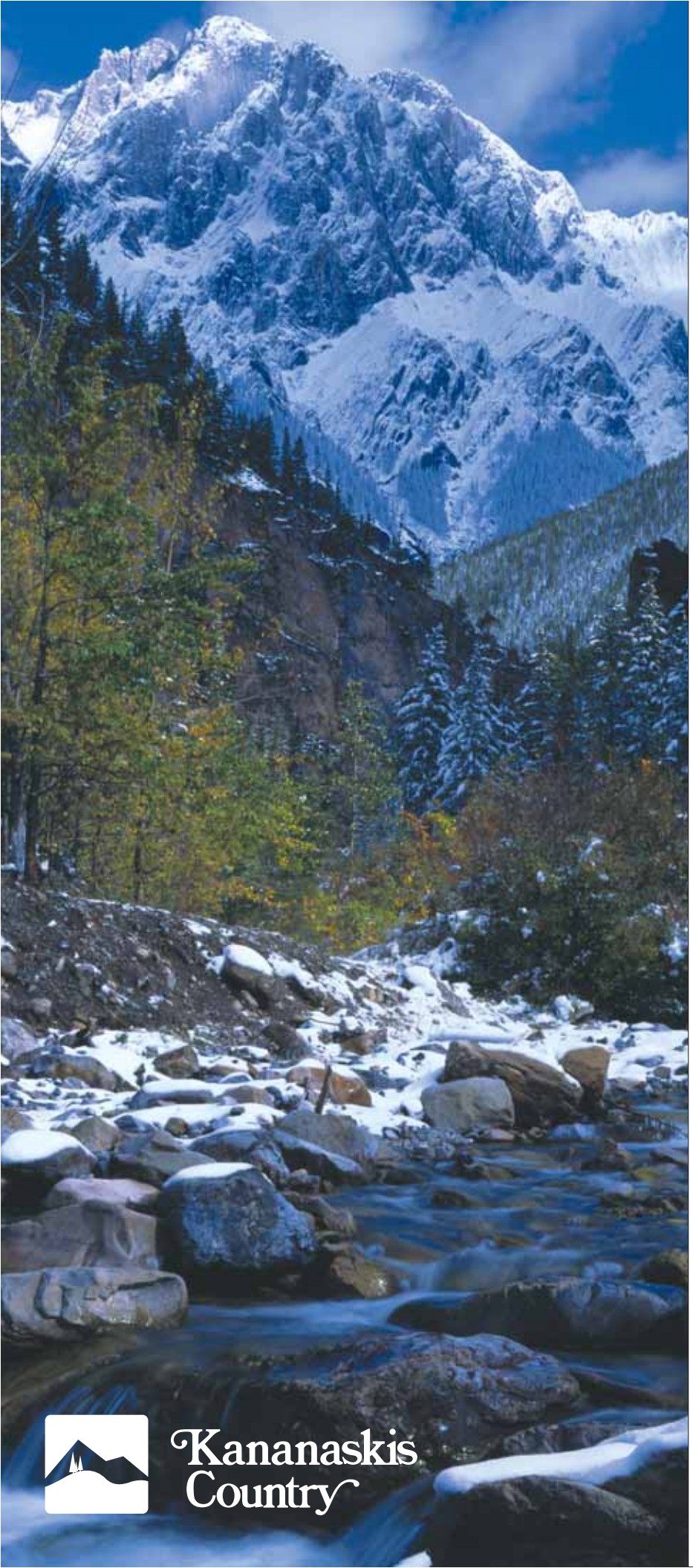

Peter Lougheed & Spray Valley Provincial Parks

Management Plan

April 2006

Alberta
Government

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Management Plan

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PREFACE

The Peter Lougheed/Spray Valley Provincial Parks Area Management Plan provides a long-term vision and day-to-day guidance for stewardship of this Protected Area. The plan was prepared within the context of existing legislation and regulations. It outlines the type and extent of outdoor recreation and tourism opportunities, facilities and services including the delivery of heritage appreciation programs that assist Albertans and visitors to understand and appreciate our natural heritage while ensuring its ongoing preservation.

The Management Plan was prepared with extensive public input and will be reviewed and revised periodically to reflect the current thinking of Albertans about how our natural heritage will be preserved for present and future generations.

The Minister responsible for Parks and Protected Areas has authorized the implementation of the Management Plan and retains the authority to amend or interpret its provisions.

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1.0 INTRODUCTION

1.1 BACKGROUND

Peter Lougheed and Spray Valley Provincial Parks cover 189,622 acres (76,740 hectares) of provincial Crown land in the Bow River watershed, approximately 120 kilometres west of Calgary (see Map 1). Peter Lougheed Provincial Park was established in 1977 in conjunction with Kananaskis Country while Spray Valley Provincial Park was designated in 2000. Together, these protected areas occupy most of the total land area in the Upper Kananaskis, Smith-Dorrien and Spray Valleys and have high ecological, scenic and recreational values. Prior to the establishment of these parks, hydroelectric dams and related facilities were constructed by Calgary Power (now TransAlta) between 1932 and 1955. Hydro operations are ongoing. Timber harvesting also occurred before park establishment in portions of the Spray and Smith-Dorrien valleys. Road access to both of these parks was improved during the early 1980's as part of the provincial government's capital development of Kananaskis Country.

1.2 AREA DESCRIPTION

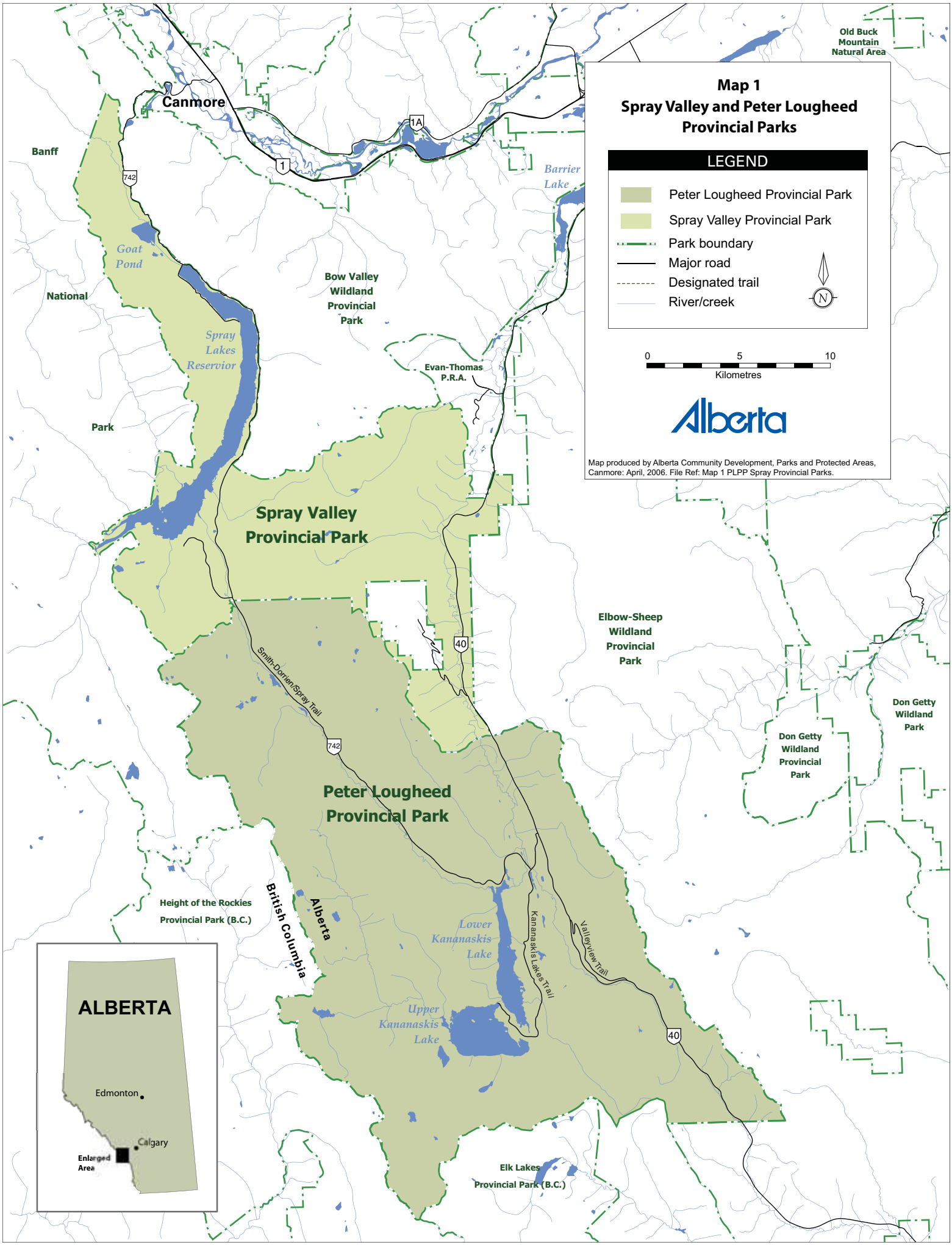
Peter Lougheed and Spray Valley Provincial Parks are located near the Great Divide in the Front Ranges of the Rocky Mountains. They are bordered on the west by British Columbia's Height of the Rockies Provincial Park and by Banff National Park. On the north, they are bordered by the Bow Valley Wildland Provincial Park (see Map 1) while the Evan-Thomas Provincial Recreation Area and Elbow-Sheep Wildland Provincial Park lie to the north and east. Elevations vary from 1600 m (5000 ft) in the Kananaskis Valley bottom to over 3000 m (10,000 ft) at the peaks of many of the mountains along the Great Divide. The diverse slopes and aspects along with prevailing winds, sunshine, and moisture create highly diverse vegetation regimes and faunal habitats, as well as high scenic qualities. These two provincial parks include alpine and sub-alpine sub-regions. Along with several important habitat areas for ungulates and carnivores, these parks also include important local and regional movement corridors for a variety of wildlife. Important scenic features of both parks include striking geological and glaciated landforms, a variety of alpine lakes and meadows and reservoir lakes created by dams on the Kananaskis and Spray Rivers. The most popular recreation activities in both parks include camping, picnicking, trail recreation, boating and fishing.

1.3 PURPOSE AND SCOPE OF MANAGEMENT PLAN

This plan guides management of Peter Lougheed and Spray Valley Provincial Parks consistent with legislation and policies that are in effect. The plan conforms with the existing *Provincial Parks Act*, other related legislation and the Kananaskis Country Recreation Policy 1999. The plan will be reviewed from time to time to ensure that it remains consistent with current legislation and policy.

This plan provides a statement of management intent and objectives for the area. In addition, it identifies permissible public recreation activities, related facilities and provides guidelines for their future management and development. It also recognizes existing dispositions for hydro electric power generation, as well as the desirability of maintaining viable recreation/tourism and business opportunities in the area.

While this plan focuses on the management of Peter Lougheed and Spray Valley Provincial Parks, regional and valley-wide perspectives have been considered to ensure proper integration and co-ordination across protected areas and jurisdictional boundaries. This includes the adjacent cottage subdivision on Lower Kananaskis Lake and nearby Fortress Mountain ski area.


Map 1
Spray Valley and Peter Lougheed Provincial Parks
LEGEND
Peter Lougheed Provincial Park
Spray Valley Provincial Park
Park boundary
Major road
Designated trail
River/creek
N
0
5
10
Kilometres
Alberta
Map produced by Alberta Community Development, Parks and Protected Areas, Canmore: April, 2006. File Ref: Map 1 PLPP Spray Provincial Parks.
Old Buck Mountain Natural Area
Canmore
Banff
1A
1
742
Barrier Lake
Goat Pond
National
Bow Valley Wildland Provincial Park
Spray Lakes Reservoir
Evan-Thomas P.R.A.
Park
Spray Valley Provincial Park
Elbow-Sheep Wildland Provincial Park
40
Smith-Dorrien/Spray Trail
Don Getty Wildland Park
Don Getty Wildland Provincial Park
Peter Lougheed Provincial Park
Height of the Rockies Provincial Park (B.C.)
British Columbia
Alberta
Lower Kananaskis Lake
Kananaskis Lakes Trail
Valleyview Trail
Upper Kananaskis Lake
Elk Lakes Provincial Park (B.C.)
ALBERTA
Edmonton
Calgary
Enlarged Area

1.4 PUBLIC INVOLVEMENT

Public involvement began when over 600 interested individuals or groups were provided with draft terms of reference at the beginning of the management planning process. All written comments received were carefully considered in finalizing the terms of reference, which guided the preparation of a draft plan. This draft plan was distributed to all interested groups and individuals for their review and comment from July to September 2003. The plan was approved by the province in 2006.

2.0 ROLE IN ALBERTA'S NETWORK OF PROTECTED AREAS

2.1 LEGISLATION AND CLASSIFICATION

Provincial parks are established under the *Provincial Parks Act* to protect provincially significant natural history and cultural features. They offer a range of outdoor recreation, heritage appreciation and tourism opportunities, as well as facilities and services that visitors can explore, enjoy and appreciate.

The *Provincial Parks Act* is the legislative authority for the establishment and management of provincial protected areas such as Peter Lougheed and Spray Valley Provincial Parks. Regulations under the *Provincial Parks Act* allow for the enforcement of measures to protect natural and cultural features and to ensure safe and enjoyable recreational experiences. All provisions of the approved management plan will be implemented and enforced under the authority of this Act. Provincial policies and guidelines that direct the management of Peter Lougheed and Spray Valley Provincial Parks include the Kananaskis Country Recreation Policy, 1999, A Policy for Resource Management of the Eastern Slopes (1984 rev.), the Kananaskis Country Sub-Regional Integrated Resource Plan, the Kananaskis Country Architectural Theme Guide and the Voluntary Helicopter Guidelines for Canmore/Kananaskis Country.

2.2 SYSTEM OBJECTIVES

The following four broad program objectives are the cornerstones of Alberta's system of protected areas. They apply to differing degrees in each of the different categories of protected areas throughout the province.

Preservation

To preserve and protect in perpetuity a system of representative, special and outstanding natural landscapes and features as well as landscape-related prehistoric, historic and cultural resources of Alberta.

Heritage Appreciation

To provide opportunities to explore, understand and appreciate the natural, historical and cultural heritage of Alberta, and to enhance public awareness of our natural environment and our relationship to and dependence on it.

Outdoor Recreation

To provide a variety of intensive and dispersed outdoor recreation opportunities and related facilities and services.

Heritage Tourism

To encourage residents and visitors to discover and enjoy the natural, historical and cultural resources of the province through a variety of recreation opportunities, facilities and accommodation services.

2.3 NATURAL REGIONS FRAMEWORK

All protected areas represent one or more of the province's six Natural Regions and twenty sub-regions. Peter Lougheed and Spray Valley Provincial Parks are located in the Rocky Mountain Natural Region of the province and include areas representing montane, alpine and sub-alpine sub-regions.

On a more detailed level, these parks contain a number of natural history "themes". Themes are the natural characteristics of an area such as landforms, forest types or plant communities that help to determine how representative or unique that area is. The rationale for and a complete description of these themes for all provincial regions is contained in "Natural Regions, Sub-regions and Natural History Themes of Alberta, A Classification for Protected Area Management", Alberta Environmental Protection, December 1994 which is included in the List of References. Peter Lougheed and Spray Valley Provincial Parks contain approximately 50 natural history themes, which are listed in Appendix B. Some of the notable themes include sub-alpine larch forest and varied alpine vegetation communities.

2.4 GUIDING PRINCIPLES

Parks and Protected Areas Division is committed to managing Alberta's provincial parks and protected areas consistent with existing legislation and policies so as to protect and maintain natural, cultural, recreational and tourism values for the benefit and enjoyment of all Albertans.

Besides this more general goal, an ecosystem-based approach will be applied in managing Peter Lougheed and Spray Valley Provincial Parks. This approach calls for establishing and maintaining common goals and positive long term working relationships among land managers, stakeholders, neighboring jurisdictions and visitors. The objective is to strike the right balance between protection and human use in the planning area considering the broader regional landscape. This ecosystem-based approach is often characterized as follows:

- Ecosystems extend beyond protected area boundaries. While management on neighbouring lands may affect wildlife, air, water and vegetation within a protected area, likewise management within a protected area may affect adjacent lands. Ensuring good communication and collaboration among land managers and stakeholders including neighbouring jurisdictions is essential.

- People are a fundamental part of the ecosystem. Parks and Protected Areas Division and other government agencies will work with visitors, residents and stakeholders to provide high quality, sustainable recreation and tourism opportunities within the planning area while protecting ecological and cultural heritage. Understanding the relationship between people and the environment is the foundation of good management decisions.

- The traditional relationship of Aboriginal people in Alberta to the land is a source of inspiration and understanding.

- Decisions are based on the best available ecological, cultural, economic and social information.

- The precautionary principle will be applied when potential consequences are uncertain.

- Monitoring, research and adaptive management are key components of an ecosystem-based approach.

- Providing high quality visitor information, interpretation and environmental education programs is essential.

- Providing a variety of high quality volunteer opportunities is essential.

- Where it becomes desirable to maintain or restore healthy ecosystems through reclamation or other actions, local native species, patterns and processes will be used wherever possible.

- Parks and Protected Areas Division and Alberta Sustainable Resource Development will work towards the establishment of more precise monitoring targets and/or indicator species through ongoing research and regional planning activities.

3.0 OVERVIEW OF THE PLANNING AREA

3.1 ACCESS

The main road access to both parks is via the Trans Canada Highway and Highway 40 with the Smith-Dorrien/Spray Trail providing access from Canmore to the Smith-Dorrien and Spray Valley (see Map 1). The Peter Lougheed core area is more intensively developed with visitor facilities than Spray Valley Provincial Park. Highway 40 south of the junction with the Kananaskis Trail is subject to an annual winter closure (December 1 to June 15) as far as Highwood Junction. This closure provides increased protection for significant wildlife resources in the Highwood Valley. The Valleyview Trail within Peter Lougheed Park is a narrow, gravel standard road that utilizes parts of the former Forestry Trunk Road. It is lightly used and is also closed in winter.

3.2 FEATURES

3.2.1 Geology/Landforms/Soils

Elevations vary from 1600 m (5,000 ft) in the Kananaskis Valley bottom to over 3000 m (9,700 ft) at the peaks of many of the mountains along the Great Divide. High rugged cliffs, peaks and ridges composed of limestones, dolomites and shales predominate. There are also outcrops of sandstones, siltstones and coal. Several major thrust faults are visible here including the Lewis, Rundle and Bourgeau. Significant fossil resources have been studied on Mt. Rae. Folding is dramatically represented on peaks such as Mt. Foch and Mt. Sarrail within Peter Lougheed Provincial Park. Twenty-three glaciers are located at higher elevations within Peter Lougheed Provincial Park and many typical glacial landscape features are visible including “U” shaped valleys, cirque basins, moraines and other glacial deposits. Several rock glaciers, rockfalls (e.g., Palliser and Indefatigable), and landslides, as well as large scree slopes are also found here. Two locations for permafrost are known at Ptarmigan Cirque and Mt. Sparrowhawk. The main terrain types of the lower forested slopes include colluvium, terraces and morainal features. The flood plain of the Kananaskis River occupies the valley bottom north of Lower Kananaskis Lake.

Soils are those typical of a mountain environment. The range of surficial deposits, topography and vegetation in these parks has, over time and under fluctuating climatic conditions, resulted in the development of soils with varying characteristics. Soil surveys have identified five soil orders in the facility area of Peter Lougheed Provincial Park including Luvisols (on well drained coarse till deposits under closed coniferous forest), Brunisols (on well drained hummocky moraine under a variety of coniferous vegetation), Regosols, Organics and Gleysols.

3.2.2 Climate

Peter Lougheed and Spray Valley Provincial Parks are affected by both prairie and mountain climates with more precipitation in winter than summer and generally moderate temperatures. Climate records have been kept since 1939 at the nearby Kananaskis (Boundary) Ranger Station and at Peter Lougheed Provincial Park since 1978. The Forest Protection Division (FPD) of Alberta Sustainable Resource Development maintains a Sacramento precipitation storage gauge system and makes weather observations at the Kananaskis fire lookout. The system is mainly geared to fire hazard forecasting.

The annual temperature profile sees the lowest, average temperatures in January and the highest in July. The average annual precipitation is less at the valley bottom than at higher elevations. Snow measurements show a significant increase in depth at higher elevations near the Great Divide. March and April see the highest average snowfall accumulation. Prevailing winds are westerly with occasional winter cold snaps that bring cold air from the north.

3.2.3 Aquatic Resources

These parks encompass the upper portions of the Kananaskis River drainage and the Spray Reservoir portion of the Spray River drainage. Both are tributaries to the Bow River, with the Kananaskis River entering at Seebe and the Spray River entering the Bow within Banff National Park. Several watercourses including Spray River and Goat Creek, which flow into Banff National Park, have had their hydrological characteristics altered as a result of engineering works by TransAlta in order to manage flows and generate hydroelectric power. These include channelization (e.g., Kent Creek), reversed flow across a drainage divide (e.g., Burstall Creek), beheaded drainage through tributary diversion (e.g., Smith-Dorrien Creek) and major earth fill dams (e.g., Lower Kananaskis Lake, Spray Reservoir).

Reservoirs:

Upper Kananaskis Lake**:** Calgary Power (now TransAlta) was granted a water license (with a September 1930 priority) to raise Upper Kananaskis Lake from 1682.8 metres to 1701.6 metres. The license allows 101,000 acre-feet of live storage. Approximately 265 hectares (ha) (655 acres) of land were flooded. The license also gave Calgary Power the right to utilize the bed and banks of the Kananaskis River from the dam on Upper Kananaskis Lake to the normal water level of Lower Kananaskis Lake. The first earth dam to store water in Upper Kananaskis Lake (original surface area of 580 ha [1433 acres]) was constructed by Calgary Power in 1932-33. In 1942 the initial dam was replaced and a second one built on the northeast corner of the lake. In 1955 a power plant was built at Interlakes. The original lake level was 1682.5 metres above mean sea level (ASL) with a maximum depth of 83.4 metres. The construction of the dam resulted in a full supply level of 1707 metres ASL and a low supply level of 1690.0 metres. This results in an annual drawdown of about 17 metres. The surface area of the lake at full supply level is 868 ha with a maximum depth of over 100 m. It is presently stocked with native westslope cutthroat trout and native bull trout.

Lower Kananaskis Lake: In 1954 an earth filled dam was built at Lower Kananaskis Lake (original surface area of 290 ha or 717 acres) and a power plant constructed downstream on the Kananaskis River. A penstock was built to direct water from the lake to the plant. A water license was issued to Calgary Power (with a December 1931 priority) granting the right to a live capacity of not less than 51,100 acre feet. Normal full supply level identified in the license is 1667.0 metres. Calgary Power has a right to utilize lands below the 1670.3 meter contour. In 1956 most of the flow of Kent Creek was diverted by a canal to the lake near the dam. The surface area of the lake at full supply level is 646 ha (1596 acres), and it has an average winter drawdown of 12.5 metres.

Lower Kananaskis Lake is not stocked and has a self-reproducing population of bull trout. Rainbow and cutthroat trout are also found in the lake but they enter the lake from the tributaries and do not seem to spawn within the lake.

Spray Lakes Reservoir: Prior to dam construction, the "Spray Lakes," consisted of three stream-connected lakes: Jackson's Pond, Upper Spray Lake (1.6 km long) and Lower Spray Lake (3.2 km long). These lakes had a total surface area of about 180 ha (445 acres). The maximum depth of Lower Spray Lake was 29 m. By 1950, the Canyon and Three Sisters dams were completed creating a reservoir 21 km long by 0.8 km wide with an area of 1952 ha (4823 acres). Calgary Power was granted a water license (with a May 1948 priority) for a live storage of 146,000 acre-feet of water. The license sets the Full Supply Level at 1697.8 metres ASL. The maximum depth is now about 65 metres. Spray Reservoir is located at an approximate elevation of 1710 m ASL and is low in nutrients. The reservoir has an annual average drawdown of ten metres. A second small reservoir known as Goat Pond is located two kilometers northwest (downstream) of Spray Lakes. This reservoir directs water into the Goat Canal which carries the water north to Whiteman Dam and through two hydroelectric generating stations. The Canyon and Three Sisters dams have reduced water flows into the Spray and Goat Creek valleys, which has resulted in elimination of native fish species, changes to the natural floodplain and alluvial fans. The primary streams that are tributary to Spray Reservoir include Smuts Creek, which originates at Mud Lake, Bryant Creek, and Upper Spray River, which originates within Banff National Park. Goat Creek is another smaller stream, which runs from the TransAlta dam at Goat Pond into Banff National Park.

Lake trout are found in the Spray Reservoir. Though native to Alberta, they were not native to the Spray Reservoir, but were stocked shortly after its creation. Mountain whitefish, a native fish, are also present. Ciscos were also stocked in Spray Reservoir, but based on test netting in 2002, are now only present in very low numbers. Other non-native sport fish include brook trout and rainbow trout.

Other Water Bodies:

High Mountain Lakes: Many of the high mountain lakes in the planning area were formed in glacially eroded bedrock basins (cirques) at elevations close to the treeline. These include: Maude, Lawson, Headwall, Three Isle, Rawson, Invincible, Aster, Commonwealth, Chester, Rummel, Shark, Smuts, Fortress, Lillian, Galatea, Ribbon, Memorial and Elbow Lakes. Typically, the high mountain lakes are greater than 10 ha (25 acres) in surface area and less than ten metres in depth. They often have low biological productivity. Their surfaces remain frozen for more than six months of the year, their shorelines are often rock, and their bottoms lack aquatic vegetation (Thompson 1978). Nevertheless, many of these lakes do contain sport fish populations. For example, Elbow Lake contains non-native brook trout, while other lakes contain native westslope cutthroat trout. Self-reproducing populations of westslope cutthroat trout are found in Rawson, Rummel, and Chester Lakes while the remainder are sustained by stocking on a regular basis. Chester Lake is unique in that it contains both native westslope cutthroat trout and non-native northern Dolly Varden. Options are being considered to deal with this non-native fish located in an area where protecting and enhancing the native fishery is a management priority.

Valley Bottom Lakes: These lakes are situated on glacial deposits or alluvial sediments. Marl, Sparrow's Egg, Hogarth, Mud, Spillway, Burstall and Watridge are examples of these lakes. They are shallow and have shorelines consisting of organic sediments that have grown in the lake or have been deposited from neighbouring forest ecosystems. Marl and Spillway Lakes do not contain sport fish. The remainder contain native westslope cutthroat trout that are maintained with regular stockings, except for Watridge, which has a self-sustaining population.

Rivers/Streams: The Kananaskis River is the major river within Peter Lougheed Provincial Park. It starts above Upper Kananaskis Lake and after traveling through Upper Kananaskis Lake,

Lower Kananaskis Lake, and Barrier Reservoir enters the Bow River at Seebe. There are many other smaller watercourses that enter the Kananaskis River through the Park. Native sport fish found within the River include bull trout, cutthroat trout and mountain whitefish. Non-native fish include brook trout and brown trout. Aquatic resources are managed subject to the terms of the existing agreements with TransAlta as well as the federal *Fisheries Act*, the *Alberta Water Act*, and the *Fisheries (Alberta) Act* along with related regulations, policies and guidelines. In particular, fish in these parks will be managed consistent with the Alberta Fish Conservation Strategy and federal Department of Fisheries and Oceans guidelines. These include the *"no-net-loss"* goal for fish habitat and an emphasis on ecologically sound management of native fish where possible. The most recent changes related to fisheries in these protected areas include the introduction of bull and cutthroat trout to Upper Kananaskis Lake. Also, recent DNA analysis of cutthroat trout from several streams within these parks has revealed the presence of pure westslope strains of this native fish.

3.2.4 Vegetation

Varied slopes and aspects along with prevailing winds, sunshine and moisture create diverse vegetation, which provides a variety of faunal habitats as well as high scenic qualities. The two parks have some montane and extensive alpine and sub-alpine vegetation regimes. Wildfire both from Aboriginal burning and from lightning has had a significant influence on the vegetation pattern. It is likely that prior to European settlement, there was a greater diversity in age classes and vegetation patterns due to more frequent disturbance by lower intensity fire. Other factors that have influenced vegetation include avalanches, floods, disease and human disturbances such as logging, mining and access development.

Much of the lower elevation forest in Peter Lougheed Provincial Park is lodgepole pine, which resulted from fires in 1858, 1890, 1904 and 1920. In Spray Valley Provincial Park, the area around Spray Lakes is dominated by lodgepole pine resulting from fires in 1867 and 1895 while the Galatea and Fortress areas are dominated by spruce / fir forest resulting from a fire in 1936. At higher elevations, forests have regenerated to alpine fir and Engelmann spruce. Fire initiates forest succession, maintaining a mosaic pattern of vegetation and therefore, habitats. The average fire interval on the valley bottom and lower slopes has been about 150 years.

In future, intervention may be desirable to create a more diverse, multi-aged forest as opposed to allowing the entire even-aged forest to grow older. This would create an increased diversity of habitats available for native plants and animals and for improving scenic qualities.

Forested wetlands at lower elevations are dominated by lodgepole pine, Englemann spruce and sub-alpine fir. In a few areas, tall willows are present but most of the wetlands are dominated by bog birch, low willows, sedges and moss. The shrub layer in better-drained parts of this pine forest is dominated by buffaloberry, an important food for bears. Marl rich depressions are scattered through the valley bottoms and some support distinct vegetation communities such as the Elkwood Marl Flat, to the east of Lower Kananaskis Lake. At higher elevations willow is the predominant shrub. The Smuts Creek and Burstall Valley wetlands are examples of this. In higher areas and areas with a longer interval between fires, such as the south side of the Upper Kananaskis Lake or the west side of the Kananaskis Range, spruce-pine and spruce-alpine fir forests occur. Spruce-alpine and fir-alpine larch forests occur near the treeline, primarily on northeast facing slopes. Occasional pure stands of alpine larch are also present. Also present at the higher elevations are very old alpine larch forest communities such as the 700-year-old stands in the Maude-Lawson and Little Highwood areas.

Three disjunct stands of Douglas fir forest are situated on the north side of the King Creek gorge, the lower south slope of Mt. Indefatigable on the north shore of Upper Kananaskis Lake, and on the south end of the east side of the Kananaskis Range. Scattered western larch occurs on the southwestern shore of Upper Kananaskis Lake and the interlake area.

Alpine vegetation occurs at elevations over 2300 metres and varies markedly over short distances in response to snow depth and other factors. Lichen covered rocks, mat vegetation, grassy meadows, shrub and krumholtz communities are all present in these parks.

The talus slopes and rock debris support a variety of shrub and herb dominated, closed plant communities, although active and well drained portions support open vegetation. The landslide on the southern slopes of Mt. Indefatigable is an example of primary succession in its early stage and supports a spruce-juniper-lichen community. It is distinctive because of a prominent, colourful rock lichen presence.

Numerous avalanche paths and runout zones are important ecological features in both parks and provide some of the most productive vegetation complexes comprised of grass, herbaceous and shrub communities.

Rare or endangered vegetation has been inventoried in the past by various authors (see List of References). Listings of rare and endangered plants, are contained in Wallis et al. (1987) and Brunton (1978 and 1979).

A number of nuisance weeds have become established through the seeding of recreation facility areas. They are typically easily controlled species (e.g., stinkweed, flixweed, etc.) although areas of dandelions and plantain occur on older disturbed sites. The distribution has been mapped for species under the *Weed Control Act*. Limited herbicide control and hand pulling have been conducted.

3.2.5 Wildfire

Since European settlement, the frequency of wildfire has decreased within the two parks and surrounding ecosystem. This is due to the decreased use of fire on the landscape as well as suppression and prevention policies, which have been in effect throughout North America for many decades. As a result, there has been an increase in the amount, size, continuity, and arrangement of forest fuels building up on the landscape. With the heavier fuel loading, the potential for large-scale stand replacement fires has increased if wildfires were to occur. Factors that influence the risk level include the location and type of development, construction materials and design, proximity to natural forest fuels, the type and condition of forest vegetation, location of combustibles and slope. A formal wildfire risk assessment and plan needs to be updated for these parks.

The Kananaskis fire lookout tower is operated annually in Peter Lougheed Provincial Park by Alberta Sustainable Resource Development.

3.2.6 Forest Insects and Disease

A variety of forest insects and diseases including mountain pine beetle occur within Peter Lougheed and Spray Valley Provincial Parks. They are subject to ongoing monitoring by the province and, depending on the threat to nearby forest areas, may be subject to a variety of control measures. Measures that result in the least disturbance are used to reduce the threat including removal or treatment of individual or small stands of affected trees.

Mountain pine beetle is considered to be an irregular forest pest in Alberta. The Government of Alberta is concerned about the threat of pine beetle because of significant outbreaks in British Columbia and Banff National Park. Many of the pine stands in the Kananaskis Valley are at high risk for beetle infestation due to their advanced age. A large-scale beetle outbreak here could spread to commercially valuable pine stands elsewhere in Kananaskis Country and could also create a higher risk of high intensity wildfire due to the large accumulations of dead fuels. High intensity wildfires could impact soils and the watershed for some time.

3.2.7 Wildlife

Peter Lougheed and Spray Valley Provincial Parks contain a large array of wildlife species representative of the Rocky Mountains. Ungulates include mule deer, white-tailed deer, elk, moose, bighorn sheep and mountain goats. Large carnivores include grizzly and black bears, cougar and wolf, as well as smaller species such as wolverine, lynx, and coyote. Smaller mammals typical of alpine and sub-alpine habitats can also be found. These include marmots, pika, and Columbian and golden-mantled ground squirrels. Detailed descriptions of all existing fauna including avifauna for Peter Lougheed Provincial Park are described in Salt, 1976.

Elk are common within the two parks but precise numbers are difficult to estimate due to their seasonal movements into and out of the parks. Spray Valley Provincial Park is primarily a spring, summer and fall area for elk with few animals residing in the Park during winter. Peter Lougheed Provincial Park does have elk that are year-round residents although exact numbers are unknown. Deer are common in both parks with mule deer outnumbering white-tailed deer. Moose are found in both parks but exist in relatively low numbers due primarily to the low quality and quantity of suitable habitat.

For most species, accurate estimates of population size are lacking as no regular inventories have been conducted. Aerial surveys for mountain goats and bighorn sheep have irregularly been conducted since the early 1980's and numbers can be estimated for some of the areas within the two parks. Generally speaking, mountain goat populations within Peter Lougheed Provincial Park have increased slightly and estimates are around 100 to 120 animals. Fewer goats exist in Spray Valley Provincial Park with estimates at less than 50. Concentrations of bighorn sheep can be found along the Opal and Misty Ranges in Peter Lougheed Provincial Park, as well as along the Kananaskis Range that overlaps both parks.

Within Peter Lougheed Provincial Park, mountain goats occupy many of the high elevation ranges with concentrations on Kent Ridge and along the Opal Range. Lesser numbers of goats can be found in the French, Burstall, and the Upper Kananaskis River valleys. In Spray Valley Provincial Park, prime summer sheep range can be found at upper elevations of Ribbon Creek, Buller Creek, and Galatea Creek. The majority of the summer sheep population migrates out of the Park to winter on the slopes of Mt. Allen and along Wind Ridge.

Grizzly bears have been intensively studied in Kananaskis Country at various times over the last 25 years including the recent Eastern Slopes Grizzly Bear Project (ESGBP). While population estimates have been determined during the course of these studies, confidence intervals around those estimates are wide. Current estimates for the number of grizzly bears in Kananaskis Country range from 50 to 75. The grizzly bear is a particularly sensitive and high profile species that warrants special attention. Peter Lougheed and Spray Valley Provincial Parks appear to be important areas for grizzly bear cub production. Grizzly bears range throughout these parks and follow spring green-up of the vegetation from valley bottoms and along riparian areas to upper alpine and subalpine zones. In late July and August grizzly bears move down into the valley bottoms in search of buffaloberries. This unfortunately often brings them into contact with humans. Many of the campgrounds in both parks annually experience bear conflicts due to abundant berry crops in and adjacent to some of the campgrounds and day use facilities. These conflicts are managed under the terms of the Kananaskis Country Bear Management Plan. Spray Valley is a prime berry producing area especially along the east and west shores of Spray Lakes Reservoir. Little is known about abundance of black bear but they are considered common residents. Wolves utilize both parks.

The Kananaskis and Smith-Dorrien Valleys as well as Elk Pass are important as wildlife movement corridors. The south end and west side of Spray Reservoir is also important as a movement corridor for both ungulates and carnivores. Riparian zones along major creeks and rivers also provide important wildlife habitat and movement corridors.

3.2.8 Cultural Resources

The first known human habitation of the Kananaskis Valley took place about 8,000 years ago. Numerous prehistoric sites are located along Highway 40. Prehistoric artifacts indicate a more or less continuous use over the last 7,000 years at the Eau Claire campground in Spray Valley Provincial Park. Archaeologists suspect that people from as far away as Idaho traveled and lived in the valley during summer periods. First Nations people from British Columbia (probably Kootenai and Salish) frequently traveled through the area on trading missions with plains tribes. A review of known archaeological sites in 1977 (ARESCO) indicated some 53 sites in Peter Lougheed Provincial Park though none of these were regarded as significant.

Stoney (Nakoda) peoples have used the area since the 1600's for camping, hunting, gathering, ceremonial and vision quest purposes. Some of these uses continue today.

In the mid-1800's, European exploration of the area began with the James Sinclair expedition, which traversed either the South Kananaskis or Elk Passes. John Palliser conducted scientific expeditions into the region in 1858, and others passed through the Kananaskis Valley on their way to the Pacific Coast. George Dawson of the Geological Survey of Canada did the first geological studies of the area between 1881 and 1884 with more detailed studies in 1903.

3.2.9 Land Use History

The three hydroelectric facilities and associated infrastructure in these parks are held under dispositions from the Crown and operated by TransAlta along with 10 other hydro generating facilities in the Bow and Saskatchewan River basins. In addition to providing a reliable source of peak demand power and downstream flow management, the reservoirs provide boating, fishing and scenic viewing opportunities. Timber harvesting occurred in the Smith-Dorrien Valley from the 1950's to the 1970's. A former gypsum mine located near tree line on Mount Invincible has continued to erode since its closure in 1969. Some seeding and tree planting was carried out on this site in 1991 and additional reclamation is planned.

The development of improved road access and associated recreation facilities by the province in the 1980's made the area much more accessible for year-round recreation.

Currently there are three Registered Fur Management Areas that include varying portions of Peter Lougheed and Spray Valley Provincial Parks. These RFMAs are currently actively trapped.

3.3 VISITOR FACILITIES AND USE

The most popular recreation activities in the planning area include camping, picnicking, trail use, boating, and fishing. Fortress Mountain Ski Area, which exists in the Kananaskis Valley on leased provincial Crown land, and the Lower Kananaskis Lakes Cottage Subdivision, which consists of seventy lots on the east side of the lake, also on leased provincial land, are not part of this management planning area.

Spray Valley Provincial Park

Spray Valley Provincial Park contains a 50 unit campground on the west shore of Spray Lakes Reservoir. Winter camping occurs at Buller Mountain Pond (12 sites) in the Spray Valley area. Six developed day use areas are used for picnicking, fishing, or trailhead access (see Map 2). Approximately 43 km of designated trails are used for summer hiking, mountain biking, cross country skiing, and some horse use. Backcountry campgrounds at Ribbon Falls, Ribbon Lake, and Lillian Lake have 49 campsites operated on a reservation basis. Random backcountry camping occurred at Rummel Lake and several other locations prior to the establishment of Spray Valley Provincial Park. Private sector fixed-roof accommodation for approximately 24 people is offered at Mt. Engadine Lodge near the Mt. Shark access road (see Map 2). Other

popular recreation activities in Spray Valley Provincial Park include boating and fishing on the Spray Reservoir in summer while ice fishing, cross country skiing, snowshoeing, and biathlon (at Mt. Shark) are popular in winter. Backcountry ski touring and telemark skiing also occur at several locations along the Smith-Dorrien road in winter. The Smith-Dorrien Valley has the most reliable snow conditions in Kananaskis Country. Other popular winter activities include commercial dog sledding and ski-joring near Three Sisters Dam and Mt. Shark. The Rudi Setz Memorial Biathlon Range is located adjacent to the Mt. Shark trailhead. It accommodates recognized biathlon training and events. A helicopter landing site is maintained near Mt. Shark trailhead for government and limited commercial purposes. At Spray Lakes West, Eau Claire, Ribbon Falls, Ribbon Lake, and Lillian Lake, camping use reached 23,528 camper nights during the 2000/2001 seasons. Use levels have varied from year to year depending mainly on weekend weather and no obvious increases or decreases in use have occurred.

Peter Lougheed Provincial Park

Within Peter Lougheed Provincial Park, there are seven regular auto access (total 546 camping units) and two group campgrounds (30 units), 22 day use areas, a campers' store and food service, a warming hut (Pocaterra) for winter use and a major visitor centre (see Map 3). There are approximately 220 km of summer and winter trails in this Park and five backcountry campgrounds (83 units). Some trail use within this Park extends across boundaries into British Columbia and Banff National Park through North and South Kananaskis, Burstall, and Elk Passes. Trail use also extends east into the Elbow-Sheep Wildland Park through Elbow Pass. Boating and fishing occur mainly on the Upper and Lower Kananaskis Lakes.

A former minimum security camp located near Lower Kananaskis Lake serves as a seasonal staff housing facility and may have future potential to provide hostel-style commercial accommodation. Increasing amounts of commercial guiding, environmental education and research activities occur in this Park.

William Watson Lodge provides the only public fixed-roof accommodation in Peter Lougheed Provincial Park**.** It has 22 individual cabin units and a day lodge as well as a 13 unit campground. All facilities are wheelchair accessible and the Lodge is open year-round. Priority for bookings is given to disabled Albertans and seniors. The other major facility in the Park is the Peter Lougheed Visitor Information Centre which is open year round and has interpretive displays, a theatre, lounge, information counter and a small gift shop.

Camping use at Peter Lougheed Provincial Park has averaged around 32,000 campsite nights (the total number of campsites occupied annually) over the last ten years. Although camping levels fluctuate significantly with weather in many parts of Alberta, the numbers at Peter Lougheed have remained steady over the last ten years. Peter Lougheed has two group camp facilities averaging about 500 group nights at Pocaterra and 1,000 group nights at Lower Lake.

Reliable use figures for individual day use areas of the Park as a whole are not available. A significant amount of day hiking, mountain biking, and cross-country skiing occurs mainly on designated trails within the Park. A review of cumulative figures for all sites in Peter Lougheed Provincial Park reveals an average of 188,760 day use visitors in 2000. Available estimates suggest an increasing level of day use, and field staff observations support this. Given the provincially significant recreation opportunities in Peter Lougheed Provincial Park, the growth in Calgary and Canmore populations, as well as the excellent road access and short travel times, increased levels of both overnight and day use are expected for all activities in the Park along with the resulting increased potential for impacts and conflicts. The popularity of mountain biking and rock climbing in particular, along with random use in general, requires increasing management attention to ensure visitor safety and enjoyment as well as resource protection.

3.4 PUBLIC SAFETY

While wildfire is considered a natural disturbance process in Alberta, it is highly unpredictable, and catastrophic wildfire may threaten human safety and development. Consequently all wildfires within Peter Lougheed and Spray Valley Provincial Parks are actioned according to provincial wildfire suppression policy.

Management of problem wildlife-human conflict situations are dealt with in accordance with existing procedures. Trail or area closures and selective vegetation alteration are used to reduce conflict, public safety and impact concerns.

Periodic flooding of the tributaries of the Spray and Kananaskis Rivers occurs within Peter Lougheed and Spray Valley Provincial Parks. Most tributaries to the reservoirs and Kananaskis River are not affected by dam controls and thus exhibit a natural disturbance pattern. Within the reservoirs and along the Kananaskis River below Kananaskis Lakes however, TransAlta adjusts the operation of the reservoirs to optimize hydroelectric power production as well as to reduce downstream effects of flooding while maintaining public and dam safety.

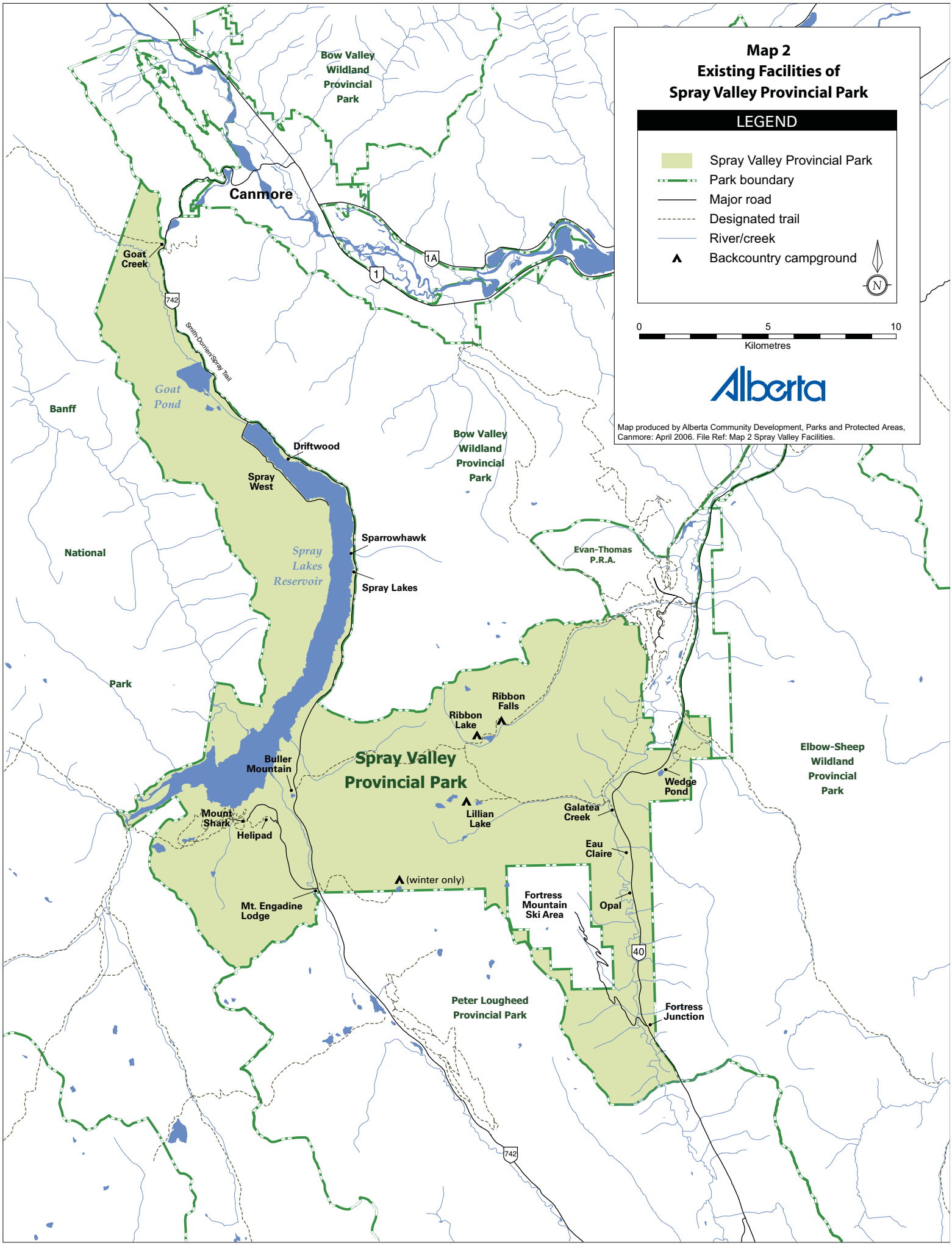
Avalanches are natural disturbances that affect public safety and property within or near Peter Lougheed and Spray Valley Provincial Parks. Government staff monitor avalanche hazard levels in these locations, providing regular updates to the public and issuing avalanche advisories when appropriate. This assists backcountry travelers to make informed decisions and minimize the risk of avalanche during their activities. Hazard levels along the Smith-Dorrien Spray Trail are monitored and, where required, trained staff conduct blasting or other control work in conjunction with road maintenance contractors and the RCMP.

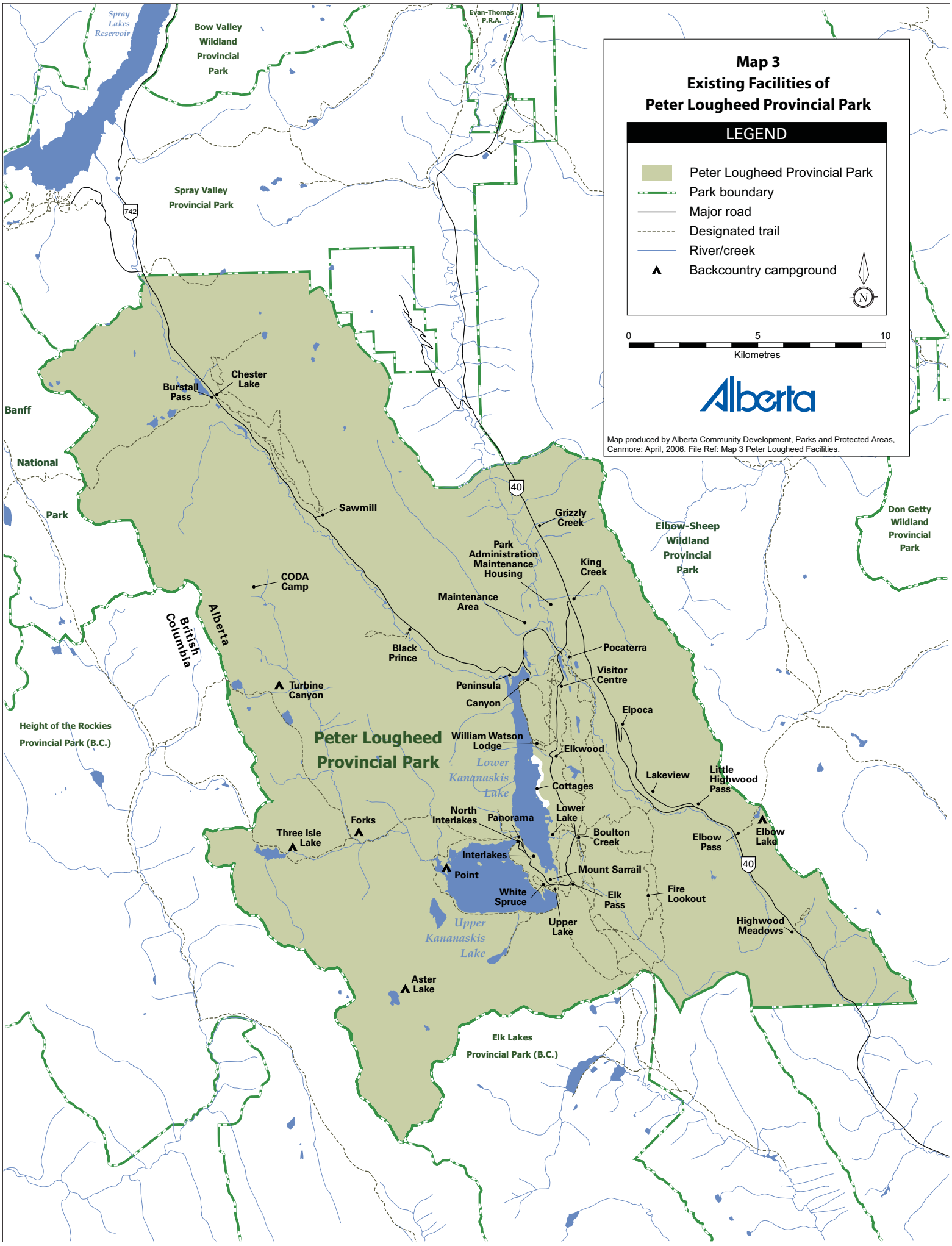
3.5 HERITAGE APPRECIATION

Alberta Community Development provides a variety of interpretative, informational, and educational services and materials relating to Peter Lougheed Provincial Park and Spray Valley Provincial Park.

Parks and Protected Areas Division has a co-operating agreement with the Friends of Kananaskis Country to enhance the delivery of information and education materials and programs in these parks. An educational partnership exists between Parks and Protected Areas Division and a number of school boards and related groups to develop and provide educational services. Public education about managing human use in protected areas occurs through the use of signs, media articles, school and other group presentations.

A variety of daytime interpretive programs and evening campground theatre presentations are offered during the summer in Peter Lougheed Provincial Park. Interpretive presentation topics include management concerns, safety, natural and cultural history, and personal responsibility for protection of the environment. Interpretive signs and/or exhibits in the Peter Lougheed Provincial Park Visitor Information Centre are used to increase visitor awareness of the natural and cultural history of the area.


Map 2
Existing Facilities of
Spray Valley Provincial Park
LEGEND
Spray Valley Provincial Park
Park boundary
Major road
Designated trail
River/creek
Backcountry campground
N
0
5
10
Kilometres
Alberta
Map produced by Alberta Community Development, Parks and Protected Areas, Canmore: April 2006. File Ref: Map 2 Spray Valley Facilities.
Bow Valley Wildland Provincial Park
Canmore
Goat Creek
742
1A
1
Smith-Dorrien/Spray Trail
Goat Pond
Banff
Driftwood
Spray West
Bow Valley Wildland Provincial Park
Sparrowhawk
Spray Lakes Reservoir
Spray Lakes
National
Evan-Thomas P.R.A.
Park
Ribbon Falls
Ribbon Lake
Spray Valley Provincial Park
Buller Mountain
Elbow-Sheep Wildland Provincial Park
Wedge Pond
Mount Shark
Helipad
Lillian Lake
Galatea Creek
Eau Claire
(winter only)
Mt. Engadine Lodge
Fortress Mountain Ski Area
Opal
40
Peter Lougheed Provincial Park
Fortress Junction
742


Map 3
Existing Facilities of
Peter Lougheed Provincial Park
LEGEND
Peter Lougheed Provincial Park
Park boundary
Major road
Designated trail
River/creek
Backcountry campground
N
0
5
10
Kilometres
Alberta
Map produced by Alberta Community Development, Parks and Protected Areas, Canmore: April, 2006. File Ref: Map 3 Peter Lougheed Facilities.
Spray Lakes Reservoir
Bow Valley Wildland Provincial Park
Evan-Thomas P.R.A.
Spray Valley Provincial Park
742
Banff National Park
Burstall Pass
Chester Lake
Sawmill
40
Grizzly Creek
Park Administration Maintenance Housing
King Creek
Elbow-Sheep Wildland Provincial Park
Don Getty Wildland Provincial Park
CODA Camp
Maintenance Area
Alberta
British Columbia
Black Prince
Pocaterra
Visitor Centre
Turbine Canyon
Peninsula
Canyon
Elpoca
Height of the Rockies Provincial Park (B.C.)
Peter Lougheed Provincial Park
William Watson Lodge
Elkwood
Lower Kananaskis Lake
Lakeview
Little Highwood Pass
Cottages
Lower Lake
North Interlakes
Panorama
Forks
Three Isle Lake
Boulton Creek
Elbow Pass
Elbow Lake
Interlakes
Point
Mount Sarrail
White Spruce
Elk Pass
Fire Lookout
Upper Lake
Highwood Meadows
Upper Kananaskis Lake
Aster Lake
Elk Lakes Provincial Park (B.C.)

3.6 HERITAGE TOURISM

Mount Engadine Lodge in Spray Valley Provincial Park accommodates 24 people in double and shared rooms. Two cabins are also available with two bedrooms each. The lodge is open year-round for a variety of activities. Fortress Junction Service Station on Highway 40 is also open year-round and has fuel, a convenience store and day use sites.

Boulton Creek Trading Post in Peter Lougheed Provincial Park provides camper supplies, food service and equipment rentals. Although there are few commercial tourism facilities, the parks are used extensively by guiding businesses, both in the summer and the winter. In the winter, guides conduct cross-country skiing, snowshoeing, backcountry skiing, winter mountaineering, dogsledding, ice fishing, and ice climbing activities. In the summer, hiking, biking, mountaineering, rock climbing, and fishing are popular guided activities. Approximately 100 permitted guides, most of whom are from the Calgary and Canmore areas, use the parks.

Several large commercial guiding operations are of note. The Three Sisters Dam vicinity is used by three dogsledding companies. The helicopter landing pad at Mt. Shark is used to access Mt. Assiniboine Provincial Park in British Columbia. Commercial helicopter use is managed under the terms of a cooperative helicopter use agreement between the Alberta government and local helicopter companies.

A variety of special events also occur in Peter Lougheed and Spray Valley Provincial Parks including the Kananaskis 45 Ski Marathon, the Kananaskis 100 Relay Race, and the Sharkfest Ski Races. Events can range in size from 25 to over 1,000 participants and occur during both summer and winter. Popular locations for the events include Spray Lakes, Highway 40, Mt. Shark and the Peter Lougheed facility area.

3.7 INFRASTRUCTURE

Water Supply and Sewage Treatment

Parks and Protected Areas Division is responsible for monitoring, operating and maintaining the water and sewer systems in both parks to ensure all supply and treatment systems are operated in accordance with current environmental guidelines. These include numerous hand pumps as well as a few wells with chlorination and a local distribution system. A water and sewage treatment facility that services William Watson Lodge and the adjacent Elkwood Campground provides more advanced treatment for a surface water source (Lower Kananaskis Lake).

Most facilities in both parks are serviced with septic fields or holding tanks while a sewage treatment plant serves William Watson Lodge and Elkwood Campground. If sufficient capacity exists, the plant may also treat sewage from other facilities in the immediate vicinity.

Electricity/Gas

A 138 KV line supplies power throughout the Kananaskis Valley. Primary distribution is provided by Fortis Canada. In the Spray Valley no power lines exist south of the Three Sisters Dam. All facilities and housing in Peter Lougheed Provincial Park and Spray Valley Provincial Park are serviced with onsite propane tanks.

Solid Waste Disposal

The Kananaskis Improvement District provides municipal waste collection, which is trucked and disposed of at a landfill site in Calgary.

Administration/Public Works

Administration and maintenance facilities are centrally located in Peter Lougheed Provincial Park. Alberta Infrastructure and Transportation and its contractor operate from the Bernie Kathol Maintenance Facility located adjacent to the park administration building to provide year-round road maintenance.

Staff Housing

Seventeen houses and seven cabins exist adjacent to the administration area for permanent and seasonal staff that meet the “need to reside” requirement.

Emergency Services

Emergency services are provided jointly by Parks and Protected Areas, Kananaskis Country, and the Kananaskis Improvement District. Fire protection, ambulance service, police service, and backcountry rescue are dispatched from the Kananaskis Emergency Services Centre. The 911 emergency telephone system is in place throughout Kananaskis Country. A fire engine is kept at the administration/maintenance yard in Peter Lougheed Provincial Park. The threat from wildfire is assessed daily by staff of Sustainable Resource Development during fire season and the appropriate levels of resources are based through the area at strategic locations as required. Wildfires are reported using the current emergency phone numbers.

3.8 ADJACENT LAND USES

Elk Lakes Provincial Park and Height of the Rockies Provincial Park in British Columbia lie to the south and west of Peter Lougheed Provincial Park. The Height of the Rockies is accessed from the Three Isle Lake Trail and a route over Mount Northover. Elk Lakes Park is accessed from the Elk Pass Trailhead, while some hikers access the Height of the Rockies through South and North Kananaskis Passes. Banff National Park lies to the west of both parks and the major access point into the south end of the Park is at the Mt. Shark trailhead. Since recreational use and wildlife flow freely across these boundaries, it is important to maintain a high level of cooperation between jurisdictions. Bow Valley Wildland Park lies to the north and east of Spray Valley Provincial Park (see Map 1). Informal access into Bow Valley Wildland Park occurs at various locations along Secondary Road 742 (Spray/Smith-Dorrien Trail). The Spray portion of this Wildland Park is lightly used for hiking, mountain climbing, hunting and backcountry skiing. The Elbow-Sheep Wildland Park lies east of Peter Lougheed Provincial Park with main access from the Elbow Pass Trailhead on Highway 40. This Wildland Park allows hunting and is used extensively for equestrian riding, hiking, and mountain biking.

A cottage subdivision created in 1960 is located on leased provincial Crown land along the east shore of Lower Kananaskis Lake and is surrounded by Peter Lougheed Provincial Park. Most cottages have their own water source and sewage systems.

Fortress Mountain Ski Area is accessed from Highway 40 at Fortress Junction. It is located on leased provincial land outside the planning area and its future is unclear at the time of writing of this plan.

Further north in the Kananaskis Valley, the Evan-Thomas Provincial Recreation Area offers a wide range of recreational opportunities, facilities and services. These include hotels, a hostel, Nakiska ski hill, Mt. Kidd RV Park, two golf courses, day use sites, and a variety of trails for summer and winter use.

4.0 MANAGEMENT INTENT AND OBJECTIVES

The **proposed management intent** for Peter Lougheed and Spray Valley Provincial Parks is:

> "To maintain ecological integrity and diversity and provide opportunities for outdoor recreation, heritage appreciation, tourism or any combination of those purposes, which are dependent on and compatible with the protection of the natural values found here".

The **proposed management objectives** in order of priority are:

> **Preservation**: to preserve or enhance naturally occurring ecosystems including especially rare or uncommon species and to ensure that natural ecological processes are allowed to occur.
>
> **Outdoor Recreation**: to provide opportunities for recreational uses such as camping, hiking, mountain biking, cross-country skiing, boating, and fishing.
>
> **Heritage Appreciation**: to provide opportunities for visitors to experience, understand and appreciate the natural resources of the parks.
>
> **Heritage Tourism**: to provide opportunities for visitors to experience and enjoy high quality natural, cultural and scenic resources through provision of appropriate sustainable tourism facilities and services.

*Note: provision of any facilities will be consistent with the Kananaskis Country Recreation Policy, 1999, Kananaskis Country Architectural Guidelines (2001), and the Alberta Tourism Recreational Leasing Process for review of commercial facilities.

5.0 ZONING

Consistent with the management intent and objectives for Peter Lougheed and Spray Valley Provincial Parks, a zoning scheme has been applied. This scheme is described in more detail in "Management Plan Format: Provincial Parks, Wildland Parks, Recreation Areas, Wayside and Access Sites, Wilderness Areas, Natural Areas" which is included in the List of References. The Parks and Protected Areas Division's zoning scheme includes seven candidate zones of which five have been applied in Peter Lougheed and Spray Valley Provincial Parks (see Appendix A). The different zones recognize the differences in resource values as well as recreation and landscape capability in different parts of these parks (see Maps 4 & 5).

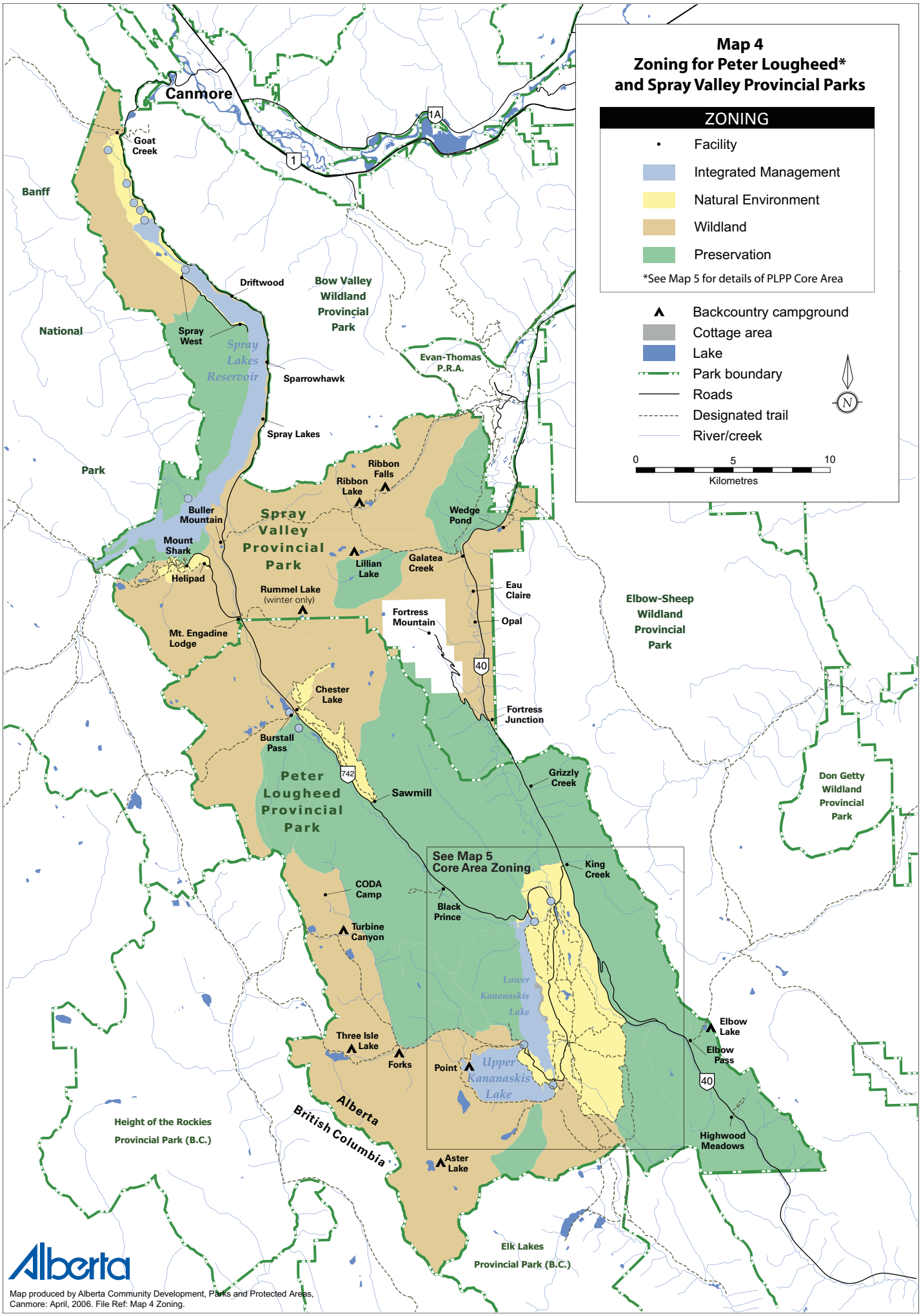
"Preservation" zones have been applied to those areas that are known to be important as wildlife habitat (e.g., sheep or goat range, bear habitat) or movement corridors. Existing designated trails will remain in the preservation zones but no new designated trails, backcountry campgrounds or other facilities will be developed. Non-designated routes will be low standard, unsigned and not regularly maintained.

"Wildland" zones have been applied to areas that have both important natural and wildland recreation values. Preservation of natural values will be the priority and facilities will be limited to trails, backcountry campgrounds and signage where necessary. Off-trail use will generally be allowed but not encouraged by signage, upgrading or regular maintenance. Resource management and visitor use controls may be implemented in order to maintain or enhance natural and wilderness values.

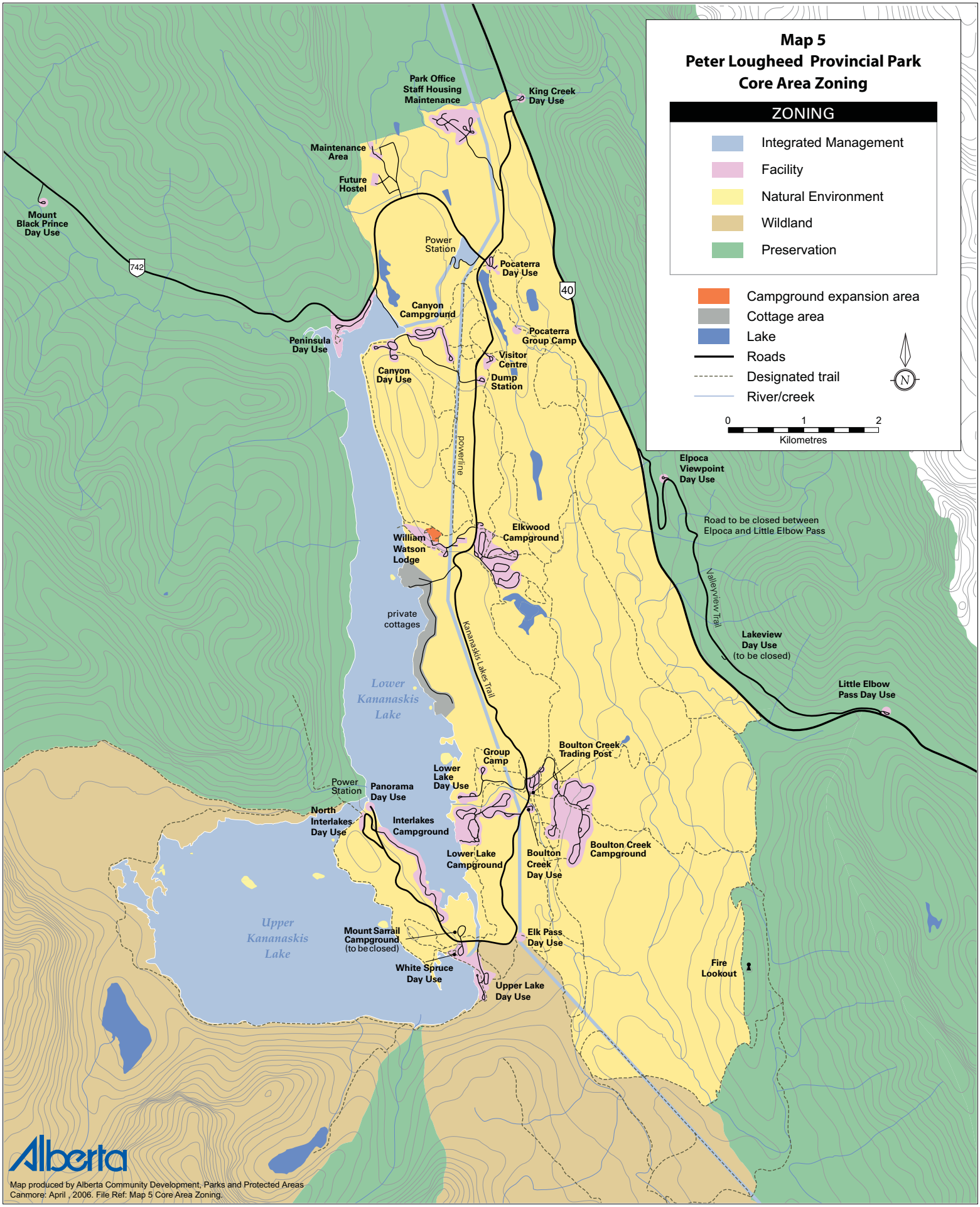
"Integrated Management" zone; restricted to those areas used by TransAlta as dams, canals, power stations or other facilities for hydro operations. Alberta Community Development will work with TransAlta to minimize conflicts and impacts on adjacent park lands as well as by generating recreational or biological benefits whenever possible.

A "**Natural Environment**" zone has been applied where there is more intensive year-round trail recreation and camping opportunities along with learning and interpretive opportunities for visitors. This applies to the more intensively developed portion of Peter Lougheed Provincial Park east of Lower Kananaskis Lake as well as groomed trails at Sawmill and Mt. Shark and the dogsled area north of Three Sisters Dam.

Those areas in the immediate vicinity of existing campground or day use facilities have been zoned **"Facility"**. Where potential future expansion may be possible near Boulton Campground and Mount Engadine Lodge, sufficient land area to accommodate this has been included.



Map produced by Alberta Community Development, Parks and Protected Areas.
Canmore: April, 2006. File Ref: Map 4 Zoning.



Map produced by Alberta Community Development, Parks and Protected Areas
Canmore: April , 2006. File Ref: Map 5 Core Area Zoning.

6.0 MANAGEMENT GUIDELINES

6.1 PRESERVATION

6.1.1 Ecological Monitoring and Research

Parks and Protected Areas and Sustainable Resource Development staff will work with Banff National Park to identify a suite of ecological indicators to monitor ecosystem processes and health. Based on monitoring needs and identified ecological issues, research programs will be implemented to collect data necessary to support management objectives. Management strategies will be developed to assist in the protection of known endangered, threatened or otherwise significant species.

6.1.2 Aquatic Resources

The lakes and watercourses found within Peter Lougheed Provincial Park and Spray Valley Provincial Park will continue to be managed using existing legislative and regulatory tools (including the provisions of existing water licenses) as well as collaboration among stakeholders. Any activities that could potentially affect the waters within these parks will require approval from Parks and Protected Areas Division as well as Alberta Environment and/or the Department of Fisheries and Oceans as appropriate.

Staff from Sustainable Resource Development and Parks and Protected Areas Division are reviewing options to effectively deal with the non-native northern Dolly Varden trout introduced into Chester Lake in 1974. These fish have the potential to negatively impact the native bull trout found in the drainages downstream of Chester Lake and investigations to determine how widespread they are will be undertaken. Any decision to reduce or eliminate Dolly Varden will consider the effects on visitors and other park values found here and include monitoring by staff and volunteers. Also, the most effective management of valley bottom lakes, including Sparrows Egg in Peter Lougheed Provincial Park, will consider the potential for winterkill and other ecological factors.

6.1.3 Vegetation

The conservation of a high diversity of native alpine and sub-alpine vegetation communities, representative of the Central Canadian Rockies Ecosystem will be accomplished by undertaking an analysis of historic and current landscape conditions, and making recommendations on desired vegetation community structure for the planning area. This will consider important terrestrial and aquatic habitats both inside and adjacent to the parks. Where feasible, natural processes of vegetative change will be permitted including wildfire, flooding, avalanche, and insect and disease infestations. Techniques such as prescribed fire or non-commercial selective logging may also be used to accomplish vegetation management objectives. Changes to vegetation communities will be monitored over time as well as assessments of the effects of these changes on park biota.

In partnership with the Alberta Natural Heritage Information Centre (ANHIC), parks staff with the assistance from volunteers will identify, track occurrences and maintain an up-to-date inventory of rare or endangered species in the park.

Park facilities will be assessed for risk from wildfire and other natural hazards. Kananaskis Country staff working in conjunction with the Forest Protection Division of Alberta Sustainable Resource Development, will update and complete a wildland/urban interface assessment for all park facilities and develop and implement a plan to reduce identified risks to park facilities. This may involve fuel modification to remove and reduce the fuel build up around facilities and/or changing building materials through regular maintenance to reduce the flammability of the structures.

The risk of major insect and disease infestations and damage will be reduced through the creation and maintenance of diverse native alpine and sub-alpine vegetation communities. Control of insect and disease infestations that may threaten park facilities, key features or resources on lands adjacent to the parks will be accomplished by an ongoing program to monitor the occurrence of insect and disease infestations in park vegetation communities. An assessment will be completed to identify those stands that are of high risk. Treatment to either reduce or eradicate the threat may include selective harvesting or prescribed burning. The use of pesticides will be minimized.

Non-native vegetation especially highly invasive plants and noxious weeds will be controlled. An inventory of known non-native and noxious weed communities will be maintained and a plan for treatment developed. The use of herbicides will be minimized with control through the use of hand and mechanical methods preferred. As well, provincial park guidelines will be developed which are designed to minimize the introduction of additional non-native species and noxious weeds. For example, equestrian users will be encouraged to use processed horse feed only rather than hay. Parks staff will also work with Alberta Environment and Alberta Infrastructure and Transportation to identify appropriate seed mixes for use in reclamation projects and right-of-way management.

Reclamation of the abandoned gypsum mine site on Mount Invincible will proceed when resources permit.

6.1.4 Wildlife

Both parks provide important habitat for many species. Recreational use within “Preservation” zones will be directed to existing designated trails or routes and commercial guiding and outfitting use will be limited. If monitoring indicates that off trail use is adversely affecting wildlife, additional measures such as information, education as well as area or seasonal closures will be considered. For all other zones, any new trail development or new designation of trails or routes will be carefully considered so as to not adversely impact wildlife usage. No further development of trails or facilities in key habitat or wildlife corridors such as Highwood Pass, Elk Pass, the south end of Spray Lakes, or along the Kananaskis River Valley to the Peter Lougheed Provincial Park north boundary will be allowed. Recreational boating or fishing on the Kananaskis River within Peter Lougheed Park will not be encouraged.

Maintaining a sustainable regional grizzly bear population will be a priority. To accomplish this, efforts will be undertaken to reduce the need to destroy or relocate problem bears through the implementation of an aversive conditioning program to discourage bears from lingering along roadsides and within high human use facility areas in the search for food. Buffaloberries will be removed as a food source from within facility areas with persistent bear problems. Secure bear proof food storage facilities will be provided in all formal backcountry campgrounds. Secure storage and proper handling of food and garbage will continue to be encouraged in all frontcountry areas.

Hunting is not permitted within provincial parks except for management purposes. Existing Registered Fur Management Areas within these parks will continue to be managed under existing provincial legislation consistent with Alberta Community Development’s “Program Policy for Managing Fur Trapping in Alberta’s Parks and Protected Areas (September 10, 2003).

Re-introductions of native wildlife species will generally not be considered except where human activities or disease outbreaks have negatively affected the viability of local populations. No exotic species will be introduced into Peter Lougheed Provincial Park or Spray Valley Provincial Park.

Monitoring of winter populations of elk, bighorn sheep and mountain goats will continue on a periodic basis when appropriate resources are available. Monitoring of amphibians at selected sites will also continue.

6.1.5 Cultural Resources

Parks and Protected Areas staff will work with the Cultural Facilities and Historical Resources Division of Alberta Community Development to ensure that known archaeological sites within the planning area are properly inventoried, assessed and protected. Additional research into the archaeological and historical use of the area will be encouraged. Kananaskis Country will work with Aboriginal Affairs and Northern Development and the Stoney people to identify any sites of First Nations significance and the need for ongoing use. Kananaskis Country staff will work with partners to expand the existing information base about local history, and will also work with volunteer stewards to monitor and report on the condition of known sites.

6.2 OUTDOOR RECREATION

6.2.1 Access

No new roads will be developed; the winter closure of Highway 40 south of the junction with the Kananaskis Trail will be maintained. Parks staff will continue to work with Alberta Infrastructure and Transportation and its contractor to provide an appropriate degree of dust control on the Smith-Dorrien/Spray Trail for both safety and aesthetics. The Valleyview Trail will be closed and reclaimed between Elpoca Viewpoint and Little Highwood day use site, due to low use and to increase protection for important goat and bear habitat. Both sites will remain in operation while Lakeview day use site will be closed and decommissioned.

6.2.2. Recreational Use

All camping will occur at designated sites with the only exception being bivouacs above treeline required for more extended climbs or extended foot traverses. Existing campgrounds in Peter Lougheed Provincial Park will be maintained and/or upgraded as resources permit. Mt. Sarrail walk-in campground will be closed and reclaimed to increase the amount of secure habitat for bears. Additional walk-in camping opportunities to meet the demand will be provided at Lower Lake Campground where feasible. If future demand warrants, some expansion of auto access camping facilities at Boulton and William Watson Lodge Campgrounds may be considered. Parks staff will identify suitable sites to accommodate overflow camping in Peter Lougheed Provincial Park.

Existing camping opportunities in Spray Valley Provincial Park will be maintained in the Spray West and Buller Mountain Pond (winter only) campgrounds. As resources permit, the Spray West facility may be redesigned or otherwise altered to reduce conflicts especially associated with bears. No other vehicle accessible camping will be developed in Spray Valley Provincial Park.

Staff will monitor use levels at day use sites in both parks and determine the desirability and feasibility of expansion, consolidation or reclamation. Staff may either encourage visitors to redirect their activities to less used sites or expand high use sites where feasible.

The risk of human-bear conflict will be addressed by a variety of measures including visitor information and education, site planning and design, temporary closures, monitoring bear movements, use of aversion techniques, and managing attractants (e.g., human food, garbage, and natural bear foods such as buffaloberry bushes).

Existing designated trails will be maintained and upgraded as required. Mountain bike and equestrian use will only be permitted on designated, signed trails or routes. Horse use of the Watridge Lake Trail will continue for those authorized to use horses in the south end of Banff National Park. Limited additional equestrian staging facilities (e.g., corrals) will be considered at Mt. Shark. The Rummel Lake trail will be designated for hiking and upgraded or rerouted where necessary. Parks staff will work with Alberta Infrastructure and Transportation to determine a suitable location for a trailhead parking area with standard facilities to serve this trail. The trail may be used for backcountry ski touring in winter but will not be groomed. A new backcountry campground of about ten sites will be developed at Rummel Lake for winter use only. Parks staff will continue to work with representatives of the Trans Canada Trail to find a suitable route with appropriate uses through Kananaskis Country. Staff will also work with knowledgeable snowshoe users to sign several snowshoe trails in Peter Lougheed Provincial Park that provide high quality snowshoeing experiences while minimizing impacts and conflicts. Snowshoeing will also continue on other trails on an informal basis, but will be discouraged on groomed ski trails. Unofficial trails or routes will be closed and reclaimed if they occur in sensitive areas. In less sensitive areas they may be formally designated as routes but will generally be kept to a low standard and not signed or maintained on a regular basis. If erosion or other problems occur, remedial measures may be undertaken by trails staff and volunteers.

Groomed and track set cross-country ski trails will continue to be maintained in Peter Lougheed Provincial Park and at Mt. Shark in Spray Valley Provincial Park. The capability to add more beginner trails near Elkwood and at Mt. Shark will be considered as resources permit. Trails at the Sawmill loops and a portion of the Chester Lake trail will not normally be groomed. Maintenance or upgrading of these trails including clearing of trees and brush to improve snow retention and drainage work will be done by staff with assistance from volunteers. Use by qualified biathletes of the Rudi Setz Memorial Biathlon Range will continue and require a permit issued by Parks staff. Firearm use at the range will be permitted year around for biathlon training and competition only and will be limited to long arms with a maximum caliber of .22. Facilities at Mt. Shark associated with biathlon training or competition may be maintained or upgraded as required.

Winter backcountry travel will continue in many parts of these parks with the onus on users to be informed, equipped and experienced so that they can make sound decisions about their trips. Government staff will continue to monitor weather and avalanche conditions and provide avalanche forecasts to the public. They will also work with Alberta Infrastructure and Transportation and the RCMP to provide suitable parking areas and avalanche control as necessary along SR 742. Staff will also continue to provide emergency backcountry assistance.

Staff will continue to work with trail users to address impacts or conflicts as they arise. They will also continue to work in partnership with the Friends of Kananaskis Country which publishes trail information, receives donations for new trails or upgrades, organizes volunteer trail maintenance events or other kinds of support to the trails program. Staff will work with users as well as map and guidebook producers to limit the amount of off-trail use especially in sensitive areas. When temporary trail use restrictions are in place (e.g., bear closures), alternative routes will be identified where possible.

6.3 HERITAGE APPRECIATION

Heritage appreciation will continue to be a major component of overall program delivery in Peter Lougheed Provincial Park. The Peter Lougheed Provincial Park Visitor Information Centre will provide a variety of maps, brochures and other informational and safety oriented products. The government will ensure these materials and services are provided and will maintain current information regarding the parks on the Kananaskis Country website. The existing co-operating agreement with the Friends of Kananaskis Country will be maintained to enhance programs within the parks. The existing educational partnership between Alberta Community Development and a variety of school boards and related groups will be further developed to provide services to

groups that use these parks as a land base for educational studies. Public education about managing human use in protected areas will occur through use of signs, media, school and other group presentations.

A high level of personal interpretive services will be offered during the summer at Elkwood and Boulton campgrounds in Peter Lougheed Provincial Park. Interpretive presentation topics will include management concerns, safety, natural/cultural history and personal responsibility for protection of the environment. Interpretive signs and/or exhibits at the Peter Lougheed Provincial Park Visitor Information Center will be used to increase visitor awareness of the natural and cultural history of the area. Summer interpretive amphitheatre presentations and other public programming such as hikes, point duties, and special events will continue to be presented at a very high standard. Expanding personal interpretive programming, developing new visitor centre exhibits, replacing interpretive signs in Peter Lougheed Provincial Park, and exploring the rehabilitation of the Boulton forestry cabin and barn will be high priorities. The heritage appreciation program will continue to seek funding sources such as partnerships, sponsorships, and grants to supplement program delivery and development.

Heritage appreciation in Spray Valley Provincial Park will be conducted in a non-personal manner using the Kananaskis Country website and identifying sites and story lines that can be used for interpretive signs. Environmental education sites will be identified that can be used by schools and other groups for field teaching experiences.

6.4 HERITAGE TOURISM

Private sector hostel style accommodation will be pursued for the former minimum security camp in Peter Lougheed Provincial Park. Development of a connecting trail to the existing park trail system will be a condition of approval. Other measures designed to minimize human impacts in the nearby Kent Creek valley as well as interference with a nearby park maintenance/storage facility will be implemented if this facility conversion occurs.

No new commercial development nodes or locations will be considered for the Spray Valley, however modest expansion of Mt. Engadine Lodge to a maximum of 1400 square meters (15,000 square feet) of building floor space on up to three hectares (7.4 acres) of leased land may be considered subject to the proponent demonstrating need.

Horse corrals on the west side of Spray Lakes Reservoir near Canyon Dam will be removed and the site considered as an alternate overnight camp for sled dog operators. Sled dog operators will continue to use specific trails and sites on the west side of Spray Reservoir and stage from the west end of Three Sisters Dam and the Driftwood day use site. In addition, their use of specific sites and trails at Mt. Shark trailhead will be considered. A variety of conditions will be included on permits to mitigate or eliminate conflicts or impacts. No additional permits for sled dog operations will be issued.

All commercial, educational and special events will continue to require a permit that includes conditions to reduce conflicts and impacts. These conditions will be consistent with the approved "*Kananaskis Country Guidelines for Group Size*". In future, the number of guiding and instruction and other permits will be monitored and, if issues arise, may be limited to reduce impacts and conflicts to ensure a quality experience.

Peter Lougheed and Spray Valley Provincial Parks are popular locations for commercials, documentaries and feature films. The economic significance of this activity is recognized. In order to minimize conflicts and impacts on park lands and facilities, all proposed projects will continue to require a Letter of Authority issued by Parks and Protected Areas. Filming is not normally permitted on weekends or in backcountry areas of these parks.

Helicopter use will continue subject to the *Voluntary Helicopter Guidelines for the Canmore / Kananaskis Area; December 1998*. The Mt. Shark Helipad will continue to operate subject to federal Department of Transport requirements and Kananaskis Country guidelines, which are intended to minimize the impacts on wildlife and other visitors. No new facilities or services to support helicopter based activities will be permitted.

6.5 INFRASTRUCTURE/STAFF HOUSING

Current staff housing and related infrastructure will be maintained, upgraded or replaced as required consistent with the "need to reside" requirement, building and environmental codes, Fire Smart Guidelines, and the Kananaskis Country Architectural Theme Guide. No additional staff housing is anticipated. The former minimum security camp may be used for seasonal staff and volunteer housing until a proponent to develop acceptable hostel style accommodation is found.

Kananaskis Country staff wish to minimize the adverse effects of outdoor lighting with particular emphasis placed on the protection of the natural, nocturnal environment, including the dark sky. Accordingly, Kananaskis Country staff intend to adopt appropriate standards and guidelines, which govern outdoor lighting (as established by the International Commission on Illumination). This will be included as part of the Kananaskis Country Architectural Theme Guide and the Kananaskis Improvement District Land Use Order.

6.6 PUBLIC SAFETY

Wildfires within Peter Lougheed and Spray Valley Provincial Parks will continue to be actioned according to provincial wildfire suppression policy. Consideration could be given to allowing escaped minor wildfires to burn under appropriate conditions provided that there is an approved fire management plan for the area supporting such action. Fuel modification programs will be used in and adjacent to developed areas to reduce the risk of catastrophic fire and to improve fire suppression efforts by thinning the canopy and reducing ladder fuels. Prescribed fire and selective non-commercial logging may be used in certain areas to simulate natural disturbance by wildfire where development or other factors have prevented or minimized the likelihood of stand-renewing wildfire. Alberta Community Development and Alberta Sustainable Resource Development will continue to promote awareness of wildfire hazards and of appropriate actions that property owners may undertake through the Fire Smart program.

Management of wildlife-human conflict situations will continue to be dealt with in accordance with current procedures. Temporary closures or selective vegetation alterations will be used to address conflict, public safety and impact concerns. Research to better define and protect both wildlife and the public will be done as resources permit.

Wherever possible, the natural flooding of these protected area lands will be regarded as part of the natural ecosystem. Any future facilities developed will minimize their exposure to flooding. The government will continue to work with stakeholders and the Kananaskis Improvement District to ensure that any future flood protection measures undertaken in the vicinity will have no or minimal effects on these protected areas. Environmental and public safety concerns at the former gypsum mine will continue to be monitored and addressed using funds from the Environmental Protection and Enhancement Fund.

Avalanche monitoring, reporting and control work will be maintained and enhanced where resources allow.

7.0 DISPOSITIONS

Existing dispositions issued under other legislation (e.g., *Public Lands Act*) will be renewed under the authority of the *Provincial Parks Act*, and brought in line with its disposition and fees regulations when the existing term expires or the disposition is renegotiated.

The only new dispositions that will be issued in these parks will be consistent with the *Provincial Parks Act* as well as the management intent, objectives and guidelines of this plan.

8.0 REGIONAL INTEGRATION

The management of Peter Lougheed and Spray Valley Provincial Parks will be properly integrated with that of surrounding lands. This includes the adjacent cottage subdivision, Fortress Mountain ski hill, Banff National Park, and adjacent provincial lands in British Columbia. Coordination will occur through direct communication between staff and stakeholders as well as through the Kananaskis Country Interdepartmental Consultative Committee (KCICC) and the Central Rockies Ecosystem Interagency Liaison Group. The adjacent Alberta protected area lands in Bow Valley Wildland Park, Evan-Thomas Provincial Recreation Area and the Elbow-Sheep Wildland Park are managed under the terms of their respective management plans by the same Parks staff responsible for Peter Lougheed and Spray Valley Provincial Parks.

Staff from Parks and Protected Areas Division will work with staff from Alberta Sustainable Resource Development and Alberta Economic Development to ensure that any future use of the Fortress Ski Area is compatible with current policy respecting Kananaskis Country.

9.0 IMPLEMENTATION OF PLAN

9.1 ROLES

The co-ordination of plan implementation and day-to-day management of these parks is the responsibility of the Parks and Protected Areas Division of Alberta Community Development. Parks and Protected Areas will consult with other government agencies, Kananaskis Improvement District Council, neighbouring jurisdictions, visitors, stakeholders and local residents in implementing this management plan. Parks and Protected Areas will conduct periodic plan reviews or updates as the need arises.

Individuals or groups will be invited to assume a variety of responsibilities including stakeholder representation on planning advisory groups, protected area stewards or trail volunteering through the Friends of Kananaskis Country Trail Care Group. Management of volunteers will conform to the standards set out by the Department's Volunteer Program. Volunteer stewards will assist departmental staff in inspecting and reporting on the conditions of the Protected Areas, as well as providing input to the ongoing management process. They will have no enforcement role and will only OBSERVE, RECORD AND REPORT. In addition, volunteers will continue to support a variety of programs such as public safety, research, monitoring and education. Parks and Protected Areas will continue to work with a variety of interest groups and encourage the development of active partnerships to care for protected areas or educate and inform visitors.

9.2 RESEARCH

Government research priorities will include the use and functionality of wildlife corridors and habitat areas, human use levels and patterns, effects of use, and visitor satisfaction. Other research proposals will be considered, provided such activities have no significant negative impact on the site, other site users, or park resources. Off-road vehicle use for research purposes will be strongly discouraged and only allowed when shown to be absolutely necessary.

Research related to the management of the site and the species found here, such as mountain goats or carnivores, or for the acquisition of biophysical or archaeological information to assist resource management will be given priority. Other research proposals will be considered on a case-by-case basis. A permit for research activities must be obtained from Parks and Protected Areas and a copy of all research results provided to the department.

9.3 SIGNAGE

Parks and Protected Areas will work with Alberta Infrastructure and Transportation to install and maintain appropriate boundary, trailhead and other signage as required for Peter Lougheed and Spray Valley Provincial Parks.

LIST OF REFERENCES

Government of Alberta, *Provincial Parks Act*, Rev. 1983.

Parks and Protected Areas, revised January 2001, Kananaskis Country Architectural Theme Guide.

Alberta Community Development, “Kananaskis Country Group Size Guidelines”, 2004.

Alberta Community Development, “Voluntary Helicopter Guidelines for the Canmore/Kananaskis Area”, December 1998.

Alberta Community Development, Parks and Protected Areas, “Kananaskis Improvement District Land Use Order”, 2002.

Alberta Forestry, “Kananaskis Country Sub-Regional Integrated Resource Plan”, 1986.

Alberta Environment, “Kananaskis Country Recreation Policy”, May 1999.

Alberta Environment, “Natural Regions, Subregions and Natural History Themes of Alberta – A classification for protected areas management”, Rev. Dec. 1994.

Alberta Environmental Protection, Natural Resources Service, “Management Plan Format: Provincial Parks, Wildland Parks, Recreation Areas, Wayside and Access Sites, Wilderness Areas, Natural Areas”, updated November 1996.

Alberta Environmental Protection, Natural Resources Service, “Wind Valley Natural Area Bibliography and Species Lists”, Feb. 1996.

Alberta Environment, Natural Resources Service, “Bow Valley Provincial Park South – Literature Review”, October 1997.

Alberta Sustainable Resource Development, 2000 Firesmart Guidelines.

Brunton D.F. 1978a. Rare Plant List for Alberta. (memo dated July 25 / 78 from D.F. Brunton to N. Kondola, R.A.M., Alberta Recreation and Parks, 2p.

Brunton D.F. 1979a. Taxonomy, distribution, and ecology of the cliff-brake ferns (Pellaea Polypodiaceae) in Alberta. Can. Field-Nat. 93(3): 288-295.

Brunton D.F. 1979b. The mountain Bladder-fern in Alberta. Alberta Naturalist 9(1): 1-4.

Eastern Slopes Grizzly Bear Project. 1998 Grizzly Bear Population and Habitat Status in Kananaskis Country, Alberta: A Report to the Department of Environmental Protection, Natural Resources, Alberta. Prepared by the Eastern Slopes Grizzly Bear Project, University of Calgary, Calgary, Alberta.

Salt, J. R., and R. Clarke. 1979. Mammalian fauna of the Kananaskis Lakes, Upper Kananaskis River and Highwood Pass region, Alberta. Alberta Naturalist 9:22-45.

Wallis, C., M. Fairbarns, V. Loewen and C. Bradley. 1987. The Rare Flora of Alberta Volumes 1-3. Alberta Forestry Lands and Wildlife. Edmonton.

APPENDICES

APPENDIX A

Alberta's Protected Area Zoning Framework (excerpts from "Management Plan Format: Provincial Parks, Wildland Parks, Recreation Areas, Wayside and Access Sites, Wilderness Areas, Natural Areas; November 1996; Alberta Environmental Protection)

Classification recognizes those individual sites within Alberta's overall network of recreation and preservation lands contribute in varying degrees to preservation, outdoor recreation, heritage appreciation, and tourism. Classification however, does not account for the variability of natural resources within a given site. All lands within a given site may not be of equal value from a preservation point of view and all resources may not have equal capability from a regional perspective. Various components of our natural heritage require different management strategies if they are to be sustained over time.

Zoning spatially identifies areas according to their resource values and the types and levels of use and development that can be supported while fulfilling the objectives of the site as determined by its classification. Zoning is applied during management planning. Zoning takes into consideration the natural resources values and the stated objectives for preservation, outdoor recreation, heritage appreciation, and tourism. Zoning can also account for existing commitments that are to be honored as a condition of site establishment.

The zoning scheme used for Alberta's network of recreation and preservation land includes seven zones. Within the zoning framework sub-zones may be used where a greater sophistication of resource management is warranted. Each zone possesses distinct objectives and an identifiable role. The zones help to ensure a balance between resource protection and use.

The zones used in Peter Lougheed and Spray Valley Provincial Parks are as follows:

ZONES	INTENT
NATURAL ENVIRONMENT	- Protects significant natural features and habitat while accommodating trail recreation and backcountry camping
FACILITY	- Accommodates major facility developments (campgrounds, groomed trails, day use sites, visitor centre, staff housing)
PRESERVATION	- Provides highest degree of protection for natural features or habitat while accommodating designated trail access
WILDLAND	- Provides high degree of protection for natural features and opportunities to pursue wildland recreation activities
INTEGRATED	- Accommodates ongoing industrial activities (e.g., hydropower facilities) where management will attempt to minimize negative impacts/conflicts and maximize opportunities for enhancing recreational or natural values.

* The zoning descriptions are intended to be illustrative only. Adjustments to these zones and provisions may occur if new legislation is passed.

APPENDIX B Preliminary Assessment of Natural History Themes in Peter Lougheed and Spray Valley Provincial Parks

Montane Subregion

Component	Level I Theme	Level II Theme	Spray Valley
Valley / Ridge	***Floor / Stream***	Fluvial Outwash	✓
		Glaciofluvial Outwash	✓
		Lacustrine	
		Springs/Seepage	
		Douglas Fir Forest	
		Spruce Forest	✓
		Lodgepole Pine Forest	✓
		Limber Pine Forest	
		Aspen Forest	
		Balsam Poplar Forest	
		Shrublands	✓
		Grassland	
		River	✓
	Ridge / Valley Wall	Douglas Fir Forest	
		Recently-burned Forest	
		Spruce Forest	✓
		Lodgepole Pine Forest	✓
		Limber Pine Forest	
		Aspen Forest	
		Shrublands	✓
		Grassland	✓
		Moraine	✓
		Bedrock	✓
		Colluvium	✓
Wetland	***Mineral***	Spruce Forest	✓
		Deciduous Forest	
		Shrubland	✓
		Marsh	
		Totals	***15***

Subalpine Subregion

Component	Level I Theme	Level II Theme	Peter Lougheed / Spray Valley
Valley / Ridge	***Floor / Stream***	Fluvial Outwash	✓
		Glaciofluvial Outwash	
		Lacustrine	
		Morainal	✓
		Spruce Forest	✓
		Old Growth Forest	✓
		Lodgepole Pine Forest	✓
		Deciduous Forest	✓
		Recently Burned Forest	✓
		Shrublands	✓
		Grassland	
		Braided River	✓
		River Canyon	✓
		Muskeg Stream	
	Ridge / Valley Wall	Main Ranges	✓
		Front Ranges	✓
		Non-calcareous Bedrock	✓
		Calcareous Bedrock	✓
		Morainal	✓

		Colluvial	✓
		Snow Avalanche Slopes	✓
		Timberline / Krummholz	✓
		Lower Subalpine	✓
		Upper Subalpine	✓
		Spruce – Fir Forest	✓
		Old Growth Forest	✓
		Lodgepole Pine Forest	✓
		Whitebark Pine Forest	
		Subalpine Larch Forest	✓
		Deciduous Forest	✓
		Recently Burned Forest	✓
		Shrublands	✓
		Grassland and Meadows	✓
Wetland	***Mineral***	Coniferous Forest	
		Shrubland	✓
	Organic	Coniferous Forest	✓
		Shrubland	
		Graminoid Communities	
	Lake	Lake	✓
		Totals	***31***

Alpine Subregion

Component	Level I Theme	Level II Theme	Peter Lougheed / Spray Valley
Valley / Ridge	***Floor / Stream***	Fluvial	✓
		Morainal	✓
		Colluvial	✓
		Moderate Snow Communities	✓
		Deep Snow Communities	✓
		Stream	✓
	Ridge / Valley Wall	Tectonic Bedrock	✓
		Bedrock Landforms	✓
		Non-calcareous Bedrock	✓
		Calcareous Bedrock	✓
		Alpine Glaciation	✓
		Morainal	✓
		Colluvial	✓
		Shallow Snow Communities	✓
		Moderate Snow Communities	✓
		Deep Snow Communities	✓
		Moist Meadow	✓
Wetland	***Mineral***	Wet Meadow	✓
	Lake	Lake	✓
Glacier / Snowfield		Glacier	✓
		Snowfield	✓
		Totals	***21***

APPENDIX C – Forest Fire Background

Fire History - Wildfires have long been part of the ecosystem of these parks. Prior to European settlement, fire was commonly used by First Nations peoples for a variety of purposes and over time, had a considerable impact in the development of a wide variety of habitat. Generally speaking, lower intensity fires occurred with regular frequency in the valley bottoms due to spring burning. As the snows receded slower at higher elevations, these areas did not burn as frequently. There was a longer return interval between fires at higher elevations particularly on north-facing slopes. It takes a longer time period with more significant fire indices for these areas to dry sufficiently to burn. As such, when these conditions are present, and ignition occurs, fire intensity is usually very significant. Large fires over 1,000 acres of medium to high intensity have occurred on an average of every 30 years since 1712. Smaller fires have occurred on an average of every 14 years. Records prior to 1712 are spotty, as more recent fires have destroyed evidence of earlier fires. However, no large fires have occurred since 1936.

The overall hazard at present is low or moderate in much of the Lower Lake areas in terms of total fuel loading and expected rate of fire spread. However, the crown fire potential is high in the dense lodgepole pine stands and medium density stands with spruce/alpine fir understory. Large amounts of available fuel occur in scattered areas throughout the facility area. NOTE: Large continuous coniferous stands do exist and have the potential to create high intensity fires given the wrong conditions.

Logging occurred at various times prior to the establishment of the parks. A sawmill reportedly operated on the Upper Lake in the late 1880's. Some logging occurred until the early 1940's when damming of the lake prevented use of the river for transporting logs. Logging began in the Smith-Dorrien Valley in 1952 and continued until 1978. Over 1495 acres were cut including 35 cut blocks, many partial cuts and salvage logging of the 1973 burn. This required 50 km of access roads, 150 km of skid trails and many landings. A camp was established at Mud Lake and two sawmills were constructed.

The Smith-Dorrien Valley and the Kananaskis Valley have extensive tracts of even-age lodgepole pine as a result of fires in 1859, 1890, 1904, 1920, and 1936. Moderate dead and down woody fuel loadings and occasional spruce/fir understory (ladder fuel) provide the potential for crown fire development. In the logged areas of the Smith-Dorrien Valley, slash accumulation is high. The park has a catastrophic fire regime where wildfires are usually conflagrations, killing overstory and understory of the forest. The crowning potential increases dramatically with the steep topography in the park and the high winds prevalent in this region. Burn direction of major fires seems to be related to the prevailing wind patterns. Reports from large fires elsewhere indicate that spotting can occur up to five kilometers ahead of a fire.

While some fuel inventories have been done in the past by the Alberta Forest Service, up to date inventories of all areas in both parks should be conducted.

In 1983, the Alberta Forest Service reduced fuels at the entrance to Elkwood Campground and a fuel reduction program was implemented along part of Highway 40 in 1985/86 to improve the visual quality of the roads, to reduce fire hazard and to reduce the likelihood of secondary beetle infestations. This program was continued in 1986/87. Alberta Infrastructure and Transportation also removed some “doghaired” and dense stands of lodgepole pine along Kananaskis Lakes Trail. Further fuel reduction occurred along the Smith-Dorrien Trail in 1988. In the fall of 1990, fuel hazard reduction occurred in the Lodgepole maintenance compound area. This project is ongoing. A review of the status of fuel modification in both parks is required along with an up-to-date inventory.

Most of the facilities in Kananaskis Country have been designed and built using wood siding and cedar shakes to create a more natural and aesthetically pleasing appearance. Unfortunately, any buildings constructed out of these materials are at greater risk for loss by fire especially

considering they are located in the forest environment. Cedar shakes easily ignite especially in high fire danger periods. These buildings are at risk not only from direct flame impingement related to crowning or surface fires but also from long range spotting. Research following recent losses in Alberta have indicated that ignitable embers falling from crown fires are greater than 150,000 per hectare.

Larger-scale hazard reduction can be accomplished by selective non-commercial timber harvesting, prescribed burning, or a combination of both. Due to fuel loading during periods of high fire danger, there is an increasing risk of the loss of areas to fire with high intensity and severe fire behaviour. In addition, these stands are susceptible to both insect and disease damage due to age. Some consideration could be made to identify key areas to create breaks to limit spread and loss. Although areas of high fire hazard have been identified throughout the Park, fuel-loading reduction on a large scale is not necessary at the moment in the non-facility area, with the possible exception of some logged sites in the Smith-Dorrien Valley. These sites could serve as test sites for pilot studies on a larger scale. In this study slash could be removed mechanically and selective thinning could be conducted at the same time to modify standing fuels. Prescribed fire could be used in lower danger periods, especially in early spring as the snow recedes, to mimic Aboriginal burning. Costs could be significantly less and could result in reduced fuel loading as well as a return to more natural fire-based ecosystems.