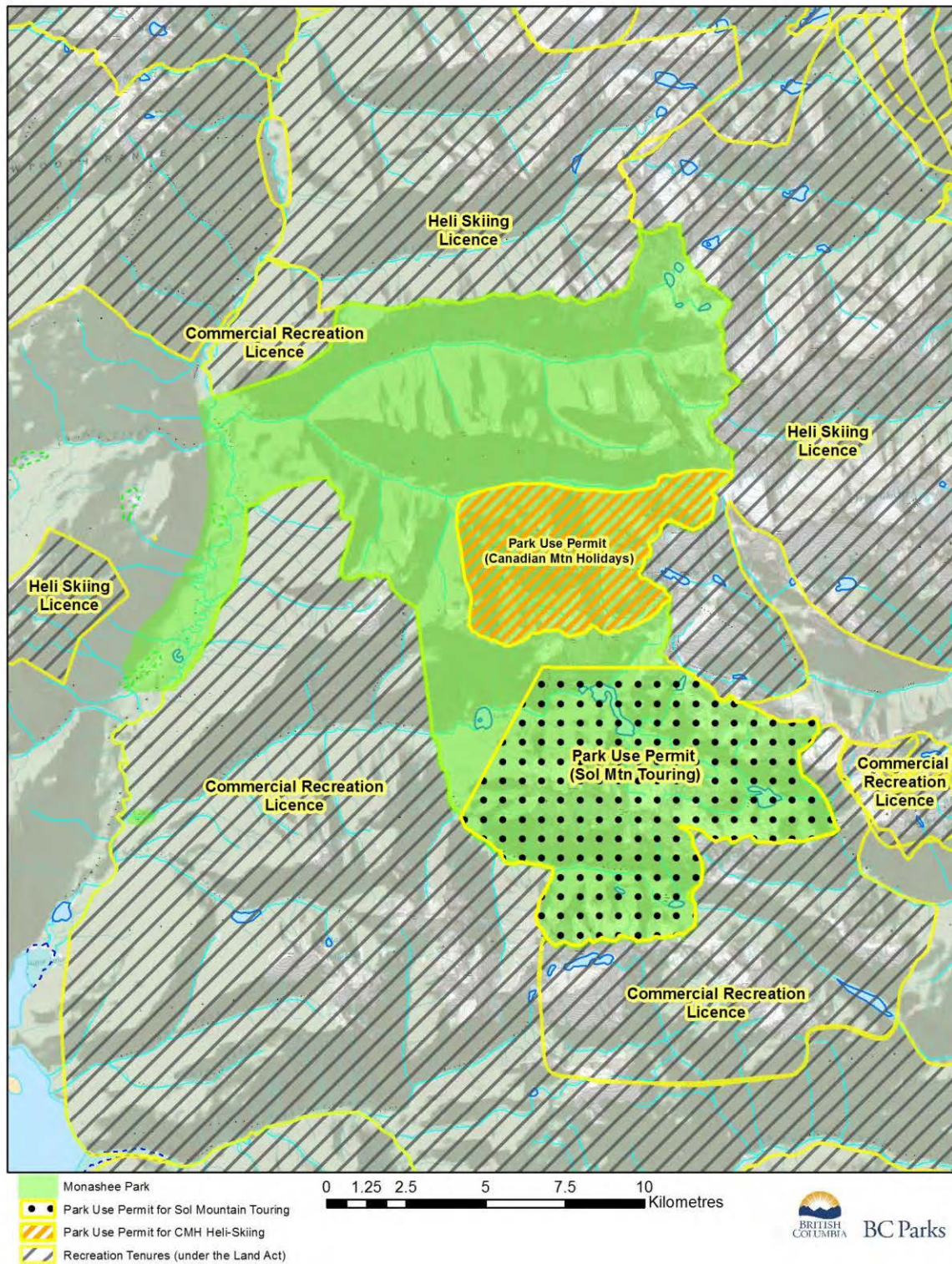


Figure 5: Map of *Land Act* Commercial Recreation Tenures adjacent to Monashee Park and associated park use permits for recreation (not hunting or trapping related)

2.0 Values and Roles of the Protected Area

2.1 Significance in the Protected Areas System

Monashee Park is significant in the protected areas system because it protects an important and highly scenic portion of the Monashee range from alpine vistas to lush river floodplains. This includes rugged peaks, alpine meadows, lakes, creeks and rivers (such as the entire Vigue Creek watershed), 16 kilometres of the Upper Shuswap River along with its extensive wetland complexes, and Rainbow Falls.

The closest protected areas to Monashee Park include Greenbush Lake Protected Area and Mount Revelstoke National Park to the north, Purcell Wilderness Conservancy and Goat Range parks to the east, Valhalla Park to the southeast, Granby and Graystokes parks to the south and Silver Star Park to the west.



Spectrum Lake (looking east towards the headwall)

2.2 Biodiversity and Natural Heritage Values

Geology and Geomorphology

Monashee Park is located in the Gold Range of the Monashee Mountains. The underlying bedrock is mostly sedimentary and metamorphic rocks of the Shuswap terrain. These rocks are largely gneissic and have been severely folded, exposing layers of contrasting colour and composition. Peaks above 2,440 metres (8,000 feet) such as those along the main spine of the Gold Range on the eastern edge of the park and Mount Fosthall projected through the Pleistocene ice sheets. Lower peaks and ridges were later sculpted by cirque and valley glaciers. The highest peak in the park is Gates Peak at 2,779 metres (9,117 feet).

The glacial history left moraine deposits in many areas, but the soils are often thin in higher elevation areas. Fluvial deposits are found along the Shuswap River floodplain and other waterways.

Watersheds

Monashee Park is significant in that it protects several entire watersheds greater than 3,000 hectares. These watersheds have very little to no anthropogenic disturbance on the ground. The park also protects several high elevation lakes and a section of the Shuswap River that has high ecosystem values (e.g., old-growth western redcedar and black cottonwood forest) along its floodplain.

Ecosystem Representation

Monashee Park contains eight different biogeoclimatic subzone/variants (Table 1).⁶ The Engelmann Spruce Sub-alpine Fir (ESSF) zone, which has three variants in the park, and the Interior Cedar Hemlock (ICH) zone, which has four variants in the park, have the greatest representation in the park. The ICH zone occurs at lower elevations, including along the Shuswap River, Vigue Creek, Spectrum Creek and Bill Fraser Creek.

The ESSF zone occurs above the ICH and below the Interior Mountain-heather Alpine (IMA) zone which occupies the highest mountain ridges and peaks in the park. The IMA zone has not yet been classified into subzones in the province. The ICHmw2 variant occurs at the Rainbow Falls addition and is the only BEC zone within the park that is under represented (under 12%) within the province.

⁶ As defined by the provincial Biogeoclimatic Ecological Classification (BEC) zoning system, biogeoclimatic zones are areas with similar topographic, soils, climatic and biological characteristics.

Table 1. Biogeoclimatic subzone representation in Monashee Park

Biogeoclimatic (BEC) subzone	Area of BEC in Monashee Park (ha)	Total area of BEC protected in province (ha)	% Total area of BEC subzone protected in province contributed by Monashee Park	% BEC subzone protected in province	
Engelmann Spruce Subalpine Fir Selkirk wet cold	ESSFwc4	3,935	74,853	5.3	12.5
Engelmann Spruce Subalpine Fir wet cold parkland	ESSFwcp	3,833	904,723	0.4	23.7
Engelmann Spruce Subalpine Fir wet cold woodland	ESSFwcw	5,586	472,038	1.2	29.6
Interior Cedar Hemlock Shuswap moist warm	ICHmw2	15	55,555	0.03	7.1
Interior Cedar Hemlock Thompson Moist warm	ICHmw3	2,264	66,611	3.4	21.0
Interior Cedar Hemlock Columbia very wet cool	ICHvk1	1,987	34,550	5.8	12.5
Interior Cedar Hemlock Shuswap wet cool	ICHwk1	3,389	107,230	3.2	19.1
Interior Mountain-heather Alpine	IMAun	1,470	344,998	0.4	30.1

Monashee Park is situated in two ecosections, the Central Columbia Mountains (CCM) Ecosection (20,378 ha) and the Shuswap River Highlands (SRH) Ecosection (2,285 ha). The SRH Ecosection covers low elevation areas along the Shuswap River, with the CCM Ecosection covering the remainder of the park. Monashee Park is the fourth largest protected area in the CCM Ecosection, containing 7.3% of the total area protected in the CCM Ecosection which has 19.8% of its area protected province-wide. Monashee Park is the second largest park in the SRH Ecosection, protecting 14.5% of the total area protected in the SRH Ecosection which has only 3.3% of its area protected provincially.

Monashee Park contains ecosystems from the floodplain of the Shuswap River to the alpine of Mount Fosthall and other peaks. Ecosystem mapping (i.e., Terrestrial Ecosystem or Predictive Ecosystem mapping) has not been conducted for the park, but sensitive ecosystems are likely to occur in the park, especially on the Shuswap River floodplain, which is very sinuous in this area with numerous oxbow wetlands. This area is likely to contain the Mountain alder – Common horsetail low bench floodplain (blue listed) and Cottonwood – Spruce – Red-osier dogwood middle bench floodplain (red listed) ecosystems. Other sensitive or rare ecosystems could occur in the park.

Forests

Monashee Park has extensive areas of old-growth and mature forest with approximately 50% of the park containing forests over 120 years old and 8% over 250 years old. The forests are dominated by subalpine-fir which is the leading tree species in nearly half the forested area in the park. However, Douglas-fir, Engelmann spruce, western redcedar and western hemlock are also notable tree species, with western white pine, whitebark pine (a blue listed species) or lodgepole pine occurring occasionally. Douglas-fir leading stands tend to be younger than stands dominated by other conifer species. The few cottonwood leading stands are found along the Shuswap River. Lodgepole pine leading stands are almost absent from the park.

Forest harvesting occurred between 1962 and 1993 in approximately 462 hectares of land (in the lower Shuswap river valley) that were subsequently added to the park following the recommendations of the 2001 land use plan. Most of this area was clear-cut harvested, but some areas were selectively harvested.

A variety of forest insects and diseases have been recorded in Monashee Park. Of these, Western Balsam Bark Beetle and Western Spruce Budworm have been the most prominent, each recorded in just over 700 hectares, but mostly at trace or low severity. Mountain Pine Beetle infestation records show 322 hectares have been infested at low severity in the park, mostly in the 1970s in the Vigue Creek watershed and along the Shuswap River. Other species recorded in less than 100 hectares are Pine Needle Cast, Western Blackheaded Budworm and Douglas-fir Beetle. Much of the insect and disease activity has occurred in Vigue Creek watershed.

There have been 92 forest fires recorded in Monashee Park since 1926 covering a total of 1,850 hectares. Most of the fires were small, covering less than 1 hectare. Significant fires occurred near Margie Lake in 1930, in the vicinity of Twin Peaks Lake in 1939, north of Hobson Peak in 2003, and the area north of Mount Tranquility in 2003.

Both forest health disturbances and wildfire have had little impact on the conservation values within the park and have indeed enhanced the ecosystem characteristics of the park (e.g., mixed forest age and species composition).

Wildlife

Numerous birds and mammals occur in Monashee Park. Species include Moose, Mule Deer, Golden Eagle, White-tailed Ptarmigan, Northern Goshawk, Pika, Mountain Goat, Marten, Cougar and Black Bear. Some species within the park are considered 'at risk' in the province such as the red-listed Mountain Caribou (southern mountain population) and the blue-listed Grizzly Bear, Wolverine and Townsend's Big-eared Bat.

Monashee Park is within the range of the Monashee South sub-population of Mountain Caribou "ecotype" (*Rangifer tarandus*) that occurs in the wet forests of central and southeastern British Columbia. Mountain Caribou are red listed by the BC Conservation Data Centre (CDC) and are listed as threatened by the Committee on the Status of Endangered Wildlife (COSEWIC). The South Monashee Mountain Caribou sub-population is very small (perhaps no more than 7 individuals) and are on the decline. A portion of their historic range and current population utilizes Monashee Park (see Figure 7). Population declines have been the result of a combination of factors including habitat change, changes to predation dynamics, human disturbance and climate change (Mountain Caribou Science Team 2005).

In 2007, the provincial government released a report titled *British Columbia's Mountain Caribou Recovery Implementation Plan* - a collaborative plan with conservation organizations, First Nations, the forest industry and outdoor recreation groups in a concerted effort to restore the Mountain Caribou population to pre-1995 levels (i.e., more than 2,500 animals throughout their existing range).

The most recent formal census of the Monashee South subpopulation in April 2011 found three animals north of Monashee Park at Blanket Glacier (Furk *et al.* 2011). Four animals (two bulls, one cow and a calf) were seen in the same area in April 2012 (L. DeGroot *pers. comm.*). Observation reports from park users are received each year by BC Parks with positive sightings of caribou within the park.

The Mountain Caribou Recovery Implementation Plan has the Monashee South caribou herd in Planning Unit 2A (South Monashee). Landscape level Planning Unit 2A has identified the management option as 'status quo' which states continuing with existing land use commitments, recreation and hunting policies. Hunting of Mountain Caribou is currently not allowed within the park.

Grizzly Bear is also an important species in the Monashee Park area. Most of Monashee Park is in the Monashee (South-Central) grizzly bear population unit as identified in the Okanagan Shuswap LRMP. For Grizzly Bear habitat suitability, most of the park is ranked as moderate to high, with some of the most preferred habitat in the Peters and Margie lakes area trending to lower elevation areas towards Spectrum Lake. Avalanche slopes in the northern areas of the park (e.g., Vigue Creek drainage) also contain essential habitat.



A lone Mountain Caribou observed in July 2011 near the southern boundary of the park (photo by Lorraine Harper)

Fish/Amphibians and Other Aquatics Species

The lakes in Monashee Park were naturally barren of fish. Peters Lake was stocked with Rainbow Trout in 1940. Margie Lake and Spectrum Lake were stocked in the 1960s and remain an angling destination for many park visitors. No impact assessments were carried out at the time of stocking. Because of the absence of study and research on amphibians (and other aquatic

organisms) within the lakes which now support fish populations, the impacts to these amphibians and other aquatic species are unknown.

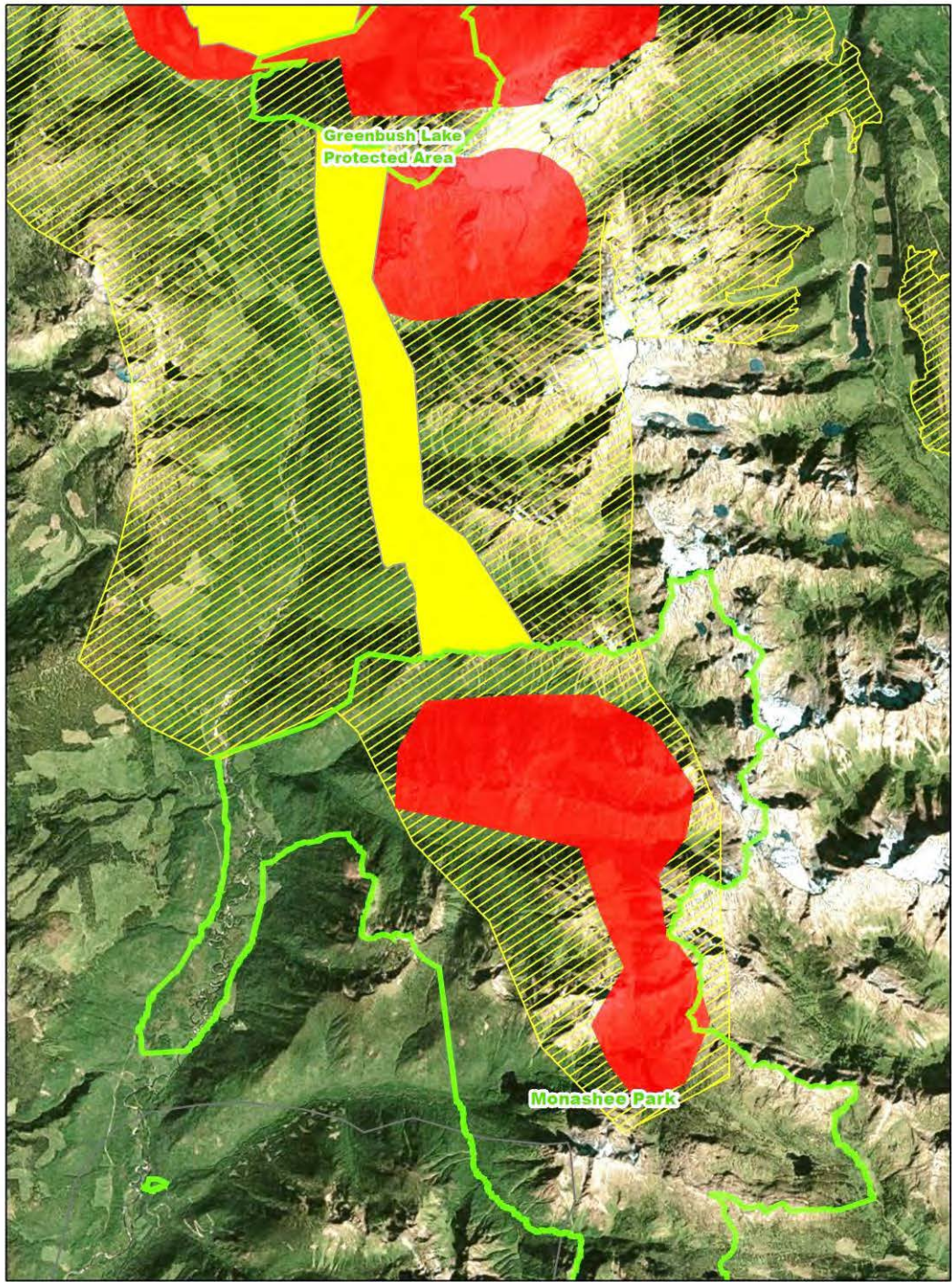
Major waterways in the park include the Shuswap River, Vigue Creek, Spectrum Creek and Bill Fraser Creek. These waterways may contain some or all of the following fish species – Bull Trout, Dolly Varden, Kokanee, Rainbow Trout and Sculpin. Anadromous fish (i.e., sea run species such as Sockeye Salmon) are not present within the park due to natural and man-made barriers downstream on the Shuswap River.



Margie Lake



A slide path located above Little Peters Lake



Prepared by: K. Baric
 Planning Section: Kootenay Okanagan Region
 Ministry of Environment
 NAD 83 BC Albers

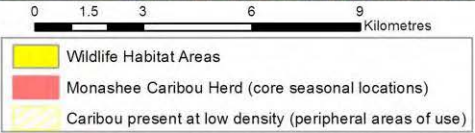


Figure 6: Mountain Caribou distribution and Wildlife Habitat Areas Context Map

2.3 Cultural Values

Aboriginal Cultural Values

No pre-contact (before the arrival of Europeans) archaeological sites have been recorded in the park, although several locations were probably used as campsites along valley corridors, including that of Spectrum Creek and Vigue Creek. As the Monashee range forms part of the historic range of Mountain Caribou, hunting use by First Nations most likely occurred, as Mountain Caribou was a part of the staple diet of First Nations for thousands of years.

The park also supports vegetation that would have complemented the ‘seasonal round’⁷ that First Nations make throughout their respective territories. Nearby salmon bearing streams such as the Shuswap River, west of Shuswap Falls, which is located just outside of the park boundary (12.5 kilometres to the southwest), would have been a popular destination for salmon harvesting. Recorded archaeological sites along the shores of Sugar Lake⁸ also indicate that First Nations use had been occurring in the general vicinity for at least 4,000 years (before present). Names within the park provide an indication that First Nations did utilize the area. For example, Sitkum (referring to the creek and plateau) is a Chinook jargon⁹ word meaning “half”.

The Splatsin have significant interest in the area of the park that includes Spectrum Lake, Cirque Lake and Mount Fosthall as this is an area of high traditional use. Historically, the Splatsin had a trail system into the park from the Sugar Lake area.

Non-aboriginal Cultural Values

Monashee Park has a long history of use by local pioneers and wilderness explorers, and was originally created in response to lobbying for recognition and protection of the Peters lakes area. This history led to some geographical features in the area being named after local pioneers, such as Bill Fraser Lake, and Big Peters Lake and Margie Lake after Frank and Margie Peters.

The names of some features have changed in recent times and there is interest by the Friends of Monashee Park to re-establish (and provide formal gazetted) of the older names that recognized local pioneers. For example, Caribou Mountain (gazetted name) is often referred to as Hanky Mountain (after Andrew Hanky), whereas Mount Fosthall was known for many years as Mount Fraser.¹⁰ Normally, the BC Geographical Names Office will only name or rename features if there is a compelling justification to do so.

There is a small lake located between Fawn Lake and Mike’s Lake referred to as Kermod Lake (in honour of Doug Kermod). The Friends of Monashee Park were recently successful (January 2014) in having the name formally gazetted.

⁷ Many resources were available for harvest at certain times of the year and in specific areas. Many First Nations would plan their seasonal rounds to correspond with the availability of resources.

⁸ The Wilsey Dam, constructed in 1928 on the Shuswap River at the former Shuswap Falls site, essentially blocked all anadromous fish passage into Sugar Lake and the upper reaches of the Shuswap River.

⁹ Chinook jargon is an ‘Amerind’ language (one spoken by a mixture of indigenous peoples of the Pacific Northwest).

¹⁰ Mount Fosthall was previously referred to as Mount Fraser, but sometime in the 1960s the peak was renamed for a Hudson Bay Company outpost clerk by the name of Fosthall.

2.4 Recreation Values

Facilities

Four campgrounds are located in the park. At Spectrum Lake, there are 16 campsites at the regular campground and eight campsites at the group campground; Little Peters Lake contains two campsites; Big Peters Lake has ten campsites; and Margie Lake contains two campsites. A ranger station is located at the west end of Spectrum Lake.

All the campsites are earth-framed pads or raised wooden platforms. At each campground there are pit toilets and bear caches (except Little Peters, which does not have a bear cache). The Spectrum Lake campsite also has a covered picnic shelter, pit toilet, picnic tables and fire rings. There is a parking lot, information shelter and pit toilet at the Spectrum Lake trailhead. The parking lot and trailhead infrastructure at the Spectrum trailhead is located outside of the park and is managed under an informal arrangement with the current forest licensee. The 500 metre feeder trail from the parking lot to the Spectrum Creek Order in Council trail corridor is managed and administered by the Recreation Sites and Trail Branch.

The hiking opportunities range from beginner to difficult with mountaineering potential on Mount Fosthall and Slate Mountain. The Rainbow Falls site has a day-use area where there is a 10 vehicle gravel parking lot, pit toilet, information shelter and two wooden viewing platforms.



Low impact camping in the alpine at Fawn Lake (photo by George Zorn)

Other day-use opportunities are situated outside of the park - primarily along lower portions of the Shuswap River (e.g., an informal day use area is located approximately half a kilometre from the Rainbow Falls parking lot).



The ranger station (built in the 1980s) at Spectrum Lake



The campground area at Spectrum Lake

Hiking

The park offers a wide variety of hiking trail opportunities, from relatively easy to moderate and difficult.

Rainbow Falls Trail

- A short ten minute hike descends from the parking area at Rainbow Falls and terminates at a viewing platform at the base of the falls along Spectrum Creek. The trail is moderately steep with some wet sections.



Rainbow Falls

The Spectrum Lake Trail Order in Council Corridor:

- The Rainbow Falls portion of the park is linked to the larger park area by a ten kilometre trail corridor (situated on the north side of Spectrum Creek). This trail was originally used as the primary access to Spectrum Lake.

In 1985, BC Parks was granted the authority to manage a 40 metre wide corridor in which the trail was situated from Rainbow Falls to the park boundary. However, when a resource road was established for forestry operations along the south side of Spectrum Creek the trail became less travelled. The trail from Rainbow Falls has been maintained for the first two kilometres by volunteers. The remainder of the trail is heavily overgrown and has not been maintained for over a decade. Volunteer efforts (i.e., by the Friends of Monashee) are underway to clear the trail and offer a hiking route between the falls and the Spectrum Lake trailhead/parking lot. BC Parks is working closely with the Friends of Monashee to explore volunteer projects to maintain the trail over the long-term. The Order in Council establishing the 40 metre trail corridor remains in effect.



Boardwalk section of the Spectrum Lake trail (this particular section is not within the park boundary but is under the administration of the Recreation Sites and Trails Branch as a recreation reserve)

Spectrum Lake Trail:

- This is the main access hiking trail in the park. The trail starts at the end of the Spectrum Creek Forest Service Road and accesses Spectrum Lake, Little Peters Lake and Big Peters Lake. The distance to Spectrum Lake from the parking lot is six kilometres and normally takes two hours to hike.
- The trail surface has been improved, widened to three feet and hard packed for most of its length. There are well maintained boardwalks and bridges across streams and wet areas. It passes through a mixed forest of Douglas-fir, lodgepole pine, birch and some cedar and hemlock. Mountain bikes are permitted, but because of the rough terrain, biking is seldom attempted to the lake. The feeder trail (administered by RSTB) from the parking lot to the Order in Council trail corridor contains a large span foot bridge across Spectrum Creek and numerous boardwalk sections.



Spectrum Lake trailhead parking lot



The Spectrum Creek bridge (50 metres from the trailhead parking lot)

Trails to alpine areas (from Spectrum Lake):

- The Little Peters Trail is the most difficult section of trail in the park. It winds its way up out of the Spectrum Lake basin gaining elevation rapidly through steep switchbacks (commonly referred to as the 'Headwall'). The trail is narrow and passes through sections of very rocky terrain found in avalanche chutes that are thick with alder. The climb does allow for some great views back down to Spectrum Lake and of the Chute, which is the outlet for Peters Lake that forms a waterfall as it cascades down the headwall towards Spectrum Lake far below. The distance from Spectrum Lake to Little Peters Lake is five kilometres and takes three to four hours.
- The Big Peters Trail is a continuation of the Little Peters Trail to the camping area at the south end of Peters Lake. The bulk of the elevation has been gained upon reaching Little Peters Lake and the remainder of the trail follows the rolling sub-alpine terrain through patches of Engelmann spruce/sub-alpine fir forest on the southeast side of Big Peters Lake. The distance from Spectrum Lake to Big Peters Lake is approximately nine kilometres, taking hikers normally four to five hours to accomplish.



Subalpine meadows within the park (photo by George Zorn)

Trails in the alpine areas (from Big Peters Lake):

- The Margie Lake route is in a sub-alpine environment and is an easy hike with little elevation gain and normally takes one to two hours to travel the five kilometres from Big Peters Lake.
- The Fawn Lake route from Big Peters Lake covers a distance of four kilometres and takes approximately two hours.
- South Caribou Pass is located three kilometres from Big Peters Lake and takes two hours, travelling over steep and difficult terrain.
- Mount Fosthall is reached from Big Peters Lake at a distance of just over five kilometres taking up to four hours. An alternative route is via Sol Mountain Lodge (located outside of the park). Route distance and hiking times to Mount Fosthall and South Caribou Pass from Sol Mountain Lodge are slightly less than that from Big Peters Lake, but the terrain is still difficult (particularly once visitors are within the park).

Trails to alpine areas (access from other trailheads):

- The Bill Fraser route¹¹ starts near the terminus of the Fosthall Creek Forest Service Road. The distance to Margie Lake is approximately two kilometres from the parking area (located outside the park). The elevation gain is moderate. This route is identified as the primary horse use access into the park.

Dogs are not allowed in Monashee Park due to the potential disturbance to Mountain Caribou and other wildlife in the park.



New bridge crossing (2012) at the outlet of Little Peters Lake

¹¹ The 1993 Master Plan referenced the Paint Lake trail as a suitable alternative for a means of access to the alpine areas of the park (e.g., Margie Lake). This route is no longer a feasible option for park access, as the trail has not been maintained for several years. The development of a resource road on Fosthall Creek was largely responsible for the establishment of the Bill Fraser route, a route which situates visitors much closer to the park boundary than the former Paint Lake trail.

Skiing

Heli-skiing is allowed in the Vigue Creek addition to the park (occurring primarily near Caribou and Slate mountains), but these areas of the park are not used frequently because of the travel distance from Nakusp and Halcyon (the two points of departure for Canadian Mountain Holiday operations). Heli-ski access in the above-noted locations is regulated through a park use permit.

A moderate amount of unassisted ski-touring occurs in the park, with most visitors coming from Sol Mountain Lodge. Use in the southern area of the park has increased greatly since Sol Mountain Lodge was established. Visitors often ski to Fosthall Ridge, with others skiing on Mount Fosthall or towards Peters Lake. People staying at Sol Mountain Lodge are almost exclusively using the park on a day-use basis and are well equipped, experienced backcountry skiers. There is minimal ski-touring use in other parts of the park due to inaccessibility and avalanche terrain.



Ski-touring along the boundary of the park - Mount Fosthall in the distance (photo by Sol Mountain Lodge)

Fishing and Hunting

Angling for Rainbow Trout is possible in Spectrum Lake, Big Peters Lake and Margie Lake. Big Peters Lake has numerous fish though they are generally smaller than those found in Spectrum Lake. Fishing within the lakes and streams within the park are subject to regulation provisions (e.g., open and closed periods, bait bans, etc.) invoked through the *Wildlife Act*.

All hunting has been prohibited in the original portion of Monashee Park since 1980, with a Mountain Caribou hunting ban since 1968. Hunting is allowed only in the Sitkum and Vigue Creek additions to Monashee Park. Hunting is also allowed in the Order in Council trail corridor along Spectrum Creek.



Big Peters Lake and surrounding mountains from Mount Fosthall

Mechanized Access

Mechanized access is generally not allowed in Monashee Park; this includes snowmobile, all-terrain vehicles and mountain bikes. There have been in-depth discussions amongst staff and key stakeholders with the operators of Sol Mountain Lodge to review the possibilities of allowing mountain biking along a small area along Fosthall Ridge and towards South Cariboo Pass within the park (see Park Zoning section).

As per Schedule A of the *Park, Conservancy and Recreation Area Regulation*, Peters Lake (the lake itself and not the land surrounding the lake) is open to aircraft access. Landing and departure in other areas of the park requires a valid park use permit or authorization of a Park Officer. Members of the BC Floatplane Association wishing to land at Big Peters Lake are required to notify BC Parks by May 1st of each year.



Float plane access to Peters Lake has been occurring since the early 1950s (photo by Doug Kermodé)

ATTENTION SNOWMOBILERS!

Monashee Provincial Park was created in part to protect important **Grizzly Bear** and **Mountain Caribou** habitat. In 2000, the Mountain Caribou was changed from a provincially blue listed to red listed species - **Endangered** - and in 2002 became a **Nationally Threatened Species**. Due to the ecological sensitivity of Monashee Provincial Park and the remnant Mountain Caribou herd which reside here, the entire Park is closed to motorized use.

**NO SNOWMOBILES OR OTHER
MOTORIZED VEHICLES ARE PERMITTED.**

Thanks for your assistance in protecting BC's ecological diversity

BC Parks



Signage prepared by BC Parks placed at key locations outside of the park helps educate and inform about motorized closures to protect Mountain Caribou habitat (Location photo - North Fosthall Creek Forest Service Road)

2.5 Research and Education

Despite Monashee Park being over 50 years old, there has been very little research conducted within the park. A fishery study of the park's numerous alpine lakes was conducted in 1979, and again in 1989, but to date there has been no formal follow up or continued fisheries research. Wildlife studies in the late 1980s focussed on Mountain Goat and Mountain Caribou, but these were primarily aerial surveys to gain information on population numbers.

The park holds great potential to explore a variety of research and education projects, including, but not limited to, the following:

- Focused study of remaining Mountain Caribou herd within the park to address factors which may aid in their continued existence;
- Species at risk study and monitoring (e.g., Wolverine, Badger and Grizzly Bear);
- Watershed integrity and climate change effects/monitoring;
- Enhanced fishery studies (to revisit findings of the 1979/1989 fisheries studies) and other aquatic inventories/analysis;
- Public education and scientific research on the park's unique geological history; and,
- First Nations cultural/traditional use (spanning from pre-historic to contemporary).



Vigue Creek valley looking west

2.6 Climate Change

Protected area management objectives typically aim at sustaining traditional or current representative ecosystems and species, but may be thwarted by climatic changes that continue to alter the ecology of the area more rapidly than anticipated. Such alterations may be subtle, but more dramatic natural disturbances such as wildfire, insects and disease are also likely to increase in frequency and severity.

Ultimately, changed temperature and precipitation regimes in a particular area may reduce or eliminate some plant and animal species, affect water supplies and alter traditional recreational use patterns. With the ongoing effects of human land use activities outside protected areas already applying pressures on both 'at risk' and representative species and ecosystems, ecological inventory and monitoring work at the park level should interrelate with studies of climate change. Park managers must better understand to what extent climate change effects can, or should be, tempered within parks to help natural systems adjust to support species that might otherwise be naturally extirpated, or to mitigate possible negative impacts on recreational use and public safety.

Climate change may noticeably affect the current natural systems within Monashee Park. Changes projected over the next fifty years include:

- warmer winters, higher precipitation and general warming trends;
- increased frequency and severity of natural processes such as wildfires, forest pest infestations and droughts;
- changes in hydrology, including the reduction of snowfields and the timing of peak flows and low-water events;
- forest encroachment on alpine meadows;
- extirpation of some plant and animal species, for example, those in ecological pockets such as microclimates, or at the limits of their range; and,
- changes in ecosystem composition and structure.



Moraine deposits and permanent snowfields within the park



Impressive cirque basins in the alpine areas of the Monashees are indicative of past glacial activity (photo by George Zorn)



Spectrum Lake and the Spectrum Creek valley (view looking west)

3.0 Management Direction

3.1 Vision Statement

The 'Call of the Monashee' still resounds over the majestic peaks which form the heart of Monashee Park. Wilderness adventurers and outdoor enthusiasts are continually drawn to the picturesque alpine meadows and old-growth forests, enriched with waterfalls, wetlands and pristine lakes.

Concealed among the park's landscape, a population of Mountain Caribou still roam, a species that has obviously benefited from this unique wilderness area being set aside for protection by the perseverance of a small group of forward-looking park advocates. Other fauna, such as the Grizzly Bear and Wolverine, make the mountain valleys and peaks within the park their home and careful management of the park resources and adjacent lands has offered more opportunity for these species to thrive.

Visitors to the park have come to more fully appreciate the rugged and fragile nature of the park. Improved facilities and enhanced trail opportunities beckon a range of experience levels, from seasoned mountaineers to those individuals new to wilderness excursions. Management of recreational opportunities are focussed on minimizing conflict with resident wildlife, lowering impacts to sensitive alpine areas and educating the public on the importance of the park in maintaining essential habitat for species at risk.

A deeper understanding of the significant cultural heritage values of the park resonates not only with those seeking connection with the early pioneers and travellers of the park, but also to the vital importance of First Nations use of the area which dates back thousands of years.

3.2 Management Objectives and Strategies

The Okanagan Shuswap LRMP provided a substantial amount of management guidance through Resource Management Zones that are relevant to Monashee Park. This direction is provided in Appendix 2. The LRMP direction was instrumental in preparing park management objectives and strategies found within this management plan.

3.2.1 Ecosystem Values and Maintenance of Ecological Integrity

Baseline ecological information (e.g., current species inventory, ecosystem mapping and invasive plant inventory) is lacking for Monashee Park. Obtaining up to date information will allow better management of park values during projects such as trail development, creating new/upgrading campsite locations and when new tenure/permit applications or proposals come forward.

Management Objectives	Management Strategies
To gather baseline ecosystem information relevant to the park.	<ul style="list-style-type: none">• Conduct ecosystem inventories of the park, with specific emphasis on determining extent and location of species and ecological communities at risk.• Encourage and conduct monitoring and research in the park to support future management decisions (e.g., long-term ecological monitoring).• Exchange inventory and research information on ecosystem values and processes (e.g., fire history, insect outbreak, avalanche occurrences, snowpack levels, significant slope failures) with other agencies and jurisdictions.



View to the east from atop Mount Fosthall

Adjacent land uses, particularly forestry and mining, have the ability to create edge effects in the park, in turn impacting park ecological integrity. Some of these effects can be reduced by working with outside organizations before the development occurs. Coordinated management with commercial backcountry tenure holders and other agencies would help minimize potential impacts on wildlife.

Management Objectives	Management Strategies
<p>To maintain park ecological integrity in the context of significant adjacent land/resource use.</p>	<ul style="list-style-type: none"> • Maintain working relationship and liaison with Sol Mountain Lodge (operating close to the park boundary) to minimize impacts to the park’s ecosystem values. • Do not authorize additional heli-ski tenures within the park. If the current tenure for heli-skiing within the park is no longer used or relevant, encourage the tenure holder to remove this area from their larger tenured area. • Work with Crown agencies responsible for forest tenuring and operations and with forest licensees to minimize effects of forest harvesting activities on adjacent lands (e.g., monitor/mitigate windthrow events along the park boundary). • Ensure management actions and decisions are consistent with the recommendations of the Okanagan Shuswap LRMP. • Liaise with the forest licensees regarding forest operations adjacent to the Order in Council trail corridor along Spectrum Creek where there are future cut blocks located immediately adjacent to the trail corridor. • Review forest stewardship plans when appropriate. • Work towards having forest tenured roads leading to the park periphery and unendorsed trailheads deactivated once harvesting and post-harvesting requirements are completed. • Ensure wildlife habitat in the park is managed to support connectivity over the landscape by ensuring placement of facilities considers current wildlife movements and habitats. If issues arise, make adjustments to facilities if required. • Work co-operatively with other government agencies and land managers to provide connectivity outside the park (i.e., continue to support the establishment/monitoring of Wildlife Habitat Areas and general wildlife measures associated with them). • Evaluate park addition proposals from the Friends of Monashee Park in the context of how these additional lands may assist in addressing management issues as identified in this management plan.



Early summer in the alpine areas of Monashee Park are adorned by brilliant wildflower displays

Natural disturbance regimes are increasingly viewed as important to maintain landscape scale biodiversity. Past fire suppression activities have changed ecosystem dynamics in many areas, and are partly responsible for the Mountain Pine Beetle outbreak. However, insects and diseases are also important in forest and ecosystem dynamics. Insects and diseases can have negative impacts on forest resources if large outbreaks occur. Occasionally, measures may need to be taken within parks to minimize the impacts of insects and diseases on park values or resources outside the park. However, for the most part, wildfire, insects and other organisms affecting forest health have been allowed to continue within the park.

Invasive or exotic plant species can negatively influence natural ecosystems. In some of these cases, measures need to be taken to control the spread of these species.

Management Objectives	Management Strategies
<p>To ensure natural disturbance processes occur in the park.</p>	<ul style="list-style-type: none"> • Maintain existing generalized wildfire response direction with wildfire responders to assist in protecting park values. • Develop a comprehensive fire management plan for the park. • Ensure that the fire management plan is not strictly operational, but is also a plan that identifies current wildfire threat status (e.g., regime history, values at risk, potential treatment areas or limited action areas, addressing habitat protection for Mountain Caribou, and prescribed fire units). • Liaise with other government agencies that monitor insect and disease dynamics and populations, and if there is a significant risk to park values or external resources, consider all appropriate measures to control insects or diseases.
<p>To monitor and control alien invasive plant species that may occur in the park.</p>	<ul style="list-style-type: none"> • Monitor invasive plant species in the park and consider all appropriate control measures. • Enter all invasive plant information into the Invasive Alien Plant Program (IAPP) database. • Maintain an up-to-date Invasive Plant Management Plan for the park.

3.2.2 Wildlife Values

As Monashee Park is somewhat isolated from other nearby protected areas and surrounded by land use activities focused on resource use/commercial recreation, the park has an important role in providing refuge habitat for a range of species. Recreational activities within the park are the greatest source of impact to resident wildlife.

The Mountain Caribou population that use the park is slowly declining in numbers. BC Parks will manage the park so that the Mountain Caribou herd has the greatest possibility to survive and reproduce.

The highest value Grizzly Bear habitat in the park is concentrated in avalanche paths and alpine areas. It is important that the highest value Grizzly Bear habitat in the park is not compromised by recreational facilities or other park activities.

Management Objectives	Management Strategies
<p>To maintain healthy species populations consistent with natural population cycles.</p>	<ul style="list-style-type: none"> • Continue liaison with the Mountain Caribou recovery group and follow recommendations as cited in the Mountain Caribou Recovery Implementation Plan. Proactive measures to address impacts to caribou in the park include: <ul style="list-style-type: none"> ➤ Encouraging tenure holders to use standard operating practices (as endorsed by the ministries of Forests, Lands and Natural Resource Operations and Environment)¹² while in Mountain Caribou habitat and include these guidelines in the park use permit document. ➤ Using outreach and education mediums (e.g., park kiosks, signage, website) to convey to the public the sensitivity of Mountain Caribou habitat within the park and promote stewardship of park resources. • Do not authorize additional heli-ski tenures within the park, beyond the one tenure that currently exists. • Enforce snowmobile closure in the park and erect signage at key locations indicating closure. • Continue with dog closures for the entire park. • Continue to allow hunting in the Vigue Creek and Sitkum park additions (subject to assessment, monitoring, and regulations under the <i>Wildlife Act</i>). • Manage recreational activities so that any new facilities and activities (i.e., mountain biking) are not located in or taking place in essential Grizzly Bear habitat (e.g., the alpine corridor between Peters and Margie lake) in the park. Existing facilities will be managed with careful consideration of minimizing bear-human conflict (e.g., bear caches, awareness signage, temporary closures). • Continue to monitor existing facilities for human-bear conflict and address issues as they arise (e.g., temporary camping/access closures). • Monitor authorized trapping activities within the park (e.g., review annual kill reports by trapper as per park use permit). Information on kill reports would be analyzed by conservation staff of BC Parks to determine if changes in population numbers warrant adjustments in allocations. • Do not allow commercial fixed assets (i.e., trapping and guide outfitting cabins, or other commercial fixed roofed accommodations) within the park.

¹² For a full summary of operating practices see 'A Guide to Commercial Backcountry Skiing Standard Operating Practices for Ski Run Development, Helicopter Landing and Pickup Site Development, and Snow Trail Development in Mountain Caribou Habitat' (June 2009).

<p>To enhance the knowledge and understanding of the park’s wildlife species and their habitats.</p>	<ul style="list-style-type: none"> • In coordination with the provincial Wildlife Branch, develop a wildlife and habitat inventory with priority on species at risk (particularly as it relates to those species sensitive to climate change). • Conduct updates to existing Grizzly Bear and Mountain Caribou inventories and habitat assessments. • In conjunction with the provincial Wildlife Branch, coordinate inventory work with nearby park jurisdictions (e.g., Mount Revelstoke National Park) to increase the knowledge and understanding of wildlife, their habitat requirements both inside and outside the park (e.g., known connectivity corridors) and how these requirements may be affected in the longer term by climate change factors. • Encourage research aimed at better understanding the cumulative effects of recreational use (e.g., helicopters and hiker traffic) on species such as Mountain Caribou and Grizzly Bear. • Encourage the assistance of volunteers and others to collect wildlife data (e.g., bird watching clubs, anglers, pilots and tour operators, etc.), and to practice citizen science by installing and maintaining long-term ecological monitoring plots.
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3.2.3 Fish and Aquatic Values

Although the lakes within Monashee Park did not have natural occurring fish populations prior to colonial times, efforts at stocking lakes such as Margie, Peters and Spectrum at different time intervals prior to park establishment have created a small self-sustaining fishery in these lakes. These fisheries have become a component of the recreational qualities of the park.

Angling opportunities, especially in fragile alpine environments, can impact sensitive shoreline vegetation. Moreover, non-native fish can often severely impact aquatic organisms and amphibians through unchecked predation.

There has been no follow up to the two fisheries studies conducted in 1979 and 1989 respectively, and no study or research into aquatic invertebrate species or amphibians in the park.

Management Objectives	Management Strategies
<p>To have current fisheries and aquatic inventories for lakes/wetland areas in the park.</p>	<ul style="list-style-type: none"> • Complete fisheries inventories of Peters, Margie and Spectrum lakes and use this information to gain perspective on the following items to determine: <ul style="list-style-type: none"> ➤ an increase or decrease in fish population since the last inventories; ➤ current health of fish; ➤ diet; and, ➤ location of spawning habitat.

	<ul style="list-style-type: none"> • Conduct aquatic invertebrate species inventories and amphibian inventories. • Compare data from aquatic/amphibian inventories and fish inventories to determine effects on native aquatic and amphibian species.
Maintain fish-free state of alpine lakes and investigate the requirement of future stocking of lakes containing natural fish recruitment.	<ul style="list-style-type: none"> • Do not stock alpine lakes that are currently devoid of fish species. • If fish populations appear to be reaching low levels in natural recruitment lakes, liaise with the Provincial Fisheries Branch to determine an appropriate stocking strategy to maintain a recreational fishery. Any stocking regime should place emphasis on minimizing impacts to native aquatic and amphibian species.

3.2.4 Access Management

The predominant access issues in the park involve the maintenance and upkeep of resource roads that are used to access the park. BC Parks coordinates with other agencies and industry to provide maintenance and road upgrades if required. For example, the main parking area and road for the Spectrum Lake trailhead is located outside of the park and was constructed by the forest licensee. The Rainbow Falls parking area and access road were also created under a similar arrangement. The LRMP addition of the Rainbow Falls site encompassed the entire parking lot and the last 50 metres of the access road before the parking lot; however, visitors travelling by motor vehicle are still dependent on resource roads to access the site.

Access to Monashee Park is possible via several routes, not only via the traditional route from Spectrum Creek, but also from North Fosthall Creek FSR which leads to the Margie Creek and the Bill Fraser Lake area. Additional access points may be created in the future if forest harvesting or mining occurs in new areas (e.g., north of the park in Gates Creek).

The Order in Council trail corridor which travels from Rainbow Falls to the current park boundary, although administered by BC Parks, is not established as Class A park.

Management Objectives	Management Strategies
Ensure key access roads to the park are maintained.	<ul style="list-style-type: none"> • Work with provincial agencies, forest licensees and other tenure holders to ensure access roads leading to key park trailheads are maintained. • Focus access management discussions (external to the park) on key access locations such as the Spectrum Lake trailhead and the North Fosthall Creek area. • Discourage access at infrequently used access points and do not encourage new trailhead development in other regions of the park in an effort to protect wilderness values (e.g., Mountain Caribou habitat).

<p>Explore boundary expansion to include key facilities (trails/parking lot).</p>	<ul style="list-style-type: none"> • Recommend that the Spectrum Creek trailhead parking lot, feeder trail, and the Order in Council trail corridor be added to the park. The trail from Rainbow Falls to the main trail access along the Spectrum Creek corridor will be maintained as a route (i.e., minimal upkeep).
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3.2.5 Summer Recreation Values

Summer recreation is the mainstay of recreation in Monashee Park, especially hiking and backpacking. The facilities in the park were mainly built to support summer recreation. With improved access and shortened hiking times, the camping opportunities in the alpine areas have become increasingly popular, but have the potential to impact sensitive ecological values in the park.

In addition, the types of use in the backcountry have changed over time, with horse use declining and new forms of recreation, such as mountain biking, becoming more popular. The Wilderness Recreation Zone that applies to most of Monashee Park does not allow for mechanized access such as mountain biking. Indeed, much of the rugged terrain of the park would appeal to a narrow range of advanced level mountain bike riders. The concept of mountain bike trails in small sections of subalpine areas of Monashee Park has been proposed and an area in the park has been zoned to provide this potential opportunity subject to assessments (see Park Zoning section).

<p>Management Objectives</p>	<p>Management Strategies</p>
<p>To assess and monitor the impact of backcountry visitors on the park’s natural and cultural values.</p>	<ul style="list-style-type: none"> • Educate visitors about minimum impact camping and backcountry wilderness ethics at all sites in the park to avoid site degradation and minimize human-wildlife conflicts. • Continue education and enforcement of regulations pertaining to “no dogs”. • Use appropriate assessment tools such as Backcountry Recreation Impact Monitoring to ensure that existing backcountry campsites are not adversely impacting the park’s natural and cultural values (key locations include Big Peters Lake and Spectrum Lake and popular non-designated camping areas such as Fawn Lake). • If negative impacts are detected, mitigate by visitor management techniques such as quotas, camping at designated sites only, site expansion and hardening, closures, seasonal and area restrictions, etc.
<p>To maintain backcountry wilderness values.</p>	<ul style="list-style-type: none"> • Ensure aircraft operators wishing to access areas of the park (other than Peters Lake) obtain Park Officer approval or have a valid park use permit for access. • Delineate a small area in the southern end of the park to accommodate multi-use trail development (i.e., to include mountain biking) and zone the area accordingly (i.e., Nature Recreation Zone).

	<ul style="list-style-type: none"> • Prior to any trail planning/design of mountain bike trails, the proposed multi-use area will be subject to full impact assessments including an assessment to determine the level of risk to Mountain Caribou, Mountain Goat and other fauna or flora species.
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3.2.6 Winter Recreation Values

Winter recreation is an important part of the region’s recreational opportunities; however, much of this recreation takes place in wilderness areas that also contain high conservation values. The park is essentially surrounded by *Land Act* tenures which cater to client-based activities utilizing helicopters, cat-assisted skiing and snowmobile use. Motorized conveyances such as these can be disruptive to wildlife.

Heli-skiing does occur within the park in a small area of the Vigue Creek addition. This activity had been occurring on this portion of Crown land prior to park establishment. Today, the heli-skiing within the park is regulated through a park use permit. Responsibility largely rests with the current tenure holder to ensure that impacts to park values are minimized during ski operations.

Improvements in snowmobile technology (lighter machines, more powerful engines, improved tracks, and wider skis) coupled with increased rider proficiency has made once inaccessible areas more appealing for snowmobilers. Illegal snowmobile use has occurred in the spring in the Fawn Lake - Margie Lake - Peters Lake area, which can disturb wildlife in the park and park visitors.

The park holds limited opportunity for backcountry (non-motorized) access in the winter apart from those utilizing the facilities at Sol Mountain Lodge. Steep terrain and unplowed access roads significantly limits the use of the park in the winter by visitors not associated with client-based tourism businesses (e.g., Sol Mountain Lodge) operating outside the park.

Management Objectives	Management Strategies
Promote stewardship with private operators/tenure holders.	<ul style="list-style-type: none"> • Encourage heli-ski operators to follow standard operating practices when operating within the park or along its periphery. • Do not allow winter motorized (aircraft) access to the park except as detailed in the current park use permit for heli-skiing. • Supply tenure holders (operating within or immediately adjacent to the park) with a copy of the most recent management plan for the park.
To have compliance with the no snowmobiling regulations.	<ul style="list-style-type: none"> • Monitor areas that are known illegal access points to the park and use outreach and education as a tool to deter non-conforming winter activities. • Install signage where appropriate (e.g., along key FSRs) to convey that the park is closed to snowmobile use.

3.2.7 Facilities and Tourism Values

Visitor use patterns in the park are changing due to changes in access locations and distance to key trailheads. This includes:

- The resource road along the south side of Spectrum Creek has reduced the hiking distance to Spectrum Lake from 12 kilometres to 6 kilometres.
- Resource roads up North Fosthall Creek have improved access to Margie Lake and Bill Fraser Lake.
- The development of Sol Mountain Lodge in 2006 in the North Fosthall Creek area has increased use of the park (particularly in the southern alpine areas).

The facilities in the park, such as the campgrounds and the ranger station at Spectrum Lake, were built when the access to Spectrum Lake along Spectrum Creek involved a much longer hike and most users camped at Spectrum Lake, with few venturing beyond the lake basin. Today, the shortened hike into the park allows park visitors to bypass Spectrum Lake and camp further into the park at Peters, Little Peters or Margie lakes - within a day. To enhance hiking opportunities in the Spectrum Lake area, new trails to Rum Creek and Spectrum Falls have been proposed.

Park rangers continue to monitor and maintain high use areas. There may be opportunities to explore service contracts for delivery of maintenance in areas of the park such as Spectrum Lake.

As most overnight visitors to the subalpine and alpine areas of the park are self-sufficient and are seeking a pristine wilderness experience, there is currently no demand for fixed roofed structures such as backcountry huts and shelters. A backcountry hut or shelter within the park may also attract illegal snowmobile use in the winter and therefore is undesirable from a park management perspective.

To maintain consistency with management direction provided in the 1993 Management Plan and LRMP recommendations for the Sitkum Creek and Vigue Creek sites, commercial ‘facility based’ opportunities are not appropriate in the park.

Management Objectives	Management Strategies
<p>Promote facilities that match use levels and visitor activities in the park.</p>	<ul style="list-style-type: none"> • Review use patterns to assist in determining utility of facilities. This may lead to removing facilities at some locations, building new facilities at some locations such as trails to Margie Lake, Spectrum Falls or Rum Creek, or changing the type of use at specific facilities. • Explore opportunities to have a maintenance contract for the Spectrum Lake trail, trailhead parking lot, and campground facilities. • Retain the ranger cabin at Spectrum Lake for BC Parks operational use in an effort to effectively manage the high use camping season at Spectrum Lake. • Maintain a close working association with the private lodge owner/tenure holder located adjacent to the park and encourage best management practices in their operations.

	<ul style="list-style-type: none"> • Direct visitors who are seeking fixed roofed accommodation opportunities to the services offered by the private lodge operating outside the park. • Do not allow trapping cabins, guide outfitter cabins or other fixed assets within the park.
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3.2.8 Visitor Information

Providing current information about Monashee Park is an important aspect of visitor service management. The methods of delivering information to the public are evolving as technology changes. A vast percentage of visitors seek information about the park prior to arrival through web-based research (i.e., BC Parks website) or from information gathered as they pass through tourism centres located in outlying communities. Sol Mountain Lodge is also becoming a major source of park visitation and opportunities exist to educate and enlighten these visitors about the park.

Management Objectives	Management Strategies
To provide accurate and comprehensive information to the public and visitors.	<ul style="list-style-type: none"> • Provide accurate information about park opportunities, services, trails, access restrictions and facilities on websites and at key trailhead locations (e.g., Spectrum Creek parking lot, Rainbow Falls parking lot, and North Fosthall Creek parking area). • Liaise with Sol Mountain Lodge to ensure guests at the lodge are aware of park features/values and restrictions (e.g., no mountain biking beyond designated areas within the park). • Provide tourism centres in nearby communities, such as Lumby, Revelstoke and Nakusp, with up-to-date information on the park and recommended and maintained access routes to the park.



Kiosks at the Spectrum Creek parking lot (above left) and at the Spectrum Lake campground (above right)

3.2.9 Horse Use Values

Historically, horses were used as a recreational conveyance in Monashee Park and were the main form of transport by the pioneers in the area. Horse use in sensitive ecosystems such as alpine areas can be highly destructive to vegetation (e.g., trampling and foraging on native plant species and potential for introduction of invasive plant species). The alpine areas are particularly susceptible to damage in late spring and summer months due to the lingering snowpack and generally wet conditions of the soil base. By early fall (September-October) most of the alpine meadows have become more solidified. The Spectrum Creek trail (at one time the main route to the park for horse riders) is no longer maintained to a standard suitable for horse use.

Management Objectives	Management Strategies
<p>To have horse use at acceptable levels and provide trail access for horse use at key locations within the park.</p>	<ul style="list-style-type: none"> • Allow horse use on the Bill Fraser route during late summer to late fall (e.g., the middle of August to late October). All other areas of the park will be closed to horse use. • Remove derelict facilities associated with former horse activities within the park and focus on new/upgraded facilities for horse use based on areas of continued use (i.e., Bill Fraser route).



Early travel to the park was facilitated by horse but this form of use has decline dramatically over the past several decades (photo by Doug Kermode)

3.2.10 First Nations Interests and Cultural Values

Pre-contact travel routes are known to have passed through the park; however, no specific archaeological studies of the park have been undertaken.

Management Objectives	Management Strategies
To protect cultural heritage values existing within the park and to work collaboratively with First Nations in management.	<ul style="list-style-type: none"> • Perform historical and ethnographic research (e.g., archaeological investigation/assessments). • Identify threats to cultural heritage values and implement protective measures that include park zoning (e.g., creation of cultural zones if needed) to protect sensitive sites.

3.2.11 Non-aboriginal Cultural Heritage Values

Monashee Park has a long history of use by pioneers and generations of families in the local community (i.e., Cherryville and Lumby). Some geographical features in the park have been proposed to be renamed/designated in tribute to these individuals to better reflect the historical use of the area.

High quality film footage and personal narratives of the park¹³ were created back in the 1960s by Ernest Laviolette and have been recently restored and promoted in the media. The film footage is not only an important chronicle of a summer spent in the Monashee mountains, but also serves as an invaluable record of wildlife and flora encountered during that period.

Management Objectives	Management Strategies
Honour the pioneer history of the park through geographical names of park features.	<ul style="list-style-type: none"> • Support park advocates in their work to apply to the Geographic Names Unit of the Ministry of Forests, Lands and Natural Resource Operations to name or rename some park features. Support would include mapping of specific sites, providing historical background on landmark features, and providing administrative assistance in the application process.
Preserve historic film records and narratives.	<ul style="list-style-type: none"> • Collaborate with the Friends of Monashee in helping to preserve the integrity of the historic/archival photo and motion picture film documentation of the park, and investigate mechanisms to share this information with the broader public.

¹³ 'The Call of the Monashee' was produced in 1960, two years before the creation of the park. Its release initiated considerable public and political interest in protection of the land area that was to become Monashee Park.

3.2.12 Climate Change

It is apparent that global climate change will continue to alter weather patterns, hydrology and vegetation, with resulting effects on ecosystem process, fish and wildlife habitats, and on all human activity. At the protected area level, ongoing monitoring of key environmental elements and the rate at which they may be changing can help managers to identify and assess management options. Such efforts within the park will maximize opportunities and minimize negative climate change impacts within the park.

Management Objectives	Management Strategies
<p>To increase knowledge of ecological components and processes within the park and an understanding of their response to climate change.</p>	<ul style="list-style-type: none"> • Conduct reconnaissance habitat inventory (e.g., Long Term Ecological Monitoring) and develop a species list for the park, preferably in coordination with similar efforts for the surrounding area. • Place emphasis on inventory on those areas with present or projected recreational uses and on those areas such as alpine meadows that may have species at risk or unusual species diversity, or may be particularly sensitive to climate change. • Explore the past natural disturbance interval and manage fire to avoid extreme events.
<p>To improve understanding of park hydrology particularly as it relates to climate change effects.</p>	<ul style="list-style-type: none"> • Draw on historical hydrological data, ongoing monitoring systems (e.g., Long Term Ecological Monitoring) inside and outside the park and projections of climate change effects to develop long-term hydrological forecasts for the park, with particular reference to potable water sources and key aquatic habitats for species at risk.



The north face of Slate Mountain

3.3 Zoning Plan

This management plan uses zoning to assist in the planning and management of Monashee Park. In general terms, zoning divides an area into logical units to apply consistent management objectives for protection of protected area values. Zones reflect the intended land use, existing patterns of use, degree of human use desired, and level of management and development allowed in the zone. Zoning provides visitors and managers with a quick visual representation and appreciation of how a particular protected area is managed. Zoning is mandatory for all protected areas except ecological reserves. Components of the zoning plan for Monashee Park received direction from the Okanagan Shuswap LRMP.

Wilderness Recreation Zone

Description

This zone covers 22,422 hectares (98.7% of the park) and includes most of the original park area (prior to the LRMP additions), the Sitkum Creek addition and the Vigue Creek addition.

Objective and Management Intent

To provide a wilderness landscape in which unassisted backcountry recreation activities can be pursued without the presence of built structures or disturbance from mechanical access. This zone adopts a pre-existing helicopter ski tenure within a small area of the Vigue Creek addition.

Spectrum Lake Nature Recreation Zone

Description

This zone covers the 40 metre wide corridor (established by Order in Council and under the administration of BC Parks) along the Spectrum Lake trail from Rainbow Falls to the park boundary (40 hectares), the portion of the Spectrum Lake trail within Monashee Park (5 hectares), and the campground area at Spectrum Lake (10 hectares) for a total of 55 hectares (0.25% of the park).

The parking lot (which is vacant Crown land maintained by the forest licensee) and short feeder trail which crosses Spectrum Creek (currently under the administration of the Recreation Sites and Trails Branch) are not zoned. In the future, if these two areas are added to the administration of the park, then they will be included within the Spectrum Lake Nature Recreation Zone.

Objective and Management Intent

Spectrum Lake Trail - To provide access to Monashee Park along Spectrum Creek.

Spectrum Lake Campground - To provide a high quality recreational experience at Spectrum Lake with appropriate levels of facility development for visitor convenience and environmental protection from degradation due to visitor usage.

Fosthall Ridge Nature Recreation Zone

Description

This zone covers an area of 229 hectares (1% of the park), contained within two nodes of 165 hectares and 64 hectares along the southern edge of the park. The zone makes allowance for future multi-use trails (e.g., mountain biking and hiking).

Mountain biking will be subject to a full impact assessment. If negative impacts and an unacceptable level of risk (to species and their habitats) are identified at anytime (i.e., in a pre-construction or during the operational phase) and cannot be mitigated, mountain biking opportunities will not be permitted or allowed to continue. Zoning would then be changed to a Wilderness Recreation Zone via a management plan amendment.

Objective and Management Intent

The zone makes accommodation for future multi-use trails that originate from Sol Mountain Lodge (located outside of the park).

Rainbow Falls Nature Recreation Zone

Description

This zone covers 16 hectares (0.07% of the park) and includes the Rainbow Falls addition to the park.

Objective and Management Intent

This zone focuses on Rainbow Falls, a scenic waterfall feature in the park. The management intent is to provide park visitors day use access to Rainbow Falls and facilities that provide a safe vantage point to view the waterfall.

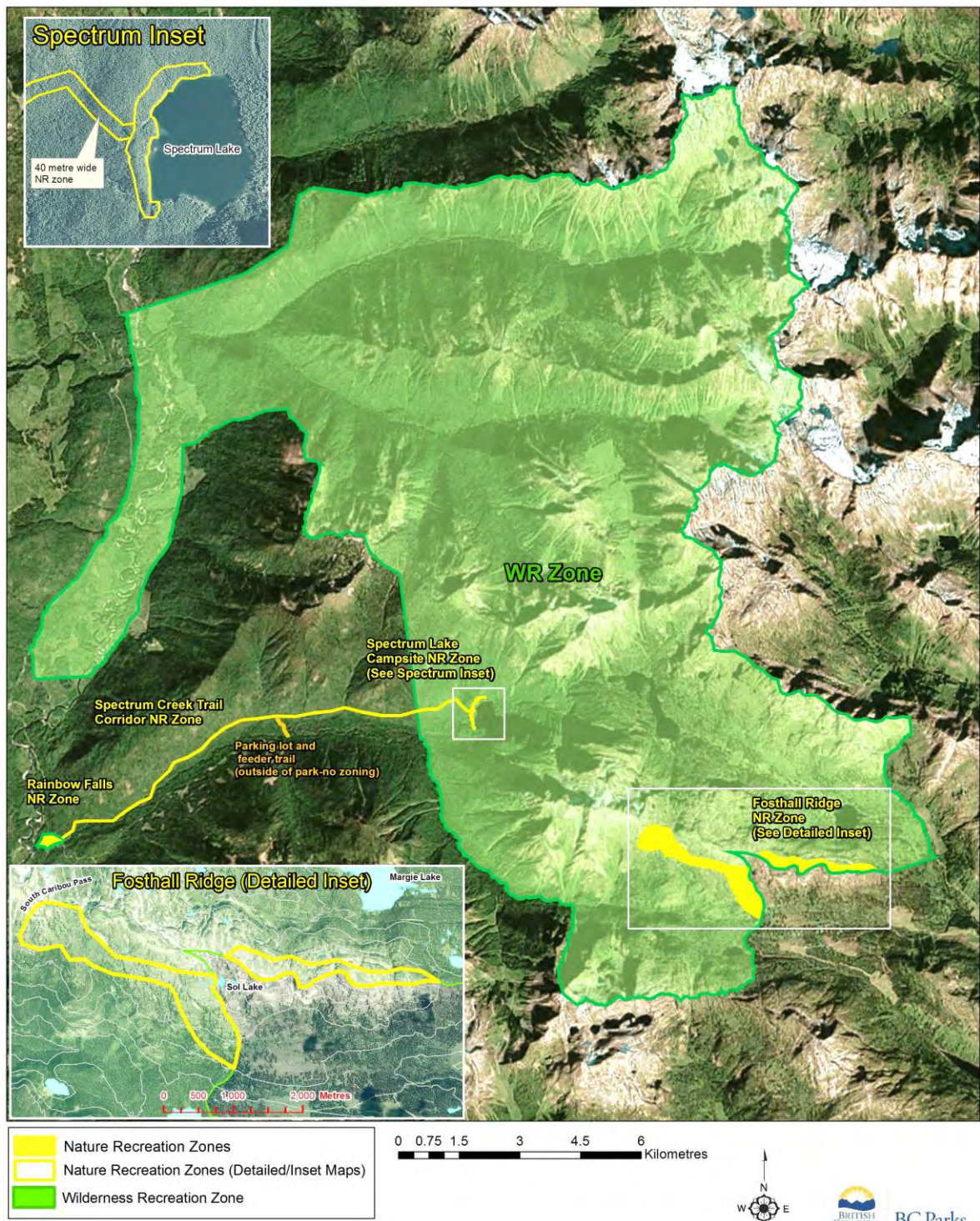


Figure 7: Zoning Map for Monashee Park

4.0 Plan Implementation

4.1 Implementation Plan

BC Parks will seek project-specific funding and partners to implement high priority strategies. Specific projects will be evaluated for their priority in relation to the overall protected areas system. Many of the initiatives contemplated are not funded as part of core BC Parks activities so jointly seeking funds or outside partners will be a key aspect of the management plan implementation.

4.2 High Priority Strategies

- Conduct ecosystem inventories of the park, with specific emphasis on determining extent and location of species and ecological communities at risk.
- Encourage and conduct monitoring and research in the park to support future management decisions (e.g., long-term ecological monitoring).
- Work with Crown agencies responsible for forest tenuring and operations and with forest licensees to minimize effects of forest harvesting activities on adjacent lands (e.g., monitor/mitigate windthrow events along the park boundary).
- Continue liaison with the Mountain Caribou recovery group and follow recommendations as cited in the Mountain Caribou Recovery Implementation Plan.
- In coordination with the provincial Wildlife Branch, develop a wildlife and habitat inventory with priority on species at risk (particularly as it relates to those species sensitive to climate change).
- Conduct aquatic invertebrate species inventories and amphibian inventories.
- Work with provincial agencies, forest licensees and other tenure holders to ensure access roads leading to key park trailheads are maintained.
- Recommend that the Spectrum Creek trailhead parking lot, feeder trail, and the Order in Council trail corridor be added to the park.
- Install signage where appropriate (e.g., along key FSRs) to convey that the park is closed to snowmobile use.
- Explore opportunities to have a maintenance contract for the Spectrum Lake trail, trailhead parking lot, and campground facilities.
- Allow horse use on the Bill Fraser route during late summer to late fall (e.g., the middle of August to late October). All other areas of the park will be closed to horse use.
- Perform historical and ethnographic research (e.g., archaeological investigation/assessments).
- Support park advocates in their work to apply to the Geographical Names Unit, Ministry of Forests, Lands and Natural Resource Operations to name or rename some park features.

- Collaborate with the Friends of Monashee in helping to preserve the integrity of the historic/archival photo and motion picture film documentation of the park, and investigate mechanisms to share this information with the broader public.

4.3 Plan Validity Assessment and Review

In order to ensure the management of Monashee Park remains relevant, BC Parks staff will complete an internal assessment of this management plan every 5 years at which time minor administrative updates may be identified and completed (e.g., update protected area details or maps where needed, etc.).

If the internal assessment reveals that management direction is no longer adequate, a formal review by BC Parks and First Nations and stakeholders will be completed to determine whether a plan amendment or a new plan is required. A formal plan review and amendment process would include an opportunity for public input.

5.0 References

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Appendix 1: Appropriate Use Table

The following table lists existing and potential future uses in the park. This is not an exhaustive list of uses that may be considered in this park.

The table is provided to summarize the uses which the management planning process has confirmed are not appropriate in the park. The table also gives a general indication of the management direction for other uses. The table must be reviewed in conjunction with the other sections of the management plan, including the role descriptions, vision, objectives and strategies.

Appropriate Use Table Legend		
N	Not an appropriate use	The use is not appropriate in the indicated zone. If the use currently exists but the management planning process has determined that the use is no longer appropriate in all or part of the protected area, the management plan will include strategies for ending the activity (e.g., phasing out, closing).
Y	May be an appropriate use	<p>Some level or extent of this use may be appropriate in the zone(s) indicated. If the activity/use already exists, the management plan provides guidance on the appropriate level of use and may address specific restrictions or planned enhancements (e.g., capacity, designated areas for a particular activity, party size, time of year, etc.).</p> <p>For new or expanded uses, this symbol indicates that the use <u>may be considered</u> for further evaluation and approval. The appropriateness of some activities may not be confirmed until a further assessment (e.g., BC Parks Impacts Assessment Process) or evaluation process (e.g., park use permit adjudication) is completed.</p>
N/A	Not an applicable use in this zone	Indicates where it is not feasible for the use to take place in this zone (e.g., mooring buoys in a terrestrial zone).

	Spectrum Creek Trail and Lake Nature Recreation Zones	Rainbow Falls Nature Recreation Zone	Fosthall Ridge Nature Recreation Zone	Wilderness Recreation Zone	Comments
Activities/Uses					
Aircraft access	Y	N/A	Y	Y	As authorized by a Park Officer or valid park use permit except at Peters Lake. Peters Lake access does not require prior authorization or permit.
Beach activities (swimming, sunbathing, etc.)	Y	Y	N/A	Y	
Boating (non-power)	Y	N/A	N/A	Y	
Boating (power)	N	N	N/A	N	
Camping – vehicle accessible	N	N	N	N	
Camping – backcountry (designated sites)	Y	N	N	Y	No campfires except in designated pits and no fires permitted in the alpine areas of the park.
Camping - no trace (backpacking)	Y	N	Y	Y	
Commercial recreation (facility-based)	N	N	N	N	
Commercial recreation (non-facility based)	Y	Y	Y	Y	
Dog Sledding	N	N	N	N	
Filming (commercial)	Y	Y	Y	Y	Park use permit only.
Fish stocking	N	N	N/A	N	Natural recruitment only.
Fish habitat enhancement	N	N	N/A	N	
Fishing	Y	Y	N/A	Y	
Grazing (domestic livestock)	N	N	N	N	
Hiking/Backpacking/Walking	Y	Y	Y	Y	
Horse use/pack animals (not exotic)	N	N	N	Y	Bill Fraser route to alpine areas (Sept 1 to Oct 30).

	Spectrum Creek Trail and Lake Nature Recreation Zones	Rainbow Falls Nature Recreation Zone	Fosthall Ridge Nature Recreation Zone	Wilderness Recreation Zone	Comments
Hunting	Y	Y	N	Y	Only in LRMP additions (Vigue and Sitkum Creek park additions) and along OIC trail corridor (Rainbow Falls to park boundary-Spectrum Lake Trail).
Mountain Biking	Y	N	Y	N	Restricted to the OIC trail corridor, the Spectrum Creek/Lake trail (to lake only) and specified area within the Fosthall Ridge NR Zone.
Motorized Off-road Access (not snowmobiles – i.e., 4x4, motorcycles, ATV)	N	N	N	N	
Snowmobiling	N	N	N	N	Snowmobiling is allowed only for licenced trapping purposes.
Skiing (backcountry-unassisted)	Y	N/A	Y	Y	
Skiing (helicopter or cat-assisted)	N	N	N	Y	Only in area of park identified by park use permit.
Trapping	Y	Y	Y	Y	Park use permit only.
Facilities/Infrastructure					
Administrative buildings and compounds	Y	N	N	N	Ranger Station at Spectrum Lake only.
Backcountry huts and shelters (or other forms of fixed roofed accommodation)	Y	N	N	N	Spectrum Lake shelters only.

	Spectrum Creek Trail and Lake Nature Recreation Zones	Rainbow Falls Nature Recreation Zone	Fosthall Ridge Nature Recreation Zone	Wilderness Recreation Zone	Comments
Campgrounds	Y	N	N	Y	Backcountry campsite areas in the WR Zone and designated campsites in the Spectrum Lake NR Zone.
Interpretation and Information Buildings	Y	Y	Y	Y	Information shelters only.
Communication sites	N	N	N	Y	One site only for a current park use permit holder. BC Parks shares the repeater installation for operations purposes.
Roads and parking lots	N	Y	N	N	Small day-use parking area at Rainbow Falls. Spectrum Lake parking lot is located outside of the park.
Trails (hiking, cross-country skiing, mountain biking)	Y	Y	Y	Y	See mountain biking (previous page) for restrictions.

Appendix 2: Direction from the Okanagan Shuswap LRMP

Park Management Direction

The Okanagan Shuswap LRMP provided some management direction that was general to all Protected Areas covered by the LRMP. This direction is provided below (*note - some ministry names have changed since the endorsement of the plan - the following text retains ministry names at the time of the LRMP*).

There are five different management categories for protected areas, as outlined in “A Protected Areas Strategy for BC”: strict preservation; wilderness; cultural and heritage sites; natural environment-based outdoor recreation; and intensive recreation and tourism sites. The appropriate management category, or combination of categories will be identified for each unit.

Park Management Plans

For each protected area, a park management plan will be established as follows:

- a) it will involve stakeholder groups, including all tenure holders;
- b) it will involve First Nations;
- c) it is to be open and inclusive (LRMP table representatives; process used in the LRMP);
- d) some parks may require an ongoing multi-stakeholder monitoring committee;
- e) the process will be open to the public; and,
- f) management plans will have a five year term;

Each park management plan will address and/or include:

- a) any development within the boundary;
- b) be explicit in terms of basic management direction;
- c) each park management plan will be consistent with the park management category;
- d) naturally occurring impacts such as windthrow, disease, noxious weeds, flooding and fire etc;
- e) access management issues/concerns specific to that protected area, including issues related to providing access to the protected area; and,
- f) those matters generally agreed to in this document that affect or impact on park management or use.

Management of Lands Adjacent to Protected Areas

1. The area immediately adjacent to a protected area boundary will be managed in accordance with the management objectives and strategies for the RMZ/SRMZ established for that area, unless specifically stated to the contrary.
2. Development planning adjacent to protected areas should not encourage windthrow within the protected area. This is not intended to preclude resource development adjacent to the protected area.
3. Development planning should avoid undesirable/unmanaged access to the protected area. Any access issues will be addressed through an access management plan, or direct discussions between Parks and the licensee or proponent of the new road.

4. It is important to note that the establishment of these protected areas should not prevent resource development activities on the adjacent land base. For example, mineral exploration and mine development can proceed adjacent to a protected area, subject to existing regulations and standards.

Management Direction for all Protected Areas

1. Logging (except for forest health reasons), mineral and energy exploration and development are not allowed in protected areas.
2. All existing liens, charges, and encumbrances other than those applying to commercial logging, mining or energy exploration and development will continue to be authorized through issuance of park use permits (PUPs). This policy recognizes all existing Land Act tenures, special use permits (SUPs), water rights, trapping licenses and other legal tenures and rights.
3. Operational activities in protected areas should be consistent with the management direction for the unit.
4. Allocation of new tenures will be subject to the direction provided by the management plan for the protected area. Proposals for new uses will respect existing uses.
5. Some protected areas will have pre-existing water licenses that may include domestic, irrigation, diversions and water storage structures. These licenses and the ability to manage them for their licensed use will be allowed to continue. Protected area management plans will allow for the continued access, maintenance and rehabilitation of water tenures.
6. Existing communications sites and utilities, such as transmission lines, pipelines and communications towers, will be allowed to continue. Protected area management plans will allow for the continued access, maintenance and rehabilitation of these facilities.
7. Water storage reservoirs within protected areas must be operated and maintained primarily for safety from structural failure.
8. Activities within protected areas are to respect conservation values, particularly the needs of red- and blue-listed elements.

Access Management Direction

1. Access management issues will be dealt with in the LRMP and subsequent park management plans.
2. Ensure that the quality, amount and timing of access are consistent with the objectives and prescribed character of the protected area. This does not apply to roads excluded from the protected area.
3. Ensure that the rights of way for roads that are excluded from protected areas are sufficiently wide enough to accommodate maintenance, realignments, management of hazard trees, etc.
4. Access for maintenance of existing water and weather data collection stations (e.g., snow courses, snow pillows, stream gauges, etc.) in new protected areas must be maintained.

Guide Outfitting Management Direction

1. As provided for under existing policy, guide outfitting is a permitted activity subject to the protected area management plan established for each protected area. This includes:
 - maintenance and construction of new facilities subject to the management plan; and,
 - any snowmobile access required to maintain guiding activities within the area.
2. Guide outfitters will be able to continue their current outfitting activities subject to the protected area management plan.
3. Notwithstanding the foregoing, a park use permit (PUP) will be required from the managing agency.
4. The Ministry of Environment, Lands and Parks (MELP) acknowledge guide outfitting, and the requirement it has, as an acceptable practice within future protected areas, subject to the management plan.
5. Guides will only be required to acquire one permit for operating in all protected areas within their territories within the LRMP area.
6. The continued use of trucks and/or all-terrain vehicles (ATVs) for access on designated roads and trails within a protected area will be allowed, subject to the protected area management plan.
7. The current horse grazing for the purpose of guiding and commercial backcountry recreation activities will continue in protected areas, subject to the park use permit.
8. Any new grazing tenure for horses (e.g., in conjunction with a commercial recreation operation) beyond current levels should be referred to the range tenure holder(s).
9. Any new tenure should be balanced with public recreational horse use.
10. When resident hunting opportunity exists through general open seasons or limited entry draws in a protected area, then the protected area allocation of wildlife will be consistent with the allocation policy that exists outside of the protected area.
11. The time frame for park use permits should be consistent with the timeframe for guide outfitting permits issued by MELP.

Hunting and Fishing Management Direction:

1. Hunting in protected areas to be allowed subject to the management plan, or conservation or safety concerns.
2. Fishing is allowed subject to the management plan subject to conservation concerns.
3. Fish stocking and enhancement will be allowed subject to the management plan.
4. Habitat enhancement activities are allowable subject to the management plan.
5. Wildlife transplants are allowable subject to the management plan and the existing Ministry of Environment, Lands and Parks transplant policy.

Trapping Management Direction:

1. Existing tenures will be honoured. They are renewable, transferable, and the portion outside of the protected area will be eligible for re-allocation.
2. The continued use of trucks and/or all-terrain vehicles for access on designated roads and trails within a protected area will be allowed, as provided by the park use permit (PUP).
3. Trappers will only be required to acquire one permit for operating in all protected areas within their territories within the LRMP area.

Forest Health Management Direction:

1. Appropriate control measures may be undertaken to control disease, insect infestation, noxious weeds (control methods will emphasize biological and cultural control methods), and prescribed fire where this is consistent with maintaining values within and outside of the protected area, and such activities are consistent with the protected area management plan.
2. Monitoring of forest health will be ongoing within all protected areas and will be conducted through interagency cooperation. Management of insect and disease will utilize the most practical and effective techniques including but not limited to fire, trap trees, MSMA application, or fall and burn.

Objectives and Strategies:

- Manage forest health factors to an acceptable risk level, where they pose a significant risk to resources and/or values.
- BC Parks is to assign forest health objectives and strategies for each protected area that are consistent with the purpose of the protected area. These will include fire management strategies.
- Areas are monitored for forest health factor indicators in conjunction with adjacent, non-protected areas.
- Where there is a low risk from forest health factors no human intervention is necessary.
- Where there is a significant risk from forest health factors, management should follow direction from BC Parks, and consider the potential impact to resources and values within and external to the protected area.

Resource Management Zone Direction

The Okanagan Shuswap LRMP also contains relevant direction for a number of resources in Resource Management Zones (RMZ). Some of these RMZs overlap with Monashee Park, including RMZs for caribou winter range, fish, grizzly bears, moose winter habitat, mountain goat range, mountain goat winter range and tourism – backcountry. The portion of Monashee Park covered by each RMZ and relevant direction in the LRMP is as follows; non-relevant direction (i.e.: that relating to activities that do not occur in Monashee Park) is omitted.

Fish and Aquatic Habitat – Special Areas

The entire Monashee Park is covered by the Fish and Aquatic Habitat RMZ.

- Provide suitable habitat attributes for bull trout, geographically isolated populations, high value spawning areas, cutthroat trout, and salmon as shown on the “Fish RMZ” map.
- Identify spawning areas, and assess the potential for enhancement.
- Inventory the known bull trout watersheds, and those that may have bull trout (i.e., Fraser drainage) for presence of fish, and locations of critical habitats (i.e., staging, spawning, over-wintering congregations, or where obstructions cause bull trout to collect) to determine the distribution of fish and habitats within these watersheds.
- When planning non-forest development activities, ensure access management plans reduce potential risks to fish habitat.

Tourism – Backcountry

The Tourism – Backcountry RMZ covers the south end of park from just north of Little Peters Lake and Spectrum Lake

- Maintain backcountry tourism values in the Backcountry RMZ as identified on the “Tourism Areas RMZ” map.
- Maintain a portion of the Backcountry RMZ at any one time in a non-motorized state.

Grizzly Bear

- Most of Monashee Park is in the Monashee (South-Central) grizzly bear Population Unit. For grizzly bear habitat suitability most of the higher elevation areas are rated moderate, forested slopes are rated low, with areas around Shuswap River and the highest alpine rated very low.
- Minimize negative interactions between grizzly bears and commercial tourism and recreational developments.
- When a proposal is in a high value grizzly bear area, carry out an assessment that identifies associated impacts and risks to grizzly bears. Identify areas where impacts and risks are unacceptable.
- All recreational and commercial tourism development must consider and ensure that development minimizes increased risk of mortality to grizzly bears or a direct or indirect (displacement) loss of high value habitats.
- Minimize mortality risks to grizzly bear populations by maintaining moderately high and high grizzly bear habitat as Crown land.
- Encourage public education efforts on how to avoid conflicts with grizzly bears (e.g., how to prevent attracting them to garbage dumps, how to avoid conflicts when out in the bush, etc.).

Important Grizzly Bear Habitat Types and Their Season of Use.

Habitat Type	Season of Use		
	Spring ¹	Summer ²	Fall
South facing, low elevation (below 1200m) early seral, wetlands or open habitats	X		
Avalanche tracks and run out zones	X	X	
Hedysarum and Glacier Lily complexes	X	X	
Meadow - wetland complexes and seepage sites	X	X	X
Subalpine parkland meadows		X	X
Riparian areas (including inundated site series)		X	X
Berry producing sites (see table) including post fire stands dominated by Vaccinium spp.			X

1. Spring refers to the period after bears emerge from their dens - late March through April until spring habitats are no longer used - the end of June.

2. Fall refers to the period when berries become abundant - often late July/ early August through to November.

Mountain Caribou Habitat

Mountain Caribou winter range covers approximately half of Monashee Park, mostly at higher elevations.

- Reduce caribou/recreation conflicts.
- Manage off-road vehicle use in caribou summer habitats.
- Manage snowmobile use in caribou winter habitats.
- Incorporate provisions into commercial backcountry management plans to prevent/mitigate adverse recreation impacts on caribou.

Mountain Goat Habitat

Mountain goat habitat covers most of the park except the Shuswap River and some nearby parts of the park. Mountain goat winter range covers the north side of Vigue Creek and the south side of Fosthall Creek above Bill Fraser Creek.

- Within goat habitat identified in the “Wildlife – Mountain Goat Habitat RMZ” map, minimize adverse impacts of access and resource development on mountain goats.
- Avoid heli-logging, heli-skiing, blasting, and other activities that would likely cause habitat displacement within two kilometre line of sight distance of winter and natal habitats identified in the “Wildlife – Mountain Goat Habitat RMZ” map from December 1st to July 15th.
- Discourage recreational activities in winter/natal habitats during season of use.
- On an as needed basis, develop access management strategies through the operational planning process in goat range to prevent or mitigate impacts on goats and goat habitats, in particular rearing and wintering habitats.
- Develop access, resource extraction, movement corridors, and recreational development guidelines for specific identified goat habitats and ranges on an “as

needed” basis. The intent is to cover off commercial backcountry recreation (CBR) and mine development applications.

- Improve knowledge of mountain goat populations and habitats, including the use of these habitats.
- Conduct inventories to monitor population trends and expansions and/or contractions of occupied ranges by determining the current distribution and abundance of mountain goat populations through inventory and aerial surveys.
- Identify and map key mountain goat habitat and ranges. Include migration corridors, natal (kidding and early rearing) areas, and mineral licks.

Appendix 3: Provincial and Federal Designations for At Risk Species

The species list in the following table was compiled using HectaresBC overlays, and contains Blue or Red listed species that may occur in Monashee Park. Confirmation of occurrence must be made in the field.

Common name	Scientific name	Status		
		Provincial ¹⁴	COSEWIC ¹⁵	SARA
Fish				
Bull Trout	<i>Salvelinus confluentus</i>	Blue	Special Concern/Not At Risk	Not-listed
Reptiles				
Western Painted Turtle	<i>Chrysemys picta</i>	Blue	Special Concern	Special Concern
Western Skink	<i>Eumeces skiltonianus</i>	Blue	Special Concern	Special Concern
Birds				
American Bittern	<i>Botaurus lentiginosus</i>	Blue	Not-listed	Not-listed
Barn Swallow	<i>Hirundo rustica</i>	Blue	Threatened	Not-listed
Bobolink	<i>Dolichonyx oryzivorus</i>	Blue	Threatened	Not-listed
Great Blue Heron	<i>Ardea herodias herodias</i>	Blue	Not-listed	Not-listed
Lewis's Woodpecker	<i>Melanerpes lewis</i>	Red	Threatened	Threatened
Long-billed Curlew	<i>Numenius americanus</i>	Blue	Special Concern	Special Concern
Olive-sided Flycatcher	<i>Contopus cooperi</i>	Blue	Threatened	Threatened
Prairie Falcon	<i>Falco mexicanus</i>	Red	Not at Risk	Not-listed
Rusty Blackbird	<i>Euphagus carolinus</i>	Blue	Special Concern	Special Concern
Short-eared Owl	<i>Asio flammeus</i>	Blue	Special Concern	Special Concern
Mammals				
American Badger	<i>Taxidea taxus</i>	Red	Endangered	Endangered
Bighorn Sheep	<i>Ovis canadensis</i>	Blue	Not-listed	Not-listed
Caribou	<i>Rangifer tarandus</i>	Red	Threatened	Threatened

¹⁴ BC CDC – Conservation Data Centre. This provincial entity assesses the status of species in British Columbia. Inclusion on the red or blue list makes a species eligible for legal listing under the *BC Wildlife Act*, but does not itself convey any legal status or protection. For information on the definitions and development of red and blue lists, refer to Species at Risk Nomenclature.

¹⁵ COSEWIC – Committee on the Status of Endangered Wildlife in Canada. This federal entity provides science-based recommendations for legal listing under the *Species at Risk Act* (SARA). The federal “legal list” is Schedule 1 of SARA.

Common name	Scientific name	Status		
		Provincial ¹⁴	COSEWIC ¹⁵	SARA
Fisher	<i>Martes pennanti</i>	Blue	Not-listed	Not-listed
Fringed Myotis	<i>Myotis thysanodes</i>	Blue	Data deficient	Special Concern
Grizzly Bear	<i>Ursus arctos</i>	Blue	Special Concern	Not-listed
Townsend's Big-eared Bat	<i>Corynorhinus townsendi</i>	Blue	Not-listed	Not-listed
Wolverine, luscus subspecies	<i>Gulo gulo luscus</i>	Blue	Special Concern	Not-listed
Ecological Community				
black spruce / buckbean / peat-mosses	<i>Picea mariana</i> / <i>Menyanthes trifoliata</i> / <i>Sphagnum</i>	Blue	Not-listed	Not-listed
buckbean - slender sedge	<i>Menyanthes trifoliata</i> - <i>Carex lasiocarpa</i>	Blue	Not-listed	Not-listed
mountain alder / common horsetail	<i>Alnus incana</i> / <i>Equisetum arvens</i>	Blue	Not-listed	Not-listed
mountain alder / red-osier dogwood / lady fern	<i>Alnus incana</i> / <i>Cornus stolonifera</i> / <i>Athyrium filix-femina</i>	Blue	Not-listed	Not-listed
Sitka willow - Pacific willow / skunk cabbage	<i>Salix sitchensis</i> - <i>Salix lucida</i> ssp. <i>lasiandra</i> / <i>Lysichiton americanus</i>	Red	Not-listed	Not-listed
Sitka willow / Sitka sedge	<i>Salix sitchensis</i> / <i>Carex sitchensis</i>	Blue	Not-listed	Not-listed
slender sedge / common hook-moss	<i>Carex lasiocarpa</i> / <i>Drepanocladus aduncu</i>	Blue	Not-listed	Not-listed
subalpine fir / black huckleberry / bear-grass	<i>Abies lasiocarpa</i> / <i>Vaccinium membranaceum</i> / <i>Xerophyllum tenax</i>	Blue	Not-listed	Not-listed
swamp horsetail - beaked sedge	<i>Equisetum fluviatile</i> - <i>Carex utriculata</i>	Blue	Not-listed	Not-listed
three-way sedge	<i>Dulichium arundinaceum</i> Herbaceous Vegetation	Red	Not-listed	Not-listed
tufted clubrush / golden star-moss	<i>Trichophorum cespitosum</i> / <i>Campylium stellatum</i>	Blue	Not-listed	Not-listed
western redcedar - western hemlock / common horsetail	<i>Thuja plicata</i> - <i>Tsuga heterophylla</i> / <i>Equisetum arvense</i>	Blue	Not-listed	Not-listed
Vegetation				
whitebark pine	<i>Pinus albicaulis</i>	Blue	Endangered	Endangered
blunt-sepaled starwort	<i>Stellaria obtusa</i>	Blue	Not-listed	Not-listed
pink agoseris	<i>Agoseris lackschewitzii</i>	Blue	Not-listed	Not-listed
steer's head	<i>Dicentra uniflora</i>	Blue	Not-listed	Not-listed
Slender spike-rush	<i>Eleocharis elliptica</i>	Red	Not-listed	Not-listed

Species at Risk Nomenclature

Red List: Includes any ecological community, and indigenous species and subspecies that is extirpated, endangered, or threatened in British Columbia. Extirpated elements no longer exist in the wild in British Columbia, but do occur elsewhere. Endangered elements are facing imminent extirpation or extinction. Threatened elements are likely to become endangered if limiting factors are not reversed. Red-listed species and sub-species have – or are candidates for – official Extirpated, Endangered or Threatened Status in British Columbia. Not all red-listed taxa will necessarily become formally designated. Placing taxa on these lists flags them as being at risk and requiring investigation.

Blue List: Includes any ecological community, and indigenous species and subspecies considered to be of special concern (formerly vulnerable) in British Columbia. Elements are of special concern because of characteristics that make them particularly sensitive to human activities or natural events. Blue-listed elements are at risk, but are not Extirpated, Endangered or Threatened.

The Red and Blue lists serve two purposes:

To provide a list of species for consideration for more formal designation as Endangered or Threatened, either provincially under the British Columbia *Wildlife Act*, or federally by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

To help inform setting conservation priorities for species/ecological communities considered at risk in British Columbia. The rankings highlight species and ecological communities that have particular threats, declining population trends, or restricted distributions that indicate that they require special attention. These lists serve as a practical method to assist in making conservation and land-use decisions and prioritize research, inventory, management, and protection activities. For example, Operational Planning Regulations in the *Forest and Range Practices Act* use the Red and Blue lists in the development of the list of Identified Wildlife.

Appendix 4: General Wildlife Measures for WHAs adjacent to Monashee Park

Schedule 1 – General Wildlife Measures (Grizzly Bear)

Harvesting and silviculture

1. Forest practices will result in at least 10% of each management unit containing forest stands that exhibit a height of at least 19.5 meters, in patches that are at least 5 hectares in size. Management units are defined as the area of each BEC subzone within each landscape unit.
2. Forest harvesting along avalanche tracks, that are at least 40 meters in width, will result in forest stands that are at least 15 meters in height for: 100 meters on one side of the avalanche track, or 50 meters on both sides of the avalanche track.
3. Timber harvest and site preparation practices, in the BEC subzone variants described in Table 1, will not inhibit *Vaccinium* spp, productivity.
4. Planting of tree seedlings in harvested riparian site series will result in stocking densities that are consistent with maintaining plant communities that produce bear forage. Areas that did not have forest cover before timber harvesting was carried out will not be subjected to planting of trees.
5. No cutting of non-merchantable stems within 20 meters of main haul roads.

BEC Subzone Variants	Site Series
ESSFdc1	01, 04
ESSFdc2	01, 04,05
ESSFwc2	01, 02, 03, 04, 05
ESSFwc4	01, 02, 03, 04
ESSFxc	01
ESSFvc	01, 02, 03
ESSFvv	01, 03
ICHvk1	03
ICHwk1	01, 04

Schedule 1 – General Wildlife Measures (Mountain Caribou)

Access

- Do not construct roads or trails unless the Minister of Environment or delegate is satisfied there is no other practicable option and approves an exemption pursuant to section 92(1) of the Forest Planning and Practices Regulations.

Harvesting and silviculture

- Do not harvest or salvage unless the Minister of Environment or delegate is satisfied there is no other practicable option and approves an exemption pursuant to section 92(1) of the Forest Planning and Practices Regulations.

Pesticides

- Do not use pesticides unless the Minister of Environment or delegate is satisfied there is no other practicable option and approves an exemption pursuant to section 92(1) of the Forest Planning and Practices Regulations.

Recreation

- Do not develop recreation sites or trails.