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Kootenay

National Park of Canada

Management Plan

2022

A UNESCO
World Heritage Site



2022

Kootenay

National Park of Canada

Management Plan

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Note to readers

The health and safety of visitors, employees and all Canadians are of the utmost importance. Parks Canada is following the advice and guidance of public health experts to limit the spread of COVID-19 while allowing Canadians to experience Canada's natural and cultural heritage.

Parks Canada acknowledges that the COVID-19 pandemic may have unforeseeable impacts on the *Kootenay National Park of Canada Management Plan*. Parks Canada will inform Indigenous peoples, partners, stakeholders and the public of any such impacts through its annual update on the implementation of this plan.

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Foreword



From coast to coast to coast, national historic sites, national parks and national marine conservation areas are a source of shared pride for Canadians. They reflect Canada's natural and cultural heritage and tell stories of who we are, including the historic and contemporary contributions of Indigenous peoples.

These cherished places are a priority for the Government of Canada. We are committed to protecting natural and cultural heritage, expanding the system of protected places, and contributing to the recovery of species at risk.

At the same time, we continue to offer new and innovative visitor and outreach programs and activities to ensure that more Canadians can experience these iconic destinations and learn about history, culture and the environment.

In collaboration with Indigenous communities and key partners, Parks Canada conserves and protects national historic sites and national parks; enables people to discover and connect with history and nature; and helps sustain the economic value of these places for local and regional communities.

This new management plan for Kootenay National Park of Canada supports this vision.

Management plans are developed by a dedicated team at Parks Canada through extensive consultation and input from Indigenous partners, other partners and stakeholders, local communities, as well as visitors past and present. I would like to thank everyone who contributed to this plan for their commitment and spirit of cooperation.

As the Minister responsible for Parks Canada, I applaud this collaborative effort and I am pleased to approve the *Kootenay National Park of Canada Management Plan*.

A handwritten signature in blue ink, appearing to read 'Steven Guilbeault', with a long, sweeping horizontal line extending to the right.

Steven Guilbeault
*Minister of Environment and Climate Change and
Minister responsible for Parks Canada*

Recommendations

Recommended by:



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Executive Summary

This management plan sets out the strategic direction for Kootenay National Park for the next ten years. It replaces the 2010 management plan and provides updated direction for maintaining and restoring ecological integrity, protecting the park's cultural resources, and providing memorable visitor experiences and education. The plan presents a vision of the park at its best, and outlines a set of key strategies that will be implemented to help achieve that vision. The management plan was developed with input from Indigenous partners, stakeholders, park staff and the public.

Kootenay National Park was established in 1920 through an agreement between the federal and provincial governments to complete the first motor road across the Canadian Rockies. The park protects a 1,406 square kilometres portion of the Main Ranges and Western Ranges of the Rocky Mountains Natural Region within Canada's national park system. It is also a key component of the UNESCO Canadian Rocky Mountain Parks World Heritage Site.

Prior to European settlement and the park's establishment, Indigenous peoples lived on and cared for this land since time immemorial. This management plan recognizes the important role that Indigenous peoples can play in the stewardship of this special place. Parks Canada will work together with the Ktunaxa and Secwépemc peoples to reconnect them to this part of their traditionally used lands and waters, and to weave their perspectives and knowledge into park management.

There are seven key strategies contained in the management plan. These strategies collectively articulate the approach that Parks Canada will take to maintain and restore ecological integrity, integrate Indigenous perspectives, provide memorable visitor experiences that connect Canadians to their natural and cultural heritage, and address the pivotal challenge of climate change. Each strategy includes objectives that describe the desired outcomes to be achieved. Objectives are followed by a short list of targets that detail some tangible steps that will contribute to meeting the outcomes. All of these strategies work together in an integrated fashion, and are intended to be applied on a park-wide basis, so they need to be considered as a whole.

The seven key strategies are:

- Conserving Natural and Cultural Heritage for Future Generations;
- True-to-Place Experiences;
- Strengthening Indigenous Relations;
- Connecting With Canadians Within and Beyond the Park;
- Managing Development;
- Regional Connectivity and Landscapes; and
- Climate Change and Adaptation.

The key strategies represent Parks Canada's planned approach to park management for the next five to ten years. However, Parks Canada will use an adaptive management approach, where strategies may be refined over time to improve management effectiveness.

The plan also includes specific direction for the Rockwall management area which has important natural and cultural features combined with high visitation and significant public interest. Objectives and targets reflect the application of key strategies to this backcountry area.

A description and map of the park zoning system is included in the plan. Park zoning describes the relative level of protection versus development and use for different areas of the park, and ranges from Zone I–Special Preservation to Zone V–Park Services.

During the development of the plan it became evident that in some cases, more research, data gathering, and planning is required to provide robust management direction. In these cases, the management plan calls for the development of a subsidiary plan, strategy, or program. These include:

- Aquatic Ecosystem Stewardship Plan;
- Human–Wildlife Safety and Coexistence Guidelines and Operating Protocols;
- Species at Risk Action Plan (update);
- Cultural Resource Values Statement;
- Asset Management Plan;
- Visitor Experience Strategy;
- Visitor Management Plans for High-use Areas;
- Accessibility and Inclusivity Action Plan;
- External Relations Strategy;
- Strategic Plan for Interpretation;
- Wilderness Management Plan; and
- Climate Change Action Plan and Transition Strategy for Greening Operations.

Where not specified within this plan, the timing, milestones and process for completing each of the above will be identified by park managers subsequent to approval and tabling in Parliament of this park management plan.

The management plan concludes with a summary of a strategic environmental assessment. This assessment included a thorough examination of the potential environmental effects of the direction in the management plan, with a focus on potential cumulative effects. The assessment determined that the strategies, objectives and actions of the plan, taken together, will have positive effects over the life of the plan. No important negative environmental effects are anticipated.

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1.0 Introduction

Parks Canada administers one of the finest and most extensive systems of protected natural and historic places in the world. The Agency's mandate is to protect and present these places for the benefit and enjoyment of current and future generations. Future-oriented, strategic management of each national historic site, national park, national marine conservation area and heritage canal administered by Parks Canada supports the Agency's vision:

Canada's treasured natural and historic places will be a living legacy, connecting hearts and minds to a stronger, deeper understanding of the very essence of Canada.

The *Canada National Parks Act* and the *Parks Canada Agency Act* require Parks Canada to prepare a management plan for each national park. The *Kootenay National Park of Canada Management Plan*, once approved by the Minister responsible for Parks Canada and tabled in Parliament, ensures Parks Canada's accountability to Canadians, outlining how park management will achieve measurable results in support of the Agency's mandate.

Indigenous peoples are important partners in the stewardship of heritage places, with connections to the lands and waters since time immemorial. Indigenous peoples, stakeholders, partners and the Canadian public were involved in the preparation of the management plan, helping to shape the future direction of the national park. The plan sets clear, strategic direction for the management and operation of Kootenay National Park by articulating a vision, key strategies and objectives. Parks Canada will report annually on progress toward achieving the plan objectives and will review the plan every ten years or sooner if required.

This plan is not an end in and of itself. Parks Canada will maintain an open dialogue on the implementation of the management plan, to ensure that it remains relevant and meaningful. The plan will serve as the focus for ongoing engagement, and, where appropriate, consultation, on the management of Kootenay National Park in years to come.

2.0 Significance of Kootenay National Park

Kootenay National Park is within the traditionally used lands and waters of the Ktunaxa and Secwépemc peoples. Prior to the arrival of Europeans, these Indigenous peoples used the area for hunting, fishing and gathering. The area along Ochre Creek is known as an important source of iron pigment utilized by Indigenous people for generations. The valleys of the Kootenay and Vermilion rivers have been used for many generations as important travel corridors between the Columbia Valley and the Bow Valley and adjacent plains east of the Canadian Rockies.

In 2020, Parks Canada commemorated the 100th anniversary of the creation of Kootenay National Park with celebrations and events held throughout the year. The park was established on April 21, 1920, as part of an agreement between the provincial and federal governments to build the Banff-Windermere Highway (Highway 93 South). As part of that agreement, a strip of land eight kilometres wide on each side of the highway was set aside as a national park to protect the natural mountain landscape along the route. Like many of Canada's earliest national parks, Kootenay National Park was established in a time when, through government policy and law, Indigenous peoples were separated from their traditional lands and waters. Enforcement of hunting and gathering prohibitions, combined with other Government of Canada policies such as those restricting the ability of Indigenous people to leave reserves, resulted in their exclusion from the park.

Today, the park protects 1,406 square kilometres of the Main Ranges and Western Ranges of the Rocky Mountains Natural Region. The park shares boundaries with Yoho National Park to the north, and Banff National Park and Mount Assiniboine Provincial Park to the east (Maps 1 and 2). The park is one of seven parks comprising the Canadian Rocky Mountain Parks World Heritage Site, which encompasses an area of 23,069 square kilometres.

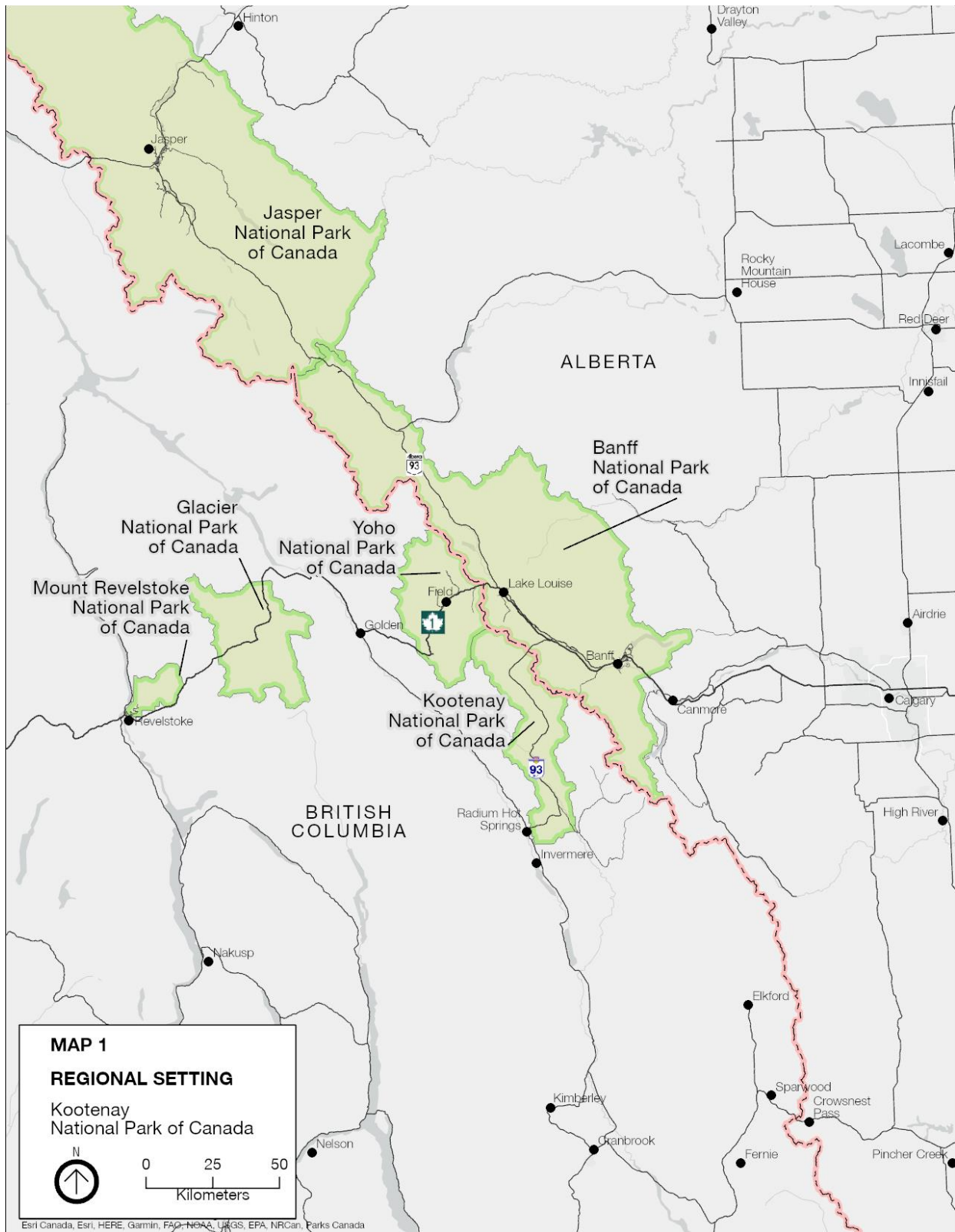
Kootenay National Park extends from the icefields of the Continental Divide to the semi-arid slopes of the upper Columbia Valley. The park landscape includes alpine, subalpine and montane ecoregions. The climate is continental, with warm summers and cold winters. Precipitation is gradational, increasing from west to east due to the orographic uplift associated with the Continental Divide. This precipitation pattern produces a deep snowpack in the northeastern part of the park, which provides good ski touring and snowshoeing opportunities. This also results in significant avalanche activity, which is an important ecosystem disturbance process that contributes to the diversity of ecological communities. Wildfire and insect disturbance are the main ecosystem drivers in the drier forests of the park. Large wildfires occurred in the park in 2003, 2017 and 2018 that resulted in extensive areas of burned forest in the northern and central sections of the park.

Park ecosystems support populations of iconic wildlife, including mountain goat, grizzly bear, black bear, lynx, wolverine, wolf, bull trout, westslope cutthroat trout, moose, elk, Rocky Mountain bighorn sheep, and mule deer. More than 180 species of birds have been recorded in the park. The park includes important subalpine habitat for the endangered whitebark pine, and open forest and grassland habitat for the endangered American badger. The most northern population of rubber boa, a small snake designated as a species of special concern, is found in the Radium Hot Springs area of the park.

The park provides opportunities for people to experience, learn and connect to the unique natural and cultural heritage of the west slope of the Canadian Rockies. More than 200 kilometres of trails in the park provide a range of opportunities for short strolls, challenging day hikes, and multi-day wilderness backpacking adventures. The Radium Hot Springs provide a classic opportunity to soak in mineral-rich geothermal water.

The watersheds of the Vermilion River and the upper Kootenay River are excellent examples of broad, west-slope drainage systems that provide opportunities for experienced paddlers to explore the park from a unique perspective. These rivers are important headwaters of the Columbia River watershed, so the park has an important role in the conservation of this important international river system.

Map 1: Regional Setting



Burgess Shale fossil sites, first discovered in Yoho National Park, have also been found in Kootenay National Park. These sites are among the most important natural features of the park. The sites in Yoho were designated a UNESCO World Heritage Site in 1980. The site was expanded in 1984 and 1990 to include seven parks comprising the Canadian Rocky Mountain Parks World Heritage Site. Burgess Shale fossils preserve in exquisite detail an abundant variety of soft-bodied marine organisms from the Middle Cambrian Period, 508 million years ago. The sites in Kootenay National Park, including recently discovered fossil localities, have been the focus of renewed scientific research over the past decade. This ongoing scientific research continues to provide crucial information about these globally significant fossil deposits and the early evolution of complex animal life.

The park also contains significant cultural resources. There are 105 known archaeological sites in the park, including 59 pre-contact Indigenous sites. Nearly 4,000 artifacts from these sites have been collected and catalogued. Other significant cultural resources in the park include two federal heritage buildings: the Radium Hot Springs Aquacourt and the Floe Lake Patrol Cabin. Sir George Simpson, designated a National Historic Person, is commemorated in the park. Simpson was governor-in-chief of Rupert's Land for the Hudson's Bay Company and was the first recorded non-Indigenous visitor to the Kootenay and Vermilion river valleys. The historical and scenic Highway 93 South corridor is directly linked to the park's establishment, and includes the iconic feature referred to as the "Iron Gates" where the highway intersects the Redwall Fault as it enters the Columbia River valley.

As the only national park that protects a portion of the Western Ranges of the Canadian Rockies, Kootenay contributes significantly to the representation of the Rocky Mountains Natural Region. Protected habitat in the park provides an important link between the Columbia Valley in British Columbia and the Bow Valley in Alberta, with the Vermilion and Kootenay river valleys providing important travel corridors for wildlife.

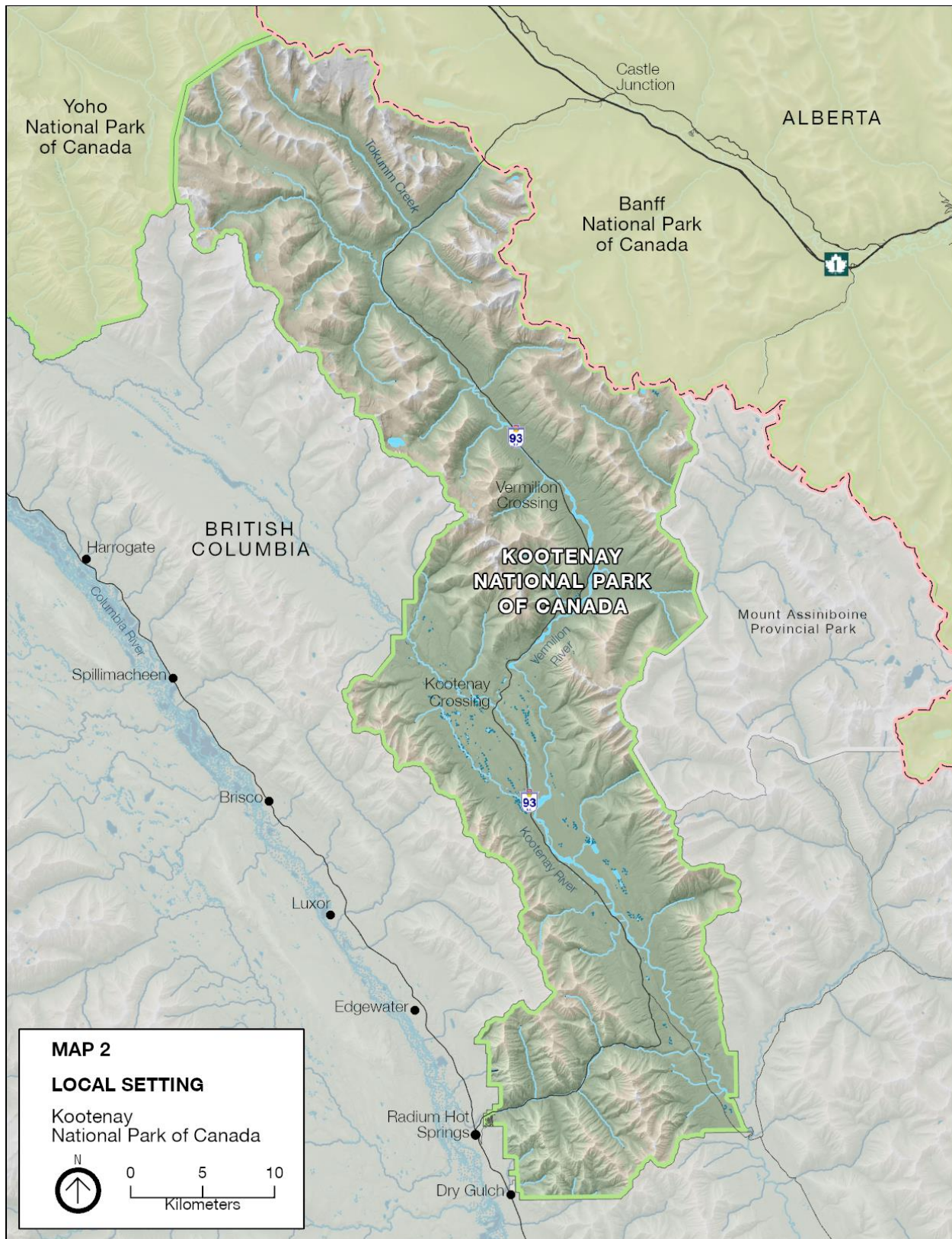
3.0 Planning Context

Modern-day Kootenay National Park lies within part of the traditionally used lands and waters of the Ktunaxa and Secwépemc peoples. The importance of strengthening relationships with Indigenous communities is one of the key issues identified in the *State of the Park Assessment* (Parks Canada 2018). This requirement is being addressed through collaborative efforts aimed at establishing working relationships between Parks Canada, the Ktunaxa Nation and five communities of the Secwépemc Nation, namely the Shuswap Band, Splatshin, Neskonlith Indian Band, Adams Lake Indian Band, and Little Shuswap Lake Band. The intent is to increase the inclusion of Indigenous perspectives in park management, and to work together on initiatives of mutual interest to support the Government of Canada's commitment to reconciliation.

Kootenay National Park is bisected by Highway 93 South, which runs from Castle Junction to Radium Hot Springs (Map 2). Annual traffic volume on this highway was over 913,000 vehicles in 2018, with an average daily traffic volume of 5,100 vehicles in July. The 94-kilometre route through the park is a spectacular scenic drive. The majority of travellers on this highway experience the beauty of this landscape from their vehicles but do not stop to explore the park. Many are regular commuters travelling between their primary residences in Alberta and their second homes in the Columbia Valley.

Visitation to Kootenay increased by an average of 2.6 percent per year between 2011 and 2020, reaching a total of 529,000 in 2019–2020. Most of these visitors are coming to experience popular attractions in the park, such as the Stanley Glacier valley, Marble Canyon, the Paint Pots, or Radium Hot Springs. Redstreak Campground at the southern edge of the park is the main overnight accommodation in Kootenay. Two smaller rustic campgrounds—Marble Canyon and McLeod Meadows—and one group camping area at Crooks Meadows are located along Highway 93 South in the park's interior. Kootenay Park Lodge at Vermilion Crossing is the only Outlying Commercial Accommodation (OCA) facility in the park.

Map 2: Local Setting – Kootenay National Park



Between 2016 and 2020, the Government of Canada invested \$108 million to support infrastructure work in Kootenay National Park as part of the largest federal infrastructure plan in the history of Parks Canada. This investment was used to improve critical infrastructure on Highway 93 South, replace the bridge at Numa Falls, replace the large culvert on Sinclair Creek near the park's west gate, and to address substantial deferred maintenance at the Radium Hot Pools.

The Village of Radium Hot Springs is located adjacent to the southern boundary of the park. This community provides a range of services for visitors, and is an important partner in supporting the park's visitor experience and ecological objectives. The surrounding regional landscape has been modified significantly by forest harvesting, transportation infrastructure, ranching, tourism, mining, and real estate development. Development pressures, outdoor recreational activities and human populations are increasing in this region.

Important conservation challenges identified in the *State of the Park Assessment* (Parks Canada 2018, 2019a) include the need to improve the ecological integrity of both forest and aquatic ecosystems. Fire suppression throughout most of the 20th century has created a forest that is less diverse than expected in both age and species composition. Significant wildfires and prescribed fires over the last two decades have improved this condition, but some areas and forest types in the park are still in poor condition due to lack of fire disturbance. Where fire has been excluded, the resulting older, more uniform forests are more vulnerable to catastrophic wildfire, insects and disease. Forest ecosystems may also be affected by climate change in various ways, including alteration of the fire regime, changes in species composition and distribution, and a shift toward more open forest types over time. Returning fire to these landscapes is important to initiating the process of forest ecosystem restoration and adapting to climate change.

Aquatic ecosystems have also been affected negatively over a period of decades by the stocking of non-native fish, and the loss of aquatic connectivity due to historic road construction practices that created barriers to fish passage on many streams. Restoring the ecological integrity of aquatic ecosystems will require improvements to aquatic ecosystem connectivity and the restoration of native fish species in key habitats.

Climate change will present a significant challenge to the park over the next decade. Surface air temperatures in the region have risen by 1 °C over the past 100 years (Walker and Pellatt, 2008). Climate change models predict an increase in annual mean temperature for the park of 4 °C to 8 °C and an annual increase in precipitation of 200 to 300 millimetres by 2100¹. Changes of this magnitude will require adaptive responses to address potential impacts on the natural and cultural resources of the park.

The Kootenay River Valley is traversed by Highway 93 South, and also contains Settlers Road, McLeod Meadows Campground, Kootenay Crossing operations area, and several day-use areas. Wildlife populations travel through this valley and across park boundaries onto lands in the lower Kootenay Valley to the south, the Columbia Valley to the west, and the Beaverfoot and Kicking Horse valleys to the north. Wildlife mortality due to vehicle collisions is an important issue both within and outside of the park. Ecological connectivity may be adversely affected by land use pressures in these areas. Parks Canada must work cooperatively with other land managers to address the needs of wildlife within these shared landscapes.

4.0 Development of the Management Plan

This plan was developed concurrently with the management plans for Yoho, Banff, Jasper, Waterton Lakes, Mount Revelstoke and Glacier national parks, as these places share many of the same challenges, opportunities, stakeholders and visitors. This synchronized approach allowed for landscape-level coordination for protecting resources, managing visitor use and other key aspects of Parks Canada's work.

¹ Using RCP 8.5 and a composite projection of four Global Circulation Models: CanESM2, CESM1CAM5, HADGEM2ES and MIROCESM (1980–2010 baseline), Parks Canada, 2018.

The plan was developed with input gathered during two phases of engagement from the Ktunaxa Nation, Secwépemc Nation (Shuswap Band, Splatshin, Neskonlith Indian Band, Adams Lake Indian Band, and Little Shuswap Lake Band), stakeholders and the general public. During the first phase of engagement in 2019, the Let's Talk Mountain Parks online platform provided background information on the 2018 *State of the Park Assessment* and the management plan review process, and sought input on the park vision, issues and opportunities. Additional engagement activities specific to Kootenay National Park included discussions with Indigenous groups, stakeholder workshops in Radium, and a webinar with Campus Club members at Vancouver Island University.

During the three-month engagement period, nearly 300 people actively participated on the Kootenay National Park pages of Let's Talk Mountain Parks. Canadians shared a wide variety of ideas and perspectives on issues and opportunities, both in person and online, ranging from broad landscape-level conservation to specific operational input. All feedback was considered in the development of the draft management plan.

In the second phase of the engagement program, the draft management plan was offered to Indigenous communities, stakeholders and the general public for further review and comment. Valuable input was received from representatives of the Secwépemc Nation and the Ktunaxa Nation. This second phase public and stakeholder engagement program ran for a three-month period from April to July 2021 on the Let's Talk Mountain Parks website and included a survey and other engagement tools. Parks Canada also hosted numerous online video conference sessions to present the draft plans and gather input. More than 500 comments and suggestions were received during this engagement. All input received from Indigenous communities, stakeholders and the public was analyzed and considered in the preparation of this final management plan.

5.0 Vision

In the desired future of Kootenay National Park, Ktunaxa and Secwépemc peoples—who have been connected to this place for thousands of years—continue to be part of the land, guided by their traditional laws and stewardship, and have a meaningful role in the management of this special area.

Forest ecosystems influenced by wildfire, other natural processes and cultural practices are of varied composition and age, making them more resilient to the effects of climate change. A diverse array of native wildlife has secure habitat and movement pathways connected to regional landscapes. Native fish and other organisms move freely through aquatic ecosystems that are not affected by pollution, unnatural barriers or non-native competitors. Mountain vistas free of built infrastructure dominate the park and inspire travellers to stop and explore.

Visitors to Kootenay National Park discover a treasured mountain heritage area where they are able to engage in activities rooted in the park's distinct wilderness landscapes, history and cultures. Visitors are able to learn of the stewardship and enduring connections of Indigenous people to these ancestral lands, and the history of European exploration of this part of the West. The cultural and architectural significance of the Radium Hot Springs Aquacourt is communicated to visitors who come to enjoy the soothing waters of the hot pools.

The Burgess Shale in Yoho and Kootenay national parks, one of the world's most important palaeontological resources, is recognized as a model of stewardship, research, visitor experience and educational outreach. Rigorous protection, engaging exhibits and a virtual museum are used together to protect and present these exquisite international treasures.

As a key link in the regional ecosystem, Kootenay continues to provide critical movement corridors for wildlife, connecting habitat in British Columbia and Alberta. Fire continues to shape the landscape, and visitors have numerous opportunities to witness the process of forest regeneration and learn about the role of fire in forest ecosystems, and its role as an adaptive response to climate change. Collaboration with

neighbouring parks and other land managers broadens the impact of individual efforts. The park is recognized for its evidence-based decisions grounded in scientific understanding and Indigenous knowledge, and is an active participant in the conservation and management of the regional ecosystem.

The park and the adjacent Village of Radium Hot Springs are integrated in ways that support the well-being of the community and the stewardship of the park. The Radium Hot Pools are a valued amenity enjoyed by village residents and visitors alike. Accommodation and services offered in the village support memorable experiences throughout the park.

Visitors come to experience outstanding nature- and culture-based activities, including some of the best alpine hiking, climbing, and ski touring in North America, wildlife viewing opportunities and luxurious hot springs. Intrepid visitors find opportunities for wilderness adventures requiring skill, experience and self-reliance, while new or more casual visitors are able to experience a taste of adventure supported by safe, accessible and inclusive park facilities. Increasing visitation to the most popular locations in the park is actively managed to provide quality experiences based on the park's unique history and landscape, while protecting park ecosystems and maintaining secure habitat for wildlife.

6.0 Key Strategies

The following key strategies outline the broad approaches that will be used to manage Kootenay National Park consistent with the mandate of Parks Canada and its inscription as part of the UNESCO Canadian Rocky Mountain Parks World Heritage Site. They describe how the main challenges and opportunities identified for the park will be addressed over the next five to ten years. To implement these key strategies, Parks Canada is committed to working collaboratively with Indigenous nations who have traditionally used the lands and waters in the park. This work is dependent on the capacity, interests and protocols of those nations, and Parks Canada will work with them to identify how they want to participate in park management.

Each key strategy includes objectives that describe the desired outcomes. Targets identify tangible steps that demonstrate measurable progress toward achieving each objective. Targets have been prioritized with specific dates where feasible. Where no dates have been referenced, the target will be achievable over the period of the plan based on opportunities and the priorities and capacity of the Agency. Parks Canada will report to Indigenous partners, stakeholders and Canadians annually on plan implementation. Barring the unexpected, the commitments in the plan are feasible within the park's funding and human resources capacities. Implementation of these strategies in an integrated manner will move the park closer to achieving the vision for Kootenay National Park.

The key strategies represent Parks Canada's planned approach to park management for the next five to ten years. The park, however, is part of a dynamic landscape with natural variability and uncertainties. Consequently, Parks Canada will use an adaptive management approach, where new knowledge, monitoring results, and new technologies may contribute to refining or re-thinking strategies over time to improve management effectiveness.

Key Strategy 1: Conserving Natural and Cultural Heritage for Future Generations

The protection of natural and cultural resources, park landscapes and ecological integrity is core to the reason for the park's existence. Parks Canada's approach to conserving these important aspects will be guided by an understanding of and respect for significance of place, ecological integrity and cultural values. Knowing that uncertainties exist, Parks Canada's ecosystem management, conservation and restoration initiatives will be built on the best available science and Indigenous knowledge, in support of a precautionary, adaptive approach that provides for evolution of management policies and practices based on the monitoring of outcomes.

The maintenance or restoration of ecological integrity is the legislated first priority of park management. This priority has been at the forefront of many innovative initiatives to conserve and restore park ecosystems, from managing fire on the landscape to reconnecting terrestrial and aquatic habitats. This strategy builds on these conservation successes and establishes priorities for components of park ecosystems that require management attention.

In Kootenay, restoring the role of fire as a key process in forest ecosystems has achieved considerable success in recent years. This work will continue in priority areas such as montane open forest grassland and meadows, with a goal of restoring 50 percent of the historic fire cycle. This will further increase the natural diversity of the forest so that these ecosystems become more varied in age and composition. This will provide a greater range of wildlife habitat and make park forests more resilient to stresses such as insects, disease, and climate change.

Management attention will also focus on improving the ecological integrity of aquatic and terrestrial ecosystems, maintaining landscape connectivity, and managing species at risk and non-native invasive species. Parks Canada will use active management techniques to restore ecosystems where they are degraded. Grizzly bear habitat security models will continue to be used as a tool for maintaining good quality wildlife habitat (see Appendix A). Where the long-term needs of grizzly bear populations are met, it is assumed that the needs of many other wildlife species will also be met.

The mountain parks are rich in human history and cultures. Indigenous stewardship and connection with this place has existed since time immemorial. An era of European exploration began in the 19th century, followed by nation building, tourism development and the birth of a national conservation ethic in the 20th century. Cultural resources associated with this past and present human use may include built structures, landscapes, objects, stories, songs, art, practices, and other elements of intangible value. Their protection is important as they represent our collective experience and values, and they shape who we are today. Parks Canada will focus on identifying the park's cultural resources and understanding their significance from both a western and an Indigenous perspective. These resources will be cared for responsibly, and presented in a culturally appropriate, accessible manner that gives them meaning in the contemporary world while respecting their historic character.

Objective 1.1: The ecological integrity of forest ecosystems is improved through the restoration of fire disturbance (prescribed fire, managed wildfire), carefully designed forest thinning, native species planting, and control of high-priority non-native vegetation.

Targets

- As the capacity, protocols and interest of Indigenous partners allows, Indigenous knowledge and practices are integrated with western science and climate change studies into forest management and prescribed fire plans. Knowledge integration will begin with the initiation of collaborative round table discussions with Ktunaxa and Secwépemc peoples.
- By 2030, through prescribed fire and wildfire, 50 percent of the annual expected burned area (742 hectares per year based on long-term fire cycles) is achieved in accordance with objectives and strategies outlined in the Fire Management Plan (2019b).
- By 2025, the condition of the ecological integrity measure for fire is rated as good.
- Park visitors have opportunities to witness and learn about Indigenous burning practices and the role of fire in the ecosystem during prescribed fire events and in park interpretive programs.
- The ecological integrity monitoring measure for non-native invasive plants shows an improving trend in the next *State of the Park Assessment*.

Objective 1.2: The ecological integrity of aquatic ecosystems is improved through restoration of connectivity and recovery of native fish species.

Targets

- An aquatic ecosystem stewardship plan is prepared by 2022 that outlines conservation priorities and management strategies to improve the ecological integrity of aquatic ecosystems.

- Barriers to fish passage are eliminated where this will not increase access for non-native fish, whenever highway or road works are undertaken at water crossings.
- Degraded water bodies (lakes or stream segments) are restored to their natural condition through applied research and restoration techniques.
- Programs are implemented to monitor and detect aquatic invasive species on recreational boats and gear to prevent their introduction to park waterways.
- Targeted visitor education and public awareness strategies are developed together with adjacent mountain parks to reduce the risk of spreading aquatic invasive species.
- Over the life of this plan, aquatic ecosystem indicators are stable or increasing.
- Biological monitoring results remain within reference conditions, indicating that human waste throughout the park is effectively managed to ensure the ecological integrity of aquatic ecosystems.

Objective 1.3: The status of local populations of species at risk is improved through park conservation measures that promote species recovery and address known threats, including climate change considerations.

Targets

- Recovery measures for species at risk (American badger, whitebark pine, little brown myotis, common nighthawk, olive-sided flycatcher) outlined in the *Multi-Species Action Plan for Kootenay National Park of Canada* (2017) are implemented.
- The action plan is updated regularly to reflect the current status of species in the park and to identify emerging issues, needs and priorities. Recently listed species (bank swallow, barn swallow, black swift) are incorporated into the plan.
- Park information on species at risk is available for visitors, stakeholders and the public to enhance awareness and understanding, and promote human–wildlife coexistence and compliance with the *Species at Risk Act*.

Objective 1.4: The ecological impacts of human use are addressed by reducing disturbance in key wildlife corridors and other important habitat areas, promoting stewardship among park users, and by active management that mitigates potential impacts and enhances wildlife habitat in selected areas.

Targets

- Human–wildlife safety and coexistence guidelines and operating protocols that describe proactive measures to reduce risk, criteria for intervention, scope of possible response actions, and approach to visitor education are prepared by 2025.
- Current levels of grizzly bear habitat security are maintained or improved in each of the park's Landscape Management Units (LMUs), as reported in the next *State of the Park Assessment*.
- Within the life of this plan, and in collaboration with external researchers, Parks Canada will refine the grizzly bear habitat security model to better consider habitat suitability/importance for a range of sensitive or wary species, with consideration for season, types/levels of disturbance, and connectivity between habitat patches.
- Mountain goat populations remain stable.
- Targeted ecosystem modifications such as forest thinning or prescribed fires are used to create high-quality habitat designed to attract wildlife away from high human-use areas such as the Highway 93 South corridor.
- Wherever highway upgrades or other changes in infrastructure are contemplated, research and understanding of wildlife movement patterns will be used to ensure that terrestrial habitat connectivity is maintained, and proven mitigation techniques are applied where necessary.
- The Tokumm Creek (above Marble Canyon) and Luxor Pass trails are re-classified as wilderness routes, and trail maintenance is discontinued to reduce human disturbance in these key connectivity corridors.
- Washroom facilities and stewardship information are provided for paddlers on the Kootenay River system to reduce the potential for human-related aquatic and riparian impacts.
- Visitor education and public awareness programs are in place to inform park visitors about how to minimize the risk of human–wildlife conflict when exploring the park.

Objective 1.5: Cultural resources are identified, documented, and protected in ways that respect their diverse origins, and their past and present significance.

Targets

- As the capacity, protocols and interest of Indigenous partners allows, the inventory of cultural sites and objects in the park that are important to Indigenous communities with ancestral ties to the area is updated, and the protocols and practices for their management are improved.
- By 2030, the inventory of known cultural resources in the park is reviewed, validated and integrated into the park geographic information system.
- A schedule for condition monitoring of cultural resources is established and a consistent reporting program is created to assess and measure change or degradation of cultural resources over time.
- Collaborative research projects are developed that contribute to the understanding of the variety of cultural resources in the park, including tangible and intangible resources and cultural practices.
- Built heritage condition assessments and building conservation maintenance plans are completed for the two federal heritage buildings in the park: the Aquacourt and the Floe Lake Patrol Cabin.
- The condition of the built heritage indicator is rated as good in the next *State of the Park Assessment*.
- By 2026, in collaboration with Indigenous groups and others, a Cultural Resource Values Statement that identifies historic themes and cultural resources is completed for the park.
- The practice of cultural resource management is enhanced through collaboration with others in the contiguous mountain parks to improve knowledge sharing and understanding of broader landscape relationships.

Key Strategy 2: True-to-Place Experiences

National parks provide exceptional opportunities for Canadians to develop a sense of connection to their natural and cultural heritage. The opportunity to be immersed in nature, history and diverse cultures while surrounded by wilderness and mountain landscapes is truly distinctive. Maintaining the authenticity and quality of this experience while ensuring that visitors understand its uniqueness is central to Parks Canada's mandate. Visitor opportunities will be characterized by ecological sustainability and recognition of diverse visitor motivations and expectations. Activities and communications will be designed to advance understanding and stewardship of natural and cultural resources, encouraging all to share the responsibility of conserving these special places.

In Kootenay National Park, visitor satisfaction remains high. However, steadily increasing visitation means that Parks Canada must actively attend to the challenges that come with demand for finite spaces to ensure that visitation levels are sustainable. This strategy focuses on maintaining the outstanding mountain experiences for which the park is known, supported by essential facilities and services that respect the park's unique sense of place. Successful implementation of this strategy will require the collaboration and support of stakeholders and partners.

Parks Canada will adapt to changing demand and respond to the needs of visitors in ways that provide equitable access to the nature- and culture-based experiences in the park. Visitor use management approaches will be considered if necessary to meet ecological integrity objectives, or to ensure that visitors have predictable access to safe and enjoyable experiences in a way that advances sound environmental stewardship of this special place. Communication throughout the trip cycle will allow visitors to plan their experiences, be prepared, and arrive with the right expectations.

Day-use visitation will continue to be concentrated in several high-demand areas of the park such as Marble Canyon, the Paint Pots, the Radium Hot Springs pools, and Stanley Glacier. Overnight backcountry use will be concentrated in the Rockwall area. The vast majority of the remainder of the park landscape will be protected in wilderness areas with low levels of human use. Other long-distance hiking options exist through trail connections with Yoho and Banff national parks, and Mount Assiniboine Provincial Park. Visitation in high-use areas will be managed to reduce traffic congestion, prioritize public

safety and provide quality experiences. Infrastructure investments will focus on improving accessibility and creating an inclusive environment for staff and visitors. Whether in busy road-side locations or remote wilderness areas, visitor facilities will be planned, designed, located and maintained to facilitate quality experiences, support ecological integrity, and provide long-term asset sustainability.

Objective 2.1: Sustainable, well-designed infrastructure and services accommodate appropriate levels of use while protecting park ecosystems.

Targets

- Infrastructure design guidelines are adopted for campgrounds, popular day-use areas and trailheads that ensure appropriate facilities are in place—including parking, washrooms, and trailhead signage—to support visitor experience and protect local ecosystems from the impacts of visitor use.
- An asset management plan is developed to identify strategies, resources and actions to optimize asset performance and sustainability, to minimize risks and to ensure assets effectively contribute to the objectives in this management plan while respecting existing limits to growth as defined by the boundaries of the declared wilderness area.
- The sense of arrival is improved at park entry points, including the Radium Hot Pools, to welcome and inform visitors, and help guide them to appropriate locations based on their interests.
- The effects of light pollution on ecological integrity and visitor experience are reduced by adopting lighting standards established by the International Dark-Sky Association for all new lighting, and retrofitting existing lighting to meet these standards.
- The condition of the Marble Canyon and McLeod Meadows campgrounds is improved through implementation of upgrades where required to support quality visitor experiences.

Objective 2.2: Visitor use management strategies are developed and implemented where needed to protect park ecosystems and maintain quality visitor experiences.

Targets

- A visitor experience strategy is prepared to identify key visitor markets and desired experience opportunities in the park.
- Busy day-use areas and trailheads, such as Stanley Glacier, are evaluated for ecological impacts, visitor experience concerns and parking lot congestion issues. Management tools such as improved parking lot configuration, trail use reservations or shuttle systems are considered in order to alleviate these challenges.

Objective 2.3: Accessibility and inclusivity are improved in accordance with the purpose and principles of the *Accessible Canada Act*.

Targets

- An accessibility and inclusivity assessment and action plan is completed over the first five years of this plan to identify and mitigate barriers within the park's built environment (offices, operational buildings, frontcountry camping and day-use areas), information and communication technologies, transportation systems, and other park programs and services.
- Adaptive design principles are incorporated into new or refurbished park facilities to ensure they are accessible, in accordance with best practices and standards and in collaboration with persons with disabilities.
- Facilities at the Radium Hot Pools are augmented to improve accessibility for family groups.

Objective 2.4: Sustainable trails, programs, services and backcountry campgrounds provide visitors with a range of high quality opportunities to experience the diversity of the park with options of various duration and difficulty.

Targets

- Improvements are made to existing trails, trailhead kiosks, backcountry campgrounds and trail signage where deficiencies have been identified to support high quality nature- and culture-based experiences and appropriate wayfinding.
- River-access campsites and facilities are created to support paddlers on the Kootenay River.
- Park visitor experience opportunities are enhanced with programs developed in collaboration with Indigenous partners that recount the history, culture and practices of Indigenous peoples and provide opportunities to learn about Indigenous culture and practices from Indigenous peoples themselves.
- By 2030, as the interests and capacity of Indigenous partners allows, Indigenous languages are woven into a portion of park trail signs.

Key Strategy 3: Strengthening Indigenous Relations

The Government of Canada has committed to deepen and strengthen relationships with Indigenous peoples. Accordingly, many places administered by Parks Canada are managed through cooperative management bodies or advisory relationships with local Indigenous communities. These structures recognize the important and ongoing roles and responsibilities of Indigenous peoples as stewards of heritage places. With approaches founded on renewed relationships, respect and cooperation, the mountain national parks will continue to recognize Indigenous connections and work with Indigenous peoples to advance priorities of mutual interest.

The creation of Kootenay National Park in 1920 resulted in the separation of Indigenous peoples from part of their traditional lands and waters. Today, Parks Canada is working to reverse that legacy by recognizing Indigenous connections and building working relationships.

Reconciliation will be given meaning through collaborative approaches that address the interests and priorities of diverse Indigenous groups and cultures. This work will promote the reconnection of Indigenous peoples to their traditionally used lands and waters within the park, support Indigenous voices in sharing Indigenous cultures and histories, support initiatives to protect and care for park lands, and facilitate participation in the economic opportunities associated with this special place. Parks Canada's work with Indigenous communities in Kootenay National Park also supports broader Government of Canada initiatives, such as implementation of recommendations by the Truth and Reconciliation Commission, and efforts toward the implementation of the *United Nations Declaration on the Rights of Indigenous Peoples*.

The delivery of Parks Canada's mandate will be enhanced by bringing Indigenous perspectives into park management and operations, and by working with Indigenous communities to identify and present Indigenous culture, history and stories. The objectives and targets below are intended for implementation throughout the life of this plan, as the capacity, priorities and interests of Indigenous partners allow.

Objective 3.1: Indigenous peoples with traditional connections to the lands and waters within Kootenay National Park are engaged in the park through strong collaborative relationships with Parks Canada.

Targets

- Agreements are established with the Ktunaxa Nation and Secwépemc Nation communities (Shuswap Band, Splatshin, Neskonlith Indian Band, Adams Lake Indian Band, and Little Shuswap Lake Band) to help build strong, collaborative working relationships and deepen involvement in park management and operations.
- The Ktunaxa Nation and Secwépemc Nation are engaged in the development of the aquatic ecosystem stewardship plan and future fire management plans. Indigenous partners and Parks Canada work together to develop targets to measure the success of this strategy, and to identify projects of mutual interest.

Objective 3.2: Park management is strengthened through the participation of Indigenous communities and the braiding of Indigenous knowledge into park programs and management decisions.

Targets

- Parks Canada works with the Ktunaxa Nation and Secwépemc Nation to understand their interests, values and management objectives for Kootenay National Park.
- Based on priorities identified through this work, Indigenous knowledge shared with Parks Canada is woven into ecological and cultural resource management programs.
- Training led by Indigenous peoples to increase awareness and understanding of Indigenous cultures, histories, perspectives and priorities is available for Parks Canada staff and businesses operating in the park.

Objective 3.3: Indigenous partners benefit from economic opportunities associated with the park.

Targets

- Employment, contracting and procurement opportunities consistent with Parks Canada and Treasury Board policies and guidelines are explored with Indigenous partners with traditional ties to the park.
- The potential for Indigenous Guardian programs to contribute to park monitoring and visitor education is explored with Indigenous partners.
- Indigenous partners use the park in meaningful and culturally relevant ways according to their traditional and modern practices.

Key Strategy 4: Connecting With Canadians Within and Beyond the Park

Kootenay National Park is part of the heritage of all Canadians. Parks Canada strives to make this natural and cultural heritage better known through engaging programs and educational content that helps to build a sense of connection. As people come to understand this heritage, they will come to value and support national parks in the future, and be inspired to engage in conservation and stewardship activities wherever they live. This strategy focuses on providing learning programs and services to park visitors while reaching out to Canadians where they live to connect them with this special place. Parks Canada will work to adapt to the changing ways Canadians interact with national parks by providing natural and cultural heritage interpretation in various formats to park visitors, and connecting with other Canadians through the technologies they use wherever they are.

Visitors to the park will have a range of opportunities to observe, learn and participate in interpretation programs that deepen their understanding and connection to this place. Canadians unable to visit will have increasing opportunities to learn about Kootenay's protected heritage and Parks Canada's conservation programs. Efforts to reach beyond park boundaries will focus on using technology to reach Canadians in urban centres. By connecting with Canadians who may never visit Kootenay National Park, Parks Canada will increase support for the protection of the natural and cultural heritage of these places.

Connecting with park visitors and Canadians who are not in the park will also help to develop ecological and cultural literacy, build support for management actions aimed at preserving natural and cultural heritage, and raise awareness of the need to promote stewardship, strengthen Indigenous relations, and adapt to the effects of climate change.

Objective 4.1: Kootenay National Park will understand and adapt to the information needs and expectations of Canadians.

Targets

- A strategic assessment of external communications activities is conducted for the park and considers the needs of Canada's evolving population.
- A comprehensive external relations strategy is prepared to provide direction to all external communications efforts in Kootenay National Park.

Objective 4.2: Current and engaging educational content and learning programs allow Canadians to develop a sense of shared stewardship and connection to Kootenay National Park, its dynamic ecosystems and human stories.

Targets

- A strategic plan to guide personal and non-personal interpretation of the park's natural and cultural heritage is developed by 2023.
- Opportunities to increase Indigenous content in park interpretation programs are developed together with Indigenous partners.
- In collaboration with partners, promotional efforts focused on park stewardship, respectful enjoyment of the park, and authentic national park experiences influence visitor behaviour in a positive manner.
- Burgess Shale interpretive displays are developed in the park or the Village of Radium Hot Springs to highlight the recent and ongoing scientific research in Kootenay National Park.
- New or revised interpretive programs and products are developed to offer diverse and inclusive opportunities for all visitors.

Objective 4.3: Canadians are engaged in learning about Kootenay National Park, allowing them to experience and form meaningful connections to the park without visiting in person.

Targets

- Quality outreach programs supported by online platforms and key partnerships reach traditional and new target audiences in the urban centres of Calgary, Toronto and Vancouver.
- Targets are established to measure success of social media, traditional media such as print, radio and television, promotions and outreach.
- Innovative digital media and virtual experiences are developed in response to the needs and expectations of Canadians.

Key Strategy 5: Managing Development

Ecological integrity will be the first priority in park management, including managing development or redevelopment. Parks Canada's approach will be transparent and consistent, and will continue to respect limits, zoning and declared wilderness designations. Any development considered must demonstrably support the vision and objectives of each park as described in its park management plan. Development will facilitate greater awareness and connection to natural and cultural spaces and aim to protect for future generations the qualities that make these places distinctive.

Parks Canada has a well-established framework of limits to growth in the mountain national parks, consisting of legislation, regulations and policy dating back to the 2001 amendments to the *Canada National Parks Act*. This framework is a central element of Parks Canada's approach to maintaining or restoring ecological integrity and providing exceptional visitor experiences. The framework includes development limits for outlying commercial accommodations which prescribe the opportunities, constraints and maximum build-out for hotels in the parks; the *National Parks of Canada Wilderness Area Declaration Regulations* that apply to 98 percent of Kootenay National Park and prohibit commercial development or activities that would impair the wilderness character of the area; and the park zoning system that also restricts development and activities in wilderness and special preservation zones (see section 8.1). In this regard, Parks Canada is developing new regulations and guidelines to implement a modernized planning permit process to ensure transparent and consistent decision making when reviewing proposed projects.

Developed infrastructure in Kootenay National Park includes the Radium Hot Springs, Kootenay Park Lodge, Kootenay Crossing Operational Station, other park operations buildings, Highway 93 South, utility corridors, gravel pits, park campgrounds, day-use areas, trails and backcountry cabins. Most of these facilities provide important staging areas for visitors exploring the park. Most of them are also located within the montane and valley bottom habitat, which is also the most productive biologically.

Respect for established growth limits and careful management of activities within these areas is essential to ensuring that these habitats remain ecologically functional.

Wilderness areas will be managed to maintain wilderness character. Wilderness experiences will range from places supported by well-maintained, rudimentary infrastructure such as trails and backcountry campsites, to more remote opportunities requiring a high degree of self-reliance and wilderness travel skills, where there is little or no built infrastructure. Backcountry asset investment will focus on supporting existing opportunities in the Rockwall area. Maintaining ecological integrity, wildlife habitat security and movement corridors will be paramount considerations in wilderness areas with little or no infrastructure.

The goal of this strategy is to ensure that the park's distinctive landscape and wilderness areas are protected intact for future generations, while allowing for appropriate development that considers the needs of visitors. Kootenay National Park will rigorously apply land use and development regulations and policies to ensure the protection of natural and cultural heritage. Parks Canada will also manage existing and proposed commercial guiding services to ensure permitted activities and patterns of use are consistent with ecological and visitor experience objectives.

Objective 5.1: Development and land use is managed using existing tools and other techniques as necessary to ensure the human-use footprint remains within established growth limits.

Targets

- No additional area of park land is made available under licence or lease for new commercial accommodations.
- New national land use planning regulations are applied to the review of proposed development projects.
- Aggregate resources required for park facility construction and maintenance are acquired in accordance with the *Mountain Parks Aggregate Management Strategy* (2019). External sources are used where feasible, and rehabilitation plans are implemented for in-park sources.
- Operational buildings at Kootenay Crossing are consolidated to reduce the footprint of built infrastructure.

Objective 5.2: Wilderness areas are managed to maintain wilderness character and ecological integrity.

Targets

- A wilderness management plan supported by site-specific data is prepared, and defines desired ecological and visitor experience objectives, trail and facility maintenance priorities, and appropriate recreational activities and group use sizes for specific wilderness areas of the park.
- Outdoor recreation activities with minimal impact on park ecosystems and which require few, if any, rudimentary services and facilities are supported.
- Commercial and private horse use occurs in designated areas only, and is managed in such a way as to prevent or minimize environmental impacts, and to allow existing impacts to recover.
- The intensity and patterns of wilderness use are monitored to evaluate effects on habitat security and wilderness character.

Objective 5.3: Commercial activities support visitors' connection to the park, enhance appreciation for park ecosystems and human history, and avoid negative ecological impacts and visitor conflicts.

Targets

- In collaboration with other national park field units, the commercial guiding licencing process is reviewed and refined to maintain or improve the quality of guiding services, confirm consistent standards for all guides, ensure fair and equitable opportunities to obtain business licences, and provide a fair return to Canadians.
- Backcountry use by commercial guides is monitored through mandatory annual reporting to determine intensity and patterns of use in order to evaluate effects on habitat security and wilderness character.
- Intensive use of wilderness settings by guided tour groups involving base camps for extended periods is not permitted.

Key Strategy 6: Regional Connectivity and Landscapes

The mountain national parks will strive to contribute to landscape-scale conservation in Canada by being ecologically and socially connected across boundaries. Many aspects of park management such as ecological restoration, emergency preparedness, climate change mitigation and adaptation, wildlife corridors, and tourism function over a broad region within and beyond park borders. Parks Canada will aim to maintain and expand regional collaboration to better monitor, understand and address these and other landscape-level issues.

The Government of Canada has established biodiversity goals that include doubling the amount of nature protected in Canada's lands and oceans, and a commitment to work with others to restore habitat for species at risk and to improve Canada's natural environment. To support these goals, the Government of Canada invested an historic \$1.35 billion in 2018 to support work with governments, Indigenous groups, non-profit organizations and others.

Parks Canada will support this effort by working collaboratively with others in the region to promote landscape-scale conservation and to help ensure protection and presentation of the Canadian Rocky Mountain Parks World Heritage Site. This work will focus on preserving ecological integrity in the Rocky Mountain region through initiatives such as the restoration of fire as an ecosystem driver, protection of regional habitat and wildlife corridors for wide-ranging species like grizzly bear and wolverine, recovery of species at risk such as American badger, whitebark pine and little brown myotis, restoration of native fish, and control of aquatic invasive species. Working with others beyond park boundaries will foster the next generation of park stewards so they can continue to advance landscape-scale conservation in the region.

Objective 6.1: Collaboration with regional partners including government and non-government organizations, Indigenous communities, and local residents supports environmental stewardship, landscape-scale management, coordinated responses to climate change, and biodiversity conservation.

Targets

- Relationships with regional ecosystem partners and land managers are strengthened, and research, data and planning information is shared to support landscape-level conservation planning, connectivity, climate change mitigation and adaptation, cultural resource management, fire and vegetation management, and to address other cross-boundary conservation issues.
- Programs to prevent the introduction of aquatic invasive species, including rapid response plans, are developed and implemented by Parks Canada and provincial governments.
- If requested by Indigenous partners, the park provides support for the development of Indigenous Protected and Conserved Areas.
- Species at risk conservation and recovery measures are implemented together with Indigenous communities with ancestral ties to the park, and other regional partners.
- Regional tourism product development and marketing promotes appropriate park use.

Objective 6.2: Wildlife corridors continue to function as movement pathways for animals travelling between the mountain parks and lands managed by others.

Targets

- Priority wildlife corridors are identified and conserved by working with neighbouring jurisdictions and the forest industry to develop access management strategies that minimize human disturbance within them.
- Connectivity is maintained for the Radium bighorn sheep herd that moves between seasonal ranges within and outside of Kootenay National Park.
- Winter monitoring of wildlife corridors in the Vermilion and Kootenay river valleys is conducted annually, and analysis is completed and reported in the next *State of the Park Assessment*.
- Climate variables are incorporated into corridor function monitoring to assess potential related changes to species composition over time.
- Cooperation on prescribed fire planning, fuel management and implementation supports the maintenance of cross-boundary habitat connectivity.

Key Strategy 7: Climate Change and Adaptation

The mountain national parks were established to protect and represent specific features of Canada's natural heritage. They include some of Canada's most significant landscapes and natural and cultural resources, which are already affected by climate change. As such, these parks offer excellent opportunities to contribute to an understanding of climate change and its impacts over time. Parks Canada is committed to protecting park ecosystems for future generations by demonstrating leadership in sustainable operations and adaptive management in response to climate change impacts. The mountain national parks will continue to collaborate with others on climate change research, monitoring and education.

Climate change is evident in the dramatic recession of glaciers in the mountain parks, but may also be observed in other changes to the landscape and park ecosystems, and degradation of cultural resources. As the climate warms, changes in hydrological flow patterns may occur that can affect various aspects of aquatic ecosystems. Changes in the amount and patterns of winter snow accumulation may alter patterns of avalanche activity, leading to changes in local vegetation patterns. A warmer climate may result in hotter, drier summers with a corresponding increase in the frequency and severity of wildfires and the length of the wildfire season. The area of montane, subalpine and alpine ecosystems may fluctuate. The duration of the summer season may increase, resulting in changes to wildlife movement, habitat use and visitor use patterns. Intense weather events may affect patterns of erosion and deposition, putting park infrastructure and cultural resources at risk, and straining the park's capacity to maintain safe and enjoyable opportunities for visitors.

The four contiguous mountain parks protect a vast mountain landscape with considerable variation in both latitude and elevation². The resulting landscape diversity may provide important refugia for biodiversity as the climate warms and habitats shift.

The park will continue to monitor key ecological parameters, seek and support Indigenous knowledge and scientific research to identify and understand the scope of local climate changes, and identify potential challenges and opportunities for park management. This will provide the basis for developing and implementing adaptation strategies that will increase the park's resilience to the effects of climate change. The park will also demonstrate leadership in combatting climate change by working with others to reduce carbon emissions generated within the park, and by investing in energy efficiency and renewable energy systems. Innovative systems have already been installed at the Radium Hot Pools to capture and utilize as much energy as possible from the geothermal waters.

Objective 7.1: Research and monitoring to enhance understanding of the effects of climate change on key ecosystem parameters is supported within the park and the results are shared with park visitors and Canadians.

Targets

- Indigenous knowledge shared by Ktunaxa and Secwépemc partners regarding changes in local climatic conditions is woven into park planning and operations.
- Monitoring of the areal extent of alpine ecosystems is completed and reported in the next *State of the Park Assessment*.
- Monitoring protocols for mountain goats based on sub-population units and goat survey units are formalized and surveyed every two to three years.
- Monitoring of small mammals (pika), alpine birds, amphibians, and presence of non-native plants is repeated at regular intervals to detect changes in the alpine ecosystem.
- Collaboration with scientists investigating the effects of climate change is increased.
- Results of climate change research are shared with colleagues and are communicated to park visitors through interpretation programs, and to external audiences through social media.

² Approximately 3° of latitude separate the northern edge of Jasper National Park and the southern edge of Kootenay National Park. Elevation ranges from approximately 900 metres at the southern edge of Kootenay National Park to over 3,700 metres at the summit of Mount Columbia in Jasper National Park.

Objective 7.2: The threats posed by climate change to park ecological and cultural resources, infrastructure and operations are mitigated through active management and adaptation based on available scientific research, monitoring, and predictive modelling.

Targets

- Key managers and staff have a basic understanding of climate change adaptation and mitigation, Parks Canada's climate change adaptation framework, and green procurement principles, and receive training on the Parks Canada Asset Sustainability and Resiliency Standard by 2023.
- Wildfire risk reduction using FireSmart principles is implemented around all high-value infrastructure to mitigate the predicted increase in wildfire activity due to climate change.
- Risk assessments are completed for park assets that may be vulnerable to damage or loss from extreme weather events such as floods, windstorms, debris flows and slope failures, appropriate mitigations are implemented, and emergency preparedness plans are in place.
- The effects of climate change on the park's cultural resources are monitored, threats are identified, and adaptation plans are developed.
- Forest restoration and fire management plans are informed by climate change research and the Parks Canada Carbon Atlas.

Objective 7.3: Carbon emissions from Parks Canada sources within the park are reduced in accordance with the Departmental Sustainable Development Strategy through development of energy efficient infrastructure, use of renewable energy, and programs to encourage reduction of fossil fuel use.

Targets

- Climate change and sustainability considerations are integrated into park decision making, programs and operations through a climate change action plan for Kootenay National Park that includes a transition strategy for greening operations.
- By 2023, the carbon sequestration capacity of the park is identified.
- By the end of 2023, a baseline inventory of greenhouse gas emissions for Parks Canada's vehicle fleet and facilities in the park is completed.
- Between 2021 and 2023, 75 percent of the park's light-duty vehicle fleet purchases are zero-emission or hybrid.
- A light-duty vehicle fleet replacement plan is prepared by 2023 to facilitate a shift to zero-emission vehicles.
- Additional charging stations for electric vehicles are installed at high-use park facilities that have access to the power grid (e.g. Redstreak Campground and Radium Hot Pools).
- New or upgraded park infrastructure, including operational spaces and visitor facilities, incorporates energy-efficient design and technologies, and all new buildings are constructed to meet low carbon standards.
- Carbon emissions associated with park operations are decreased by reducing the use of diesel generators, reducing motor vehicle use by staff and partners, and other innovative approaches.
- The potential for regional transit systems to link local communities with the park and reduce private vehicle use is investigated with partners.

7.0 Management Areas

7.1 The Rockwall

The Rockwall is the premier destination for overnight backcountry users in Kootenay National Park. The name is derived from a massive limestone escarpment that extends for over 50 kilometres along the northwestern edge of the park. The Rockwall area is bounded by Floe Creek in the south and the Yoho National Park boundary in the north, and by the height of land west of Tokumm Creek and the Vermilion River in the east, to the western boundary of Kootenay National Park (Map 3). The area includes two day-use areas on Highway 93 South: the Paint Pots and Numa Falls. These areas along with the Floe Lake trailhead are the main access points to the Rockwall.

The wilderness area encompasses an area of approximately 24,100 hectares, or 17 percent of the park. The area includes five tributary drainages that flow into the Vermilion River: Helmet Creek, Ochre Creek, Tumbling Creek, Numa Creek, and Floe Creek. It also includes the headwaters of the Ottertail River that flows north into Yoho National Park. The Rockwall is a prominent landscape feature that extends beyond Kootenay National Park into the Ottertail Range in Yoho National Park. Wolverine Pass is the only vegetated, lower elevation break in this bedrock feature between the Vermilion River and the Kicking Horse River valley. This pass is an important wildlife movement corridor linking the Vermilion drainage with the Beaverfoot and Kootenay watersheds to the west. Ottertail Pass and Goodsir Pass are important wildlife corridors linking Kootenay National Park with Yoho National Park. The Rockwall landscape contains significant areas of alpine vegetation that are sensitive to human disturbance.

The Rockwall area contains a network of approximately 70 kilometres of hiking trails, with five designated backcountry campgrounds. Three Parks Canada patrol cabins are the only roofed structures in the area.

Hikers and backpackers can enter from any of the three access points on the Highway 93 South corridor, from the north through Goodsir Pass in Yoho National Park, or from the west through Wolverine Pass from provincial Crown land. The combination of four river valley access trails and five campgrounds means that overnight backpackers have numerous options to create trips of various length and duration. It is the park's most popular backcountry camping area. Portions of the area, in particular the Floe Lake trail, are also becoming increasingly popular for day-use hiking and trail running. Summer visitor use has increased steadily to the point that the trail and campground infrastructure is deteriorating, and vehicle congestion at the Floe Lake trailhead is common.

The Rockwall landscape management unit has a current grizzly bear habitat security value of 65 percent, slightly below the management target of 68 percent.

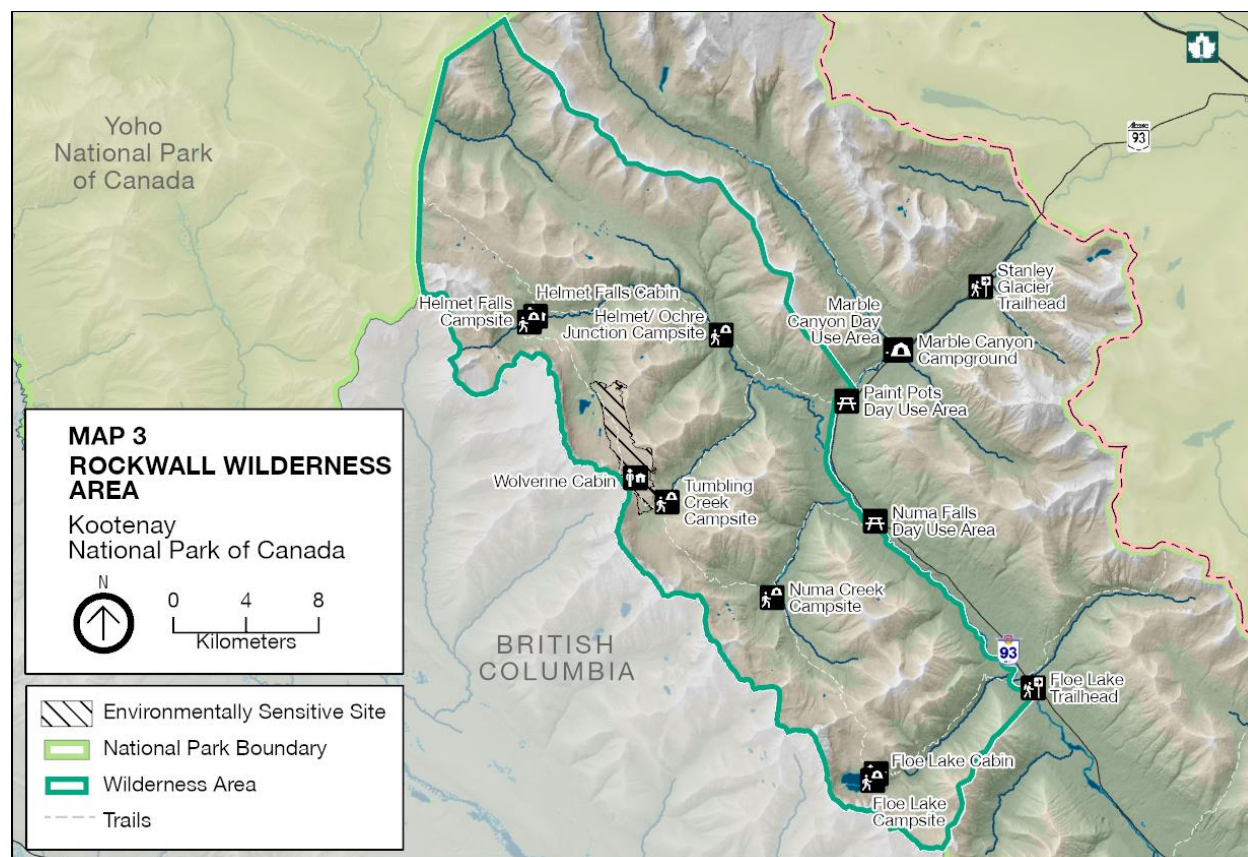
Wilderness Character

Wilderness character is defined by ecological, experiential, and wilderness management objectives, and the associated types of facilities, services and recreational uses that are permitted within a given area. The Rockwall area provides easily accessible opportunities for visitors to experience a dramatic part of the natural landscape of Kootenay National Park. Use is concentrated during the three-month summer season, but the area is also used occasionally for backcountry skiing during the winter. The area protects a natural landscape without roads where ecological processes function with minimal human management, but within a matrix of moderate to high human use during the summer. Links with neighbouring landscapes preserve ecological connectivity. Parks Canada will manage this area to maintain natural characteristics where the sights, sounds, and smells of wild nature predominate.

The Rockwall Wilderness Area will be managed to maintain the following characteristics:

- a large wilderness landscape maintained in a natural state with minimal intrusion of infrastructure or technology, where landscape connectivity for wildlife is maintained through Wolverine, Goodsir and Ottertail passes;
- a moderate degree of self-reliance required of visitors during the summer;
- a high degree of self-reliance required of visitors during the winter;
- a well-maintained trail network with hardened, designated campsites and human food and waste management facilities;
- bridges over all major watercourses;
- moderate to high human presence in the Floe-Numa section in summer, where visitors can expect to encounter other people frequently every day;
- light to moderate human presence in the Tumbling-Helmet section in the summer, where visitors can expect to encounter other people occasionally, but may find opportunities for solitude and a sense of remoteness;
- human use during the summer is focused on backpacking and hiking. Cycling and horseback riding are not permitted; and
- light human use during the winter, where solitude is the norm away from the Highway 93 South corridor.

Map 3: The Rockwall Wilderness Area



Objective 1: Park facilities are upgraded and maintained to improve visitor experience and meet the intent of Key Strategy 2.

Targets

- Backcountry campgrounds on the Rockwall are renovated to improve experience and address safety and environmental concerns.
- New and innovative solutions to human waste management are explored to ensure that sustainable facilities accommodate use levels and prevent or mitigate negative ecological effects.
- Where trails have deteriorated, trail structures are rehabilitated or restored, and trail treads are re-aligned or rehabilitated where required.
- Built-heritage assessments of the Floe Lake Patrol Cabin are conducted every five years to guide appropriate maintenance.
- The Wolverine Patrol Cabin is relocated out of the Wolverine Pass Environmentally Sensitive Site to an alternate location along the Rockwall Trail closer to Tumbling Creek Campground.

Objective 2: Robust visitor use data allows a better understanding of visitor use patterns, and a more accurate determination of habitat security values, in support of Key Strategies 1 and 2.

Targets

- Patterns of visitor use within the area are monitored regularly.
- Wildlife and human use data are assessed to identify potential opportunities to improve grizzly bear habitat security.
- The effect of visitor access through Wolverine Pass is assessed in collaboration with the province of British Columbia, and appropriate visitor use strategies are employed to minimize effects on the Wolverine Pass Environmentally Sensitive Site.

Objective 3: Visitor use management strategies outlined in Key Strategy 2 are explored and implemented as needed to maintain quality visitor experiences, reduce traffic congestion, and meet ecological objectives.

Targets

- When surveyed, visitors express a high degree of satisfaction (90 percent or higher) and low perception of negative experiences due to crowding.
- Horses and bicycles are not permitted in the area to reduce impacts to trail condition and sensitive alpine vegetation.
- Parking capacity issues at the Rockwall trailheads are addressed by improving parking efficiency, modest expansion of parking area where necessary to meet area objectives, and exploring alternative transportation options.
- A review of the role of commercial versus independent users is undertaken.
- The need for a random draw or other access allocation system such as a day-use quota is evaluated.

8.0 Zoning and Declared Wilderness Area

8.1 Zoning

Parks Canada's national park zoning system is an integrated approach to the classification of land and water areas in national parks and designates where particular activities can occur on land or water, based on the ability to support those uses. The zoning system has five categories:

- Zone I – Special Preservation;
- Zone II – Wilderness;
- Zone III – Natural Environment;
- Zone IV – Outdoor Recreation; and
- Zone V – Park Services.

The zoning plan for Kootenay National Park is described below and is illustrated in Map 4. The only changes in the zoning plan from the previous version contained in the 2010 park management plan are the addition of a new environmentally sensitive site at Luxor Pass and the addition of several new Burgess Shale Zone I areas in the northern section of the park.

Zone I – Special Preservation

The Zone I designation applies to those areas of the park that are among the very best examples of the features that characterize the natural region, or that support outstanding or rare ecological or cultural features. This zone may also be used to protect areas that are too sensitive to accommodate facility development or large numbers of visitors. Preservation is the primary objective. Public motorized access is not permitted.

Zone I areas in Kootenay National Park include the Mount Wardle wildlife area, the Ice River Igneous Complex, Burgess Shale fossil sites, and the Dry Gulch–Stoddart Creek area.

The Mount Wardle Zone I area encompasses the summer and winter range of the largest mountain goat population in the park. It is the only area in the four contiguous Rocky Mountain parks where goats winter at montane elevations. It also provides important habitat for grizzly bears and cougars. There are no developed trails or facilities.

The Ice River Igneous Complex is the largest igneous intrusion in the Canadian Rocky Mountains. This igneous rock unit contrasts sharply with the sedimentary rocks that comprise the vast majority of the Canadian Rockies. Even compared to other igneous rocks, the Ice River complex is of relatively unusual

composition, consisting of uncommon alkaline rocks such as nepheline syenite, pyroxenite and carbonatite. Blue sodalite, an uncommon mineral often sought by collectors, has been quarried from the complex just outside of park boundaries.

The Burgess Shale fossil sites are designated as Zone I areas. These include all of the known Burgess Shale fossil sites within the Stephen Formation in Kootenay National Park. The Burgess Shale preserves in exquisite detail the fossilized remains of a 508-million-year-old marine ecosystem, from a time shortly after the rapid diversification of complex life known as the Cambrian Explosion. The Burgess Shale is recognized as one of the most significant palaeontological localities in the world, and it was inscribed on the UNESCO World Heritage List in 1980. The rarity and scientific importance of these fossils means that they must be strictly protected from theft and vandalism. Several new localities discovered since 2010 have been added to the park's Zone I category. Visitor access to these areas is not encouraged.

The Dry Gulch–Stoddart Creek Zone I area contains the only dry Douglas-fir/Ponderosa pine/wheatgrass vegetation community in the Canadian national park system. The warm, dry climate of this area also supports prickly pear cactus. It includes significant winter and summer range for bighorn sheep, mountain goats, and mule deer, and is also important cougar habitat.

Zone II – Wilderness

Zone II includes large areas of natural landscape preserved in wilderness conditions. These areas give visitors an opportunity to experience nature with minimal human intrusion or built facilities. Public motorized access is not permitted.

The majority of Kootenay National Park is designated Zone II, to ensure that large representative landscapes are maintained. Visitor facilities may include trails, bridges, backcountry campgrounds and backcountry cabins.

Zone III – Natural Environment

There are no Zone III areas in Kootenay National Park.

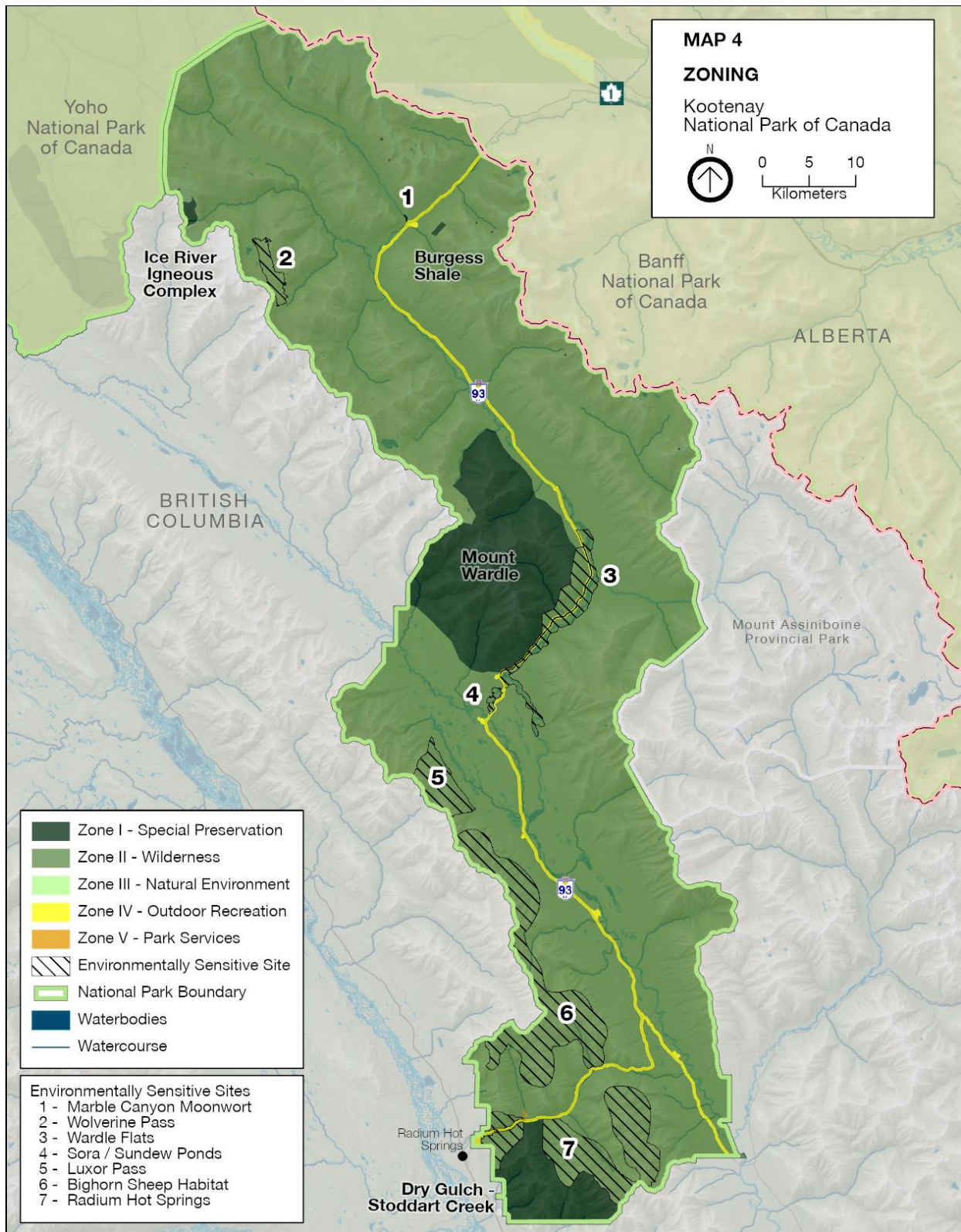
Zone IV – Outdoor Recreation

The Zone IV designation is applied to areas that support a wide range of visitor activities, supported by frontcountry facilities and park roads. Public motorized access is a primary characteristic of this zone. Zone IV areas in the park include the Highway 93 South corridor, the Settlers Road corridor, the three frontcountry campgrounds, and park day-use areas along the highway, including the Radium Hot Springs facility.

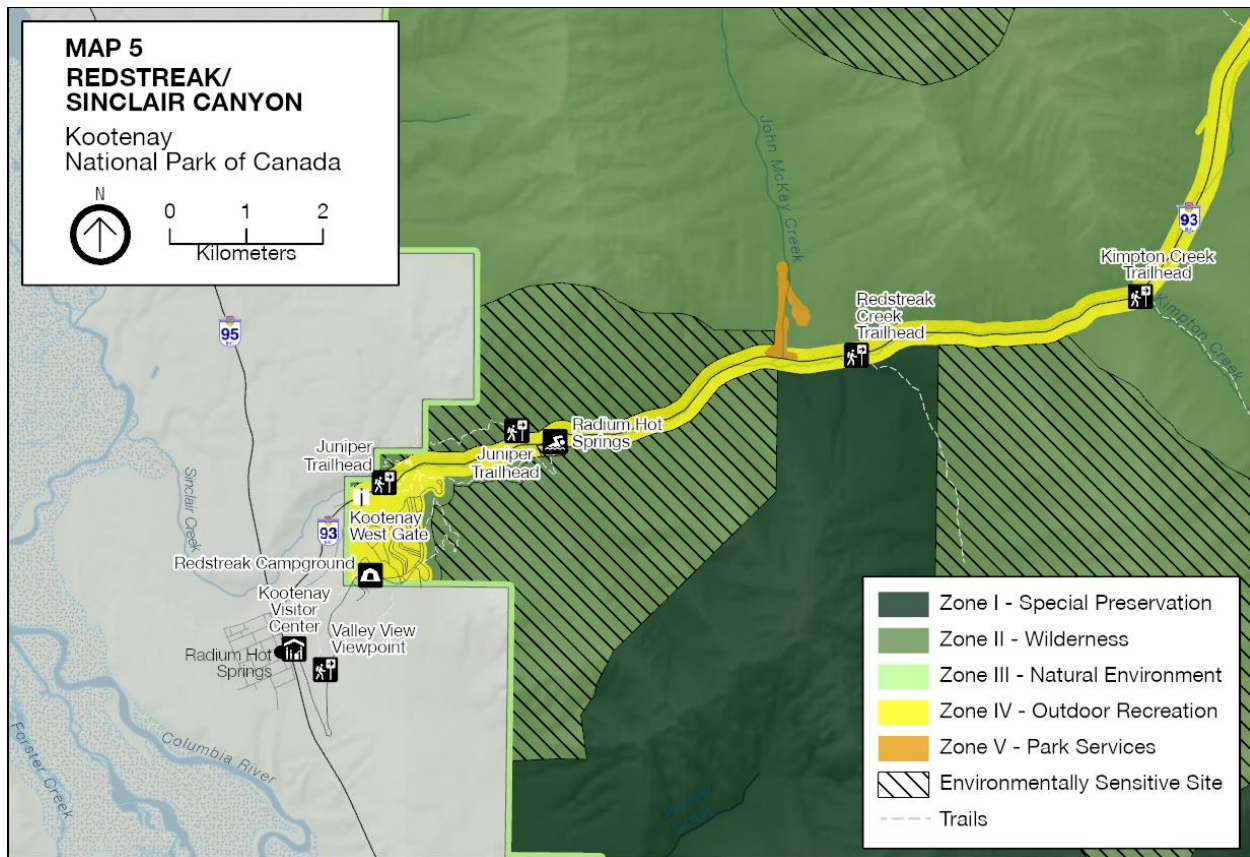
Zone V – Park Services

Zone V includes those areas of the park where there is a concentration of services and built facilities. The McKay Creek Operations Compound in Sinclair Canyon is the only Zone V area in the park (Map 5).

Map 4: Park Zoning Map



Map 5: Redstreak – Sinclair Canyon Zoning Detail



Environmentally Sensitive Sites

This designation applies to areas that are sensitive to development and use, and may require special protection. Environmentally sensitive sites within Kootenay National Park include:

Radium Hot Springs – the area around the original hot springs includes unique geology, and rare flora and fauna including the rubber boa (*Charina bottae*), listed as a species of special concern under the *Species at Risk Act*.

Bighorn Sheep Habitat – these sites provide important habitat for bighorn sheep on the south and western margins of the park. It includes areas important for female sheep with young in the Kootenay Ranges north of Sinclair Canyon, as well as areas south of the canyon where ecosystem restoration is ongoing.

Sora and Sundew Ponds – this site, near Kootenay Crossing, contains important amphibian and waterfowl breeding habitat, and also includes rare plants.

Wolverine Pass – this site is the only pass through the Vermilion Range, making it an important wildlife corridor connecting Kootenay to the Dainard Creek and Moose Creek watersheds on provincial Crown lands. It is particularly important for grizzly bear and mountain goat. It is also one of the largest alpine meadows in the park.

Moonwort site near Marble Canyon – this small site encompasses occurrences of boreal moonwort (*Botrychium boreale*), a plant that is red-listed by the British Columbia Conservation Data Centre, meaning it is threatened or endangered provincially.

Wardle Flats – this riparian area is a significant habitat for grey wolf, grizzly bear and black bear.

Luxor Pass – this site is designated because of its importance as a wildlife movement corridor linking the Kootenay valley with the Columbia valley.

8.2 Wilderness Area Declaration

The intent of legally designating a portion of a national park as wilderness is to maintain its wilderness character in perpetuity. Only activities that are unlikely to impair the wilderness character of the area may be authorized within the declared wilderness area of Kootenay National Park. Public motorized access is not permitted. Infrastructure within declared wilderness is restricted to rudimentary facilities such as trails and campsites intended to support wilderness experiences.

In Kootenay National Park, the majority of Zone I and Zone II areas have been legally declared as wilderness areas by the *National Parks of Canada Wilderness Area Declaration Regulations* (SOR/2000–387). This area encompasses 1,358 square kilometres, or 98 percent of Kootenay National Park.

9.0 Summary of Strategic Environmental Assessment

All national park management plans are subject to a strategic environmental assessment to understand the potential for cumulative effects. This understanding contributes to evidence-based decision making that supports the maintenance and restoration of ecological integrity over the life of the plan. The strategic environmental assessment of the management plan for Kootenay National Park considered the potential impacts of climate change, local and regional activities around the park, expected increases in visitation and proposals within the management plan. The strategic environmental assessment assessed the potential impacts on different aspects of the ecosystem, including hydrological function, aquatic communities, forest vegetation, whitebark pine, carnivores, American badger and mountain goat.

The management plan will result in many positive impacts on the environment, including the maintenance and improvement of ecological integrity within the park, collaborative initiatives to preserve habitat security and connectivity across the regional landscape, and strategies to lessen the impacts of visitors on the ecology of the park.

Ongoing monitoring, active management and restoration programs within the park will be used to mitigate potential cumulative effects on alpine vegetation, aquatic communities, whitebark pine, hydrological function, and more. For example, sensitive alpine habitat is at risk due to climate change and increased visitation. Mapping of alpine extent will provide a baseline to measure change, and identify priority areas for restoration.

Forest vegetation, carnivores and mountain goats are particularly vulnerable to cumulative effects. Years of fire suppression has had an impact on forest communities, the effects of which may be further exacerbated by climate change. Kootenay will prioritize restoring fire as a key process in forest ecosystems by implementing prescribed burns. Monitoring has shown large mammal presence on the landscape is at desired levels, and grizzly bear habitat is generally secure in the park. Cumulative effects of a major transportation corridor and increased visitation will pose challenges to carnivores over the next ten years. The management plan identifies several objectives under Key Strategies 1 (Conserving Natural and Cultural Heritage for Future Generations), 5 (Managing Development), 6 (Regional Connectivity and Landscapes), and 7 (Climate Change and Adaptation) to maintain and improve habitat security and connectivity, such as working with partners to reduce mortalities and improve regional connectivity, and managing the intensity of human use in priority areas. There is uncertainty on the status of mountain goats in Kootenay, and both visitation and climate change have the potential to impact this species. Continued monitoring and establishment of regional partnerships to support landscape-level conservation will increase their resiliency to climate change stressors.

Kootenay National Park is one of seven parks comprising the Canadian Rocky Mountain Parks World Heritage Site. Consideration of the Outstanding Universal Value criteria and integrity for which the property was inscribed on the World Heritage List were taken into account during the evaluation of protective measures under the management plan.

Indigenous partners, stakeholders and the public were consulted on the draft management plan and a summary of the draft strategic environmental assessment. Feedback was considered and incorporated into the strategic environmental assessment and management plan as appropriate.

The strategic environmental assessment was conducted in accordance with the Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals (2010) and facilitated an evaluation of how the management plan contributed to the Federal Sustainable Development Strategy. Individual projects undertaken to implement management plan objectives at the site will be evaluated to determine if an impact assessment is required under the *Impact Assessment Act* (2019), or successor legislation. The management plan supports a number of Federal Sustainable Development Strategy goals, namely:

- Greening government;
- Sustainably managed lands and forests;
- Healthy wildlife populations;
- Connecting Canadians with nature; and
- Safe and healthy communities.

Many positive environmental effects are expected and there are no important negative environmental effects anticipated from implementation of the Kootenay National Park management plan.

10.0 References

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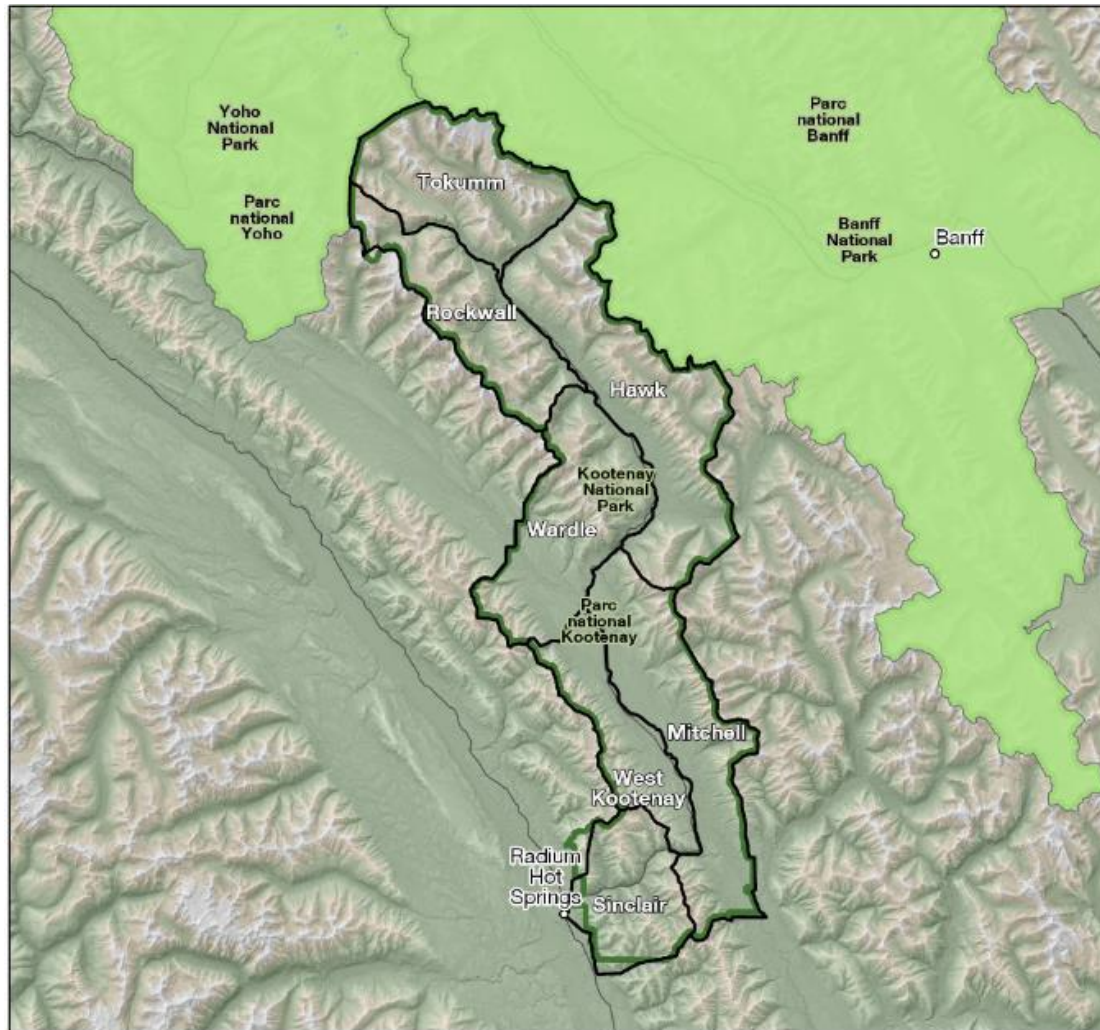
Appendix A: Habitat Security Model – Kootenay National Park

Grizzly bears are widely accepted as an indicator of ecological integrity in mountain ecosystems. Parks Canada's goal is to maintain a stable to increasing population of grizzly bears and to provide bears with safe access to available habitat. Grizzly bear habitat is secure when bears have a low probability of encountering humans and can forage with little human-caused disturbance, maintaining their wary behaviour, a trait considered desirable.

Secure habitat areas are defined as areas that are below 2,500-metre elevation, vegetated, greater than 500 metres from high human activity, and have continuous (non-fragmented) habitat equal to or greater than the nine square kilometres average daily feeding area for a female grizzly bear.

Habitat security is reported by the Landscape Management Unit (LMU) in Kootenay National Park (Figure 1). Each LMU approximates the size of an adult female grizzly bear's home range and is delineated on the basis of current knowledge of grizzly bear distribution and typically encompass watersheds. These landscape units primarily identify contiguous habitat that meets the yearly foraging needs of grizzly bears and helps prioritize areas for management attention.

Figure 1: Landscape Management Units in Kootenay National Park



The habitat security model was updated in 2018 using the most recent available data. Table 1 illustrates the results by LMU, and Figure 2 illustrates the results for the whole park. Approximately 5 percent of the land base is considered unsuitable habitat for grizzly bears primarily because it is rock and ice (above 2,500-metre elevation). The 2018 results identify an average of 79 percent of available land across seven LMUs as secure habitat. Six LMUs exceeded the minimum management target of 68 percent secure area. The lowest percentage of secure habitat occurred in the Rockwall management unit (65 percent). The Wardle unit had the largest proportion of secure habitat (91 percent).

An average of 20 percent of the land base across all LMUs was not secure because of high human use. The largest percentage of land base in the zone of human influence occurred in the Rockwall (35 percent) and Sinclair (28 percent) management units. The percentage of land base not secure due to small patch size averaged <1 percent across all LMUs.

Table 1: Grizzly Bear Habitat Security by LMU, 2018

Landscape Management Unit	NON-SECURE* (%)		SECURE* (%)
	Human Use (<i>>100 visits/mo</i>)	Patch size too small (<i>< 9km²</i>)	<i>< 100 visits/mo and >9km²</i>
Hawk	15	0	85
Mitchell	19	1	80
Rockwall	35	0	65
Sinclair	28	1	71
Tokumm	14	0	85
Wardle	9	0	91
West Kootenay	21	0	79

*Areas > 2,500 metre elevation were excluded.

Figure 2: Grizzly Bear Habitat Security Model for Kootenay National Park

