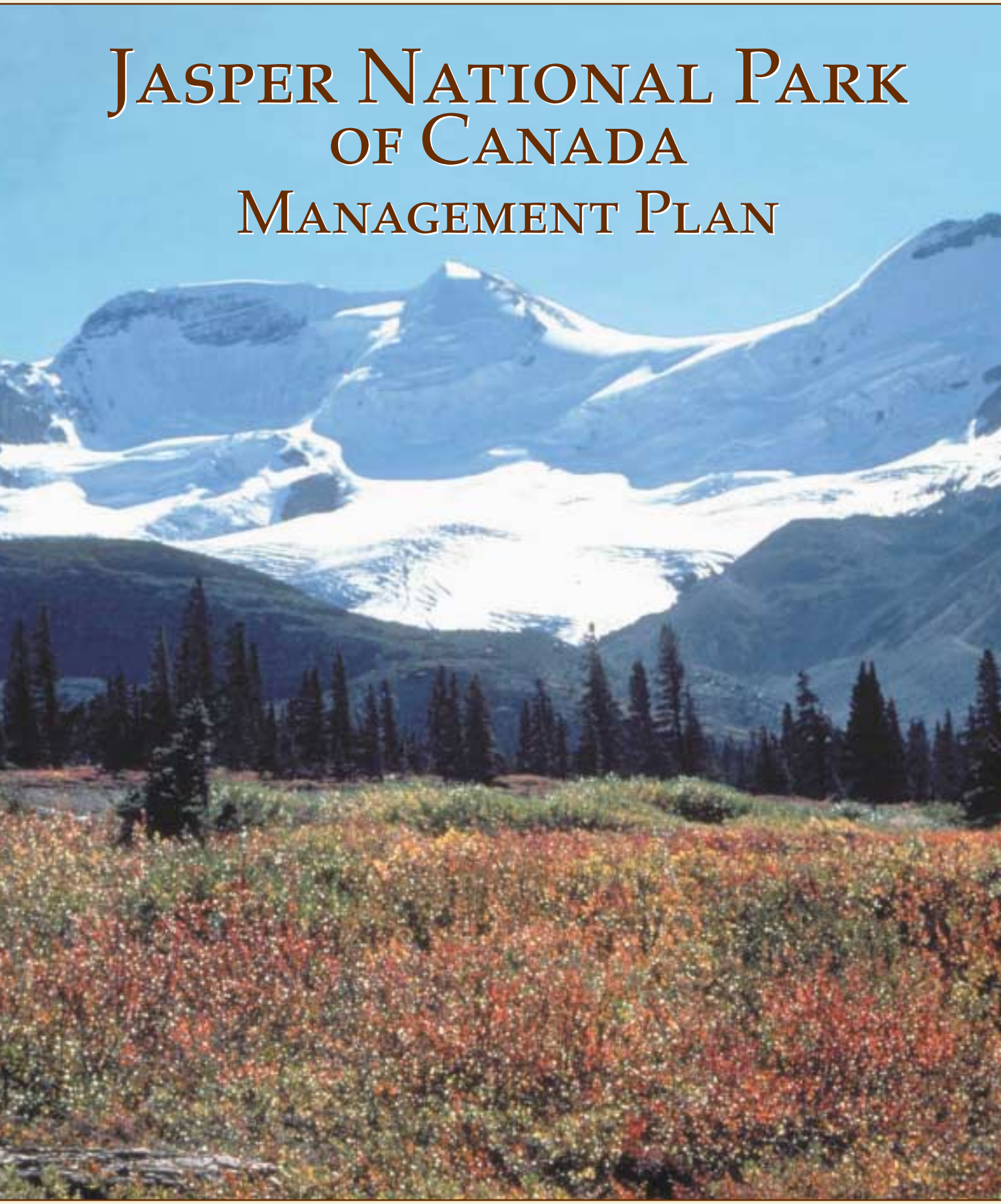
Jasper National Park of Canada Management Plan



Parks Canada Parcs Canada

Canada

Jasper National Park of Canada

Management Plan

May 2000

Cover photo: *Mount Athabasca, 3,491 metres (11,453 ft). One of the signature peaks of the Columbia Icefield area. Early climbers Norman Collie and Herman Woolley were the first to see the Columbia Icefield from its summit in 1898.*

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Foreword

Protection of the ecological integrity and cultural resources of the Rocky Mountain national parks, for the appreciation and enjoyment of current and future generations, is one of our nation's greatest responsibilities. It is something we owe both to ourselves and to the world which has bestowed world heritage site status on these parks.

In 1997, I approved the Banff National Park Management Plan. This management plan for Jasper National Park of Canada builds on the key themes and principles of the Banff Plan. National parks are, first and foremost, places for nature and will remain so. They must continue to be places for people and for heritage tourism, places to visit, to experience and to learn. These parks are also places for community and for the highest standards of environmental stewardship. Finally, national parks are places where management is open and transparent.

The Rocky Mountain national parks are closely linked from an ecological and visitor-use perspective. Thus, the Jasper National Park of Canada Management Plan was developed in concert with the new management plans for Kootenay, Yoho and Waterton Lakes national parks. The management plans outline the key tools we need to meet the challenges facing these special places: a better understanding of the immediate and long-range ecological pressures; a better way to integrate commercial and tourism activities in this magnificent, finite environment; and a higher level of local and national input in decision making.

The Jasper National Park of Canada Management Plan was prepared through extensive public consultation. It provides a shared vision to guide the park into the 21st century, setting the groundwork for action over the next 15 years.

The community of Jasper lies at the heart of Jasper National Park of Canada. In June 1998, I announced principles to guide the management of national park communities. This management plan provides a framework for how these principles of no net negative environmental impact, appropriate use, responsible growth management, and leadership in environmental and heritage conservation will be applied to the community of Jasper. The management plan ensures that the management of the community of Jasper is integrated with the management of the park, the protection of the park's ecological integrity and cultural resources is the primary consideration of the community. Jasper is a model community reflecting the surrounding natural environment, national park values and its cultural heritage.

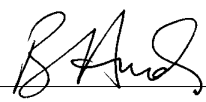
The Government of Canada is committed to the protection and presentation of our natural and cultural heritage and, as Minister of Canadian Heritage responsible for Parks Canada, it is my duty to safeguard our national parks. It is in keeping with this mandate that I approve the Jasper National Park of Canada Management Plan.

Sheila Copps
Minister of Canadian Heritage

Jasper National Park of Canada Management Plan

This plan has been recommended for approval by:

Tom Lee
Chief Executive Officer
Parks Canada



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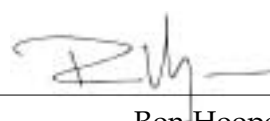

Ron Hooper
Field Unit Superintendent
Jasper National Park of Canada

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A Vision for Jasper National Park of Canada

Jasper National Park of Canada is a symbol of Canadian wilderness, worthy of its designation as a world heritage site. It is a place of great beauty, where nature is able to flourish and evolve in harmony with surrounding provincial lands. Canadians and people from around the globe understand and appreciate the ecological and cultural importance of this place to the region, the country and the world. All who reside in and visit Jasper National Park of Canada show dedication and provide leadership and inspiration in how people can live in harmony with their environment.

Key Themes

- The park is a living example of the way in which nature is protected while appropriate kinds and levels of human activity are welcomed (see table 3, Appropriate Use Criteria).
- The park contributes to a healthy and sustainable region.
- Natural systems and their component native species are free to function and evolve. The park supports and is supported by the natural systems of the region around it.
- The park is available to all Canadians and international guests who wish to participate in a diverse range of appropriate activities. They treat the park with respect. The quality of the natural environment and services provided is fundamental to the visitor experience.
- Understanding the value of our national parks is a part of being Canadian. Education and awareness about the values of the national park, ethics of stewardship, natural and cultural heritage and services are provided both within and beyond the boundaries of the park.
- A healthy economic climate, based on the heritage values of the park, contributes to national, provincial and local economies. Appropriate businesses evolve and operate along aesthetically pleasing and environmentally responsible lines. Innovative ideas, designs and technology related to education, transportation, waste management, and other infrastructure are emphasized when providing services.
- Federal, provincial and municipal authorities cooperate in protecting and managing the regional ecosystem. To achieve this, they nurture cooperation with businesses, organizations, and open, accountable, and responsible decision-making.
- Principles of precaution and adaptive management are exercised when potentially significant effects on the ecosystem are uncertain.
- Park communities are leaders in environmental and cultural resource stewardship. Residents and businesses pride themselves in accepting their responsibility for protecting and sharing this natural and cultural heritage for the benefit of present and future generations.
- Recognizing the finite supply of facilities and services, the park plays an active role, through the Heritage Tourism Strategy, in influencing marketing and promotion efforts that affect demand on the park.
- Parks Canada anticipates regional pressures and prepares for them well in advance.
- Success in implementing management plan actions is measured against established standards.

Introduction

(Shelley Humphries)

*The exquisite Yellow Lady's Slipper (*Cypripedium calceolus*). A member of the orchid family, this flower emits a tender perfume from its slipper-shaped pouch. The plant is found in moist areas along the valley bottoms.*

1.0 INTRODUCTION

1.1 A Park of Many Places

The story of Jasper National Park of Canada is the story of the Rocky Mountains—their creation, their evolution as a result of natural processes, their colonization by flora and fauna, and finally their protection and use. This is a special place where the protection of the mountain ecology and culture is paramount. Canadians who visit the park enjoy solitude, wildlife, outdoor recreation and history. They learn, first hand, about the environment, how it affects them and how they affect the environment.

Jasper's importance extends well beyond the park boundary. The largest national park in the Rocky Mountains, it is a core protected area in the larger Yellowhead ecosystem. Along with its mountain park neighbours and three adjacent

provincial parks it makes up UNESCO's Canadian Rocky Mountain Parks World Heritage Site—20,000 km^2 of some of the most spectacular and ecologically significant areas in the Canadian Rocky Mountains.

This management plan recognizes that Jasper National Park of Canada is not one place, but many places. It is, above all, a place for nature—where the intricate relationships that make up the web of life continue to evolve as they have for thousands of years. It is a place where people can discover the wonder of the natural environment and appreciate, first hand, the richness of their heritage. It is a place that celebrates the past. It is a place where people recognize their role in the ecosystem and their responsibility to act accordingly. And finally, it is a place for the future. The *National Parks Act* dedicates national parks *"to the people of Canada for their benefit, education and enjoyment…to be maintained and made use of so as to leave them unimpaired for future generations."* This management plan is a key tool for shaping that future.

1.2 Management Planning in the Mountain Parks

The *National Parks Act* requires each of Canada's 39 national parks to prepare a management plan, and, in consultation with Canadians, to update the plan every five years. In 1988, the federal minister responsible for Parks Canada tabled the first management plans for Jasper, Banff, Kootenay, and Yoho national parks in Parliament. These plans were the result of nation-wide public consultation and in-depth analysis of the social, economic and environmental conditions facing each park. Since 1988, these four parks have addressed the plans' priorities and many changes have taken place.

A review of the plans began in 1993 but was postponed until 1996 when the Banff-Bow Valley Task Force submitted more than 400 recommendations concerning protection of the Bow Valley corridor in Banff. After careful assessment of these recommendations, Parks Canada prepared a new management plan for Banff National Park of Canada. The revised management plans for Jasper, Kootenay, Yoho and Waterton Lakes incorporate key principles and policy direction from the Banff plan.

Other important changes have occurred since the park's first management plan. New issues have emerged. Governments have set new policies and drafted new legislation. Researchers have improved our understanding of the critical importance of ecosystem-based management and biodiversity. Tourism has increased rapidly, along with an interest in destinations that offer opportunities to learn about nature and history.

The following are examples of new legislation, policies, plans and studies that have strengthened Parks Canada's commitment to preserving park resources in a way that integrates ecological, social and economic values.

- amendments to the *National Parks Act* (1988)
- the *Strategic Framework to Sustain the Integrity of Ecosystems* (1992)
- the *Biodiversity Convention* (1992)
- *Parks Canada Guiding Principles and Operational Policies* (1994)
- the *Canadian Environmental Assessment Act* (1995)
- *Banff-Bow Valley: At the Crossroads (1996)*
- the *Banff National Park Management Plan* (1997)

Jasper National Park of Canada Management Plan

Jasper's revised management plan will guide the overall direction of the park for the next 10 to 15 years. The objectives of the plan are to:

- set out a vision for the future;
- preserve and strengthen the ecological integrity of the park in a way that integrates ecological, social, and economic values;
- promote high quality visitor experiences based on the park's ecological and cultural heritage;
- establish clear limits to development associated with appropriate activities;
- support Parks Canada's initiative to renew heritage presentation; and
- involve others in protecting the shared ecosystem.

The public played a key role in shaping the revised management plan. Open houses in several communities attracted hundreds of participants. Parks Canada also distributed more than 1,400 management plan concepts to the public for comment. On-going consultations with stakeholders, including the Government of Alberta, have provided valuable insight.

1.3 Cornerstones of Success

Parks Canada will have realized the vision for Jasper National Park of Canada when the following strategic goals become a reality. The chapters in this management plan describe objectives and key actions to make that happen.

A Place for Nature

Canadians understand the challenges involved in maintaining the ecological integrity of Jasper National Park of Canada.

Biological diversity exists at a variety of scales—genetic, species, community, and landscape.

Air quality is of the highest possible standard.

Natural geological processes, including erosion and deposition, shape the landscape and its ecosystems.

The natural structure and function of aquatic ecosystems are maintained.

Natural processes determine the long-term composition and structure of vegetation.

The regional ecosystem supports viable populations of native wildlife.

A Place of Historical and Cultural Significance

Cultural resources are protected and the associated themes presented.

Parks Canada and Aboriginal people collaborate on the protection and presentation of Aboriginal heritage in Jasper National Park of Canada.

The natural, historical and recreational values that led to the nomination of the Athabasca River as a Canadian Heritage River are safeguarded.

A Place for People

Canadians and their international guests enjoy high quality, authentic learning and travel experiences that are based on national park values and that foster a sense of Canadian identity.

A well informed tourism industry respects the social and ecological values of Jasper National Park of Canada.

Appropriate facilities and services allow visitors with varying interests to enjoy the park.

Canadians and their international guests appreciate and understand the nature and history of Jasper National Park of Canada and the role the park plays in Canada's national park system and the Canadian Rocky Mountain Parks World Heritage Site.

Information is available to help visitors make informed choices.

Outlying commercial accommodation, hostels, and Jasper Park Lodge provide an alternative choice for overnight accommodation in a manner that maintains ecological and commemorative integrity.

Visitors experience the park without impairing its ecological and commemorative integrity.

Transportation and Utilities

National transportation corridors and secondary roads are managed in a way that supports Parks Canada's commitment to ecological integrity and enables visitors to experience the park.

The impact of aircraft, and their associated facilities, on ecological integrity and the visitor experience is kept to a minimum.

Utilities have minimal impact on the park's ecological integrity.

Community

Jasper is a model environmental community, reflecting its position as an integral part of the national park and its vital role as the centre for the presentation of natural and cultural heritage in Jasper National Park of Canada.

Open Management

Key policy, land-use and planning decisions are timely, fair and consistent, and are arrived at in an open and participatory manner.

Ecological, social and economic systems in the park and the Yellowhead ecosystem benefit from integrated management.

Research and information, shared among agencies and individuals in the Yellowhead ecosystem, support sound decision making.

Environmental Stewardship

Parks Canada demonstrates sound environmental practices in all its activities, services and products.

Environmental stewardship is fundamental to the operation of all businesses and institutions.

Visitors and residents contribute to the principles of environmental stewardship and sustainability.

In the long term, effluent matches as closely as possible, the natural composition of receiving water bodies.

Sewage from facilities that are not connected to a treatment plant have minimal environmental impact.

Ecosystem-Based Management

One of the biggest questions for national parks is how to maintain a healthy environment and protect important cultural resources while at the same time supporting quality visitor experiences and contributing to social and economic needs. To address this challenge, Parks Canada has adopted a system known as "ecosystem-based management."

Ecosystem-based management is a holistic approach that involves working with others to achieve common goals. Productive, positive, long-term relationships are the key to its success. Multi-disciplinary in nature, it seeks to integrate biological, physical and social information. The goal—a healthy park, environmentally, economically and socially, within a broader regional landscape.

The following key components are the foundation for ecosystem-based management.

- Ecosystems extend beyond park boundaries. Activities on neighbouring lands affect the park's wildlife, water, and vegetation. By the same token, park activities affect our neighbours. Integrated management is essential.
- People are a fundamental part of the ecosystem. Addressing people's social and economic needs makes it possible for them to contribute to a healthy environment. Inside the park, these needs must be considered in the context of protecting ecological and cultural heritage. Outside the park, Parks Canada will encourage activities that incorporate heritage values.
- Understanding the relationship between people and the environment is the foundation of good decisions. In pursuit of this, we derive inspiration and understanding from the human-land relationship of Canada's First Nations.
- Visitor use respects the importance of protecting ecological and cultural resources. Parks Canada must carefully manage visitor use and development, setting limits where necessary.
- Decisions are based on sound information (ecological, cultural and social). Benchmarks and parameters help us understand the park's health.
- Consulting with visitors, residents, businesses and other government agencies is a key component in improving ecological integrity and the protection of our cultural heritage.
- Educational programs for visitors, residents, and businesses, inside and outside the park, create awareness of ecosystems, the challenges involved in protecting them, and the role people can play.
- Natural processes and, where appropriate, technology are important in maintaining and restoring ecosystems.

The management plan is founded on these ecosystem management components. While individual chapters address different issues, the actions in each are linked. Collectively they represent an integrated approach that Parks Canada believes will ensure Jasper continues as a living example of national park values.

Planning Context

The bridge to Pyramid Island, a very scenic and quiet spot on Pyramid Lake, north of Jasper. A partnership between the Friends of Jasper National Park of Canada and Parks Canada is restoring vegetation and improving facilities at this popular day-use area.

2.0 PLANNING CONTEXT

2.1 Regional Setting

Jasper National Park of Canada, the Willmore Wilderness Area, and Mount Robson Provincial Park form a contiguous protected area at the heart of the Yellowhead ecosystem. Straddling the continental divide and covering an area of 68,000 km^2, this ecosystem extends west to McBride, British Columbia; east to Edson, Alberta; north to the Kakwa River headwaters in British Columbia; and south to the Kootenay Plains. A variety of federal, provincial and municipal agencies oversee resource protection, tourism, forestry, mining, oil and gas extraction, and energy development in the Yellowhead ecosystem.

Intensive land use in both Alberta and British Columbia puts pressure on the park's ecosystems. Logging and tourism in both provinces as well as oil and gas extraction and coal mining in Alberta fragment regional habitat and provide relatively easy access to previously inaccessible areas of the park. Development along the Yellowhead corridor includes tourist facilities in the park's montane ecoregion.

The Canadian National Railway (CNR) and the Yellowhead Trans-Canada Highway, both critical links in Canada's national transportation system pass through the park. Between 30 and 35 trains use the Canadian National Railway main line every day. Vehicle traffic on the Yellowhead Trans-Canada Highway has increased by approximately three percent annually and is currently estimated at more than one million vehicles a year.

2.2 The Community of Jasper

Jasper, a community of 4,700 people, is a popular service centre for park visitors and the administrative centre for Parks Canada and the CNR. Like other national park communities, Jasper is subject to the *National Parks Act* and regulations. The federal government has the ultimate authority on planning, land use, development, and environmental issues. Parks Canada, in consultation with the public, is developing the *Jasper Community Plan*. This plan, which will govern use and guide change in the community for the next 10 to 15 years, is consistent with the park's management plan and direction from the Minister of Canadian Heritage.

2.3 Park Management and Land Use

The evolution of park management has manifested itself in several areas. Many activities sanctioned by former policies are no longer considered appropriate in a national park. In fact, many of the park's current efforts are aimed at restoring systems radically altered as a result of former policies, particularly policies on hunting and fire suppression. Although hunting was prohibited from the time of the park's establishment, it was not until 1959 that predator control programs ended. Fire suppression in Jasper National Park of Canada has interfered with fire's critical link in the natural evolution of the environment, favouring the growth of conifer forests to the detriment of other habitats such as grassland and trembling aspen stands. The last major fire in the Athabasca Valley occurred in 1898. Today, park managers have a better understanding of the importance of natural processes such as fire to ecological integrity. Protection is based on a much broader ecological view and increasing human use demands new approaches.

2.4 Human Use

The number of visitors to Jasper National Park of Canada has increased by approximately three percent annually since the early 1970's. Currently, over one million people visit the park every year, while an estimated 1.4 million additional people pass through on their way to other destinations. The majority of park visitors are Canadians, nearly half of whom are from Alberta.

Jasper National Park of Canada plays a significant role in the provincial and national tourism industry. In the years ahead, many factors will enhance this significance—improved marketing, development in adjacent areas, economic and government policy, concern for the environment, improvements in science and technology, changes in visitor demographics, tourism planning and development. Environmental scans point to the influences of a strong Alberta economy, a younger and rapidly growing population, low unemployment, a favourable Canadian dollar, and international marketing partnerships. All of these will increase pressure on Canada's mountain parks. Regional growth in the Yellowhead corridor will generate demand for day-use services and facilities. Coping with more and more visitors is a significant challenge for Jasper National Park of Canada.

A Place for Nature

(Wes Bradford)

Grizzly bear, Ursus arctos. *This bear needs large, undisturbed areas to survive. Some males will travel over 1200 km² each year over their home range.*

3.0 A PLACE FOR NATURE

3.1 Overview

"Maintenance of ecological integrity through the protection of natural resources shall be the first priority when considering park zoning and visitor use in a management plan".

National Parks Act, 1988

Parks Canada defines ecological integrity as *"a condition where the structure and function of an ecosystem are unimpaired by stresses induced by human activity and are likely to persist"* (*Parks Canada Guiding Principles and Operational Policies,* 1994). In other words: a national park has ecological integrity if all the plants and animals that should be in the park still thrive

there, and people use the park and its surroundings in ways that respect the needs of those plants and animals and allow fires, floods, weather and other natural processes to create natural habitat.

Ecological integrity is measured in terms of:

- ecosystem health, including the ability to evolve, develop, and adapt to change;
- biological diversity, including the ecological and evolutionary processes that keep species functioning;
- the ability of plant and animal communities to resist or adapt to stresses and change;
- the ability of plants and animals to sustain healthy populations; and
- the integration of people into the environment in ways that sustain both human quality of life and biological diversity.

3.2 Threats to Ecological Integrity

Development, park management actions, and a variety of other activities, inside and outside the park, threaten ecological integrity in Jasper National Park of Canada.

Park Management Practices

Most park management practices influence the well-being of park ecosystems. Water and waste management, flood and fire protection, and vegetation management modify natural processes, putting stress on ecosystems.

Vegetation Change

In general, Jasper National Park of Canada's vegetation is becoming less diverse and more artificial, largely because of fire suppression and the invasion of non-native species. Fewer, smaller fires have meant a gradual aging of forests, significant accumulations of forest fuels, and a loss of important wildlife habitat.

Exotic Organisms

Non-native species have become established due to deliberate introductions (e.g., rainbow trout) or inadvertent releases (e.g., toadflax). These species have a competitive advantage because they arrived in this area without a full complement of parasites, diseases, predators and other factors that control populations of native species. Some exotic species hybridize with native species. Others are effective predators or carry diseases to which native species lack natural defenses. Some compete with native species and take over.

Habitat fragmentation and wildlife displacement in the greater park ecosystem

Resource harvesting in the region surrounding the park has reduced habitat effectiveness for some species of wildlife. Industrial access increases activity in once-remote wildlife ranges and leads to greater recreational use of adjacent areas of the park. Traffic on industrial roads and sites also contributes to the spread of exotic weeds by disturbing the soil and spreading weed seeds. Animals such as grizzly bears and elk suffer habitat loss or displacement when roads and development proliferate.

The Yellowhead Trans-Canada Highway (16), park roads, a pipe line and the rail line fragment the landscape and, in some cases, block the movement of wildlife.

Some of the park's extensive recreational infrastructure—picnic areas, parking lots, hiking trails, campgrounds, scenic viewpoints—and the community are located in important wildlife habitat or areas subject to flooding and other natural processes. This infrastructure gives park visitors unparalleled opportunities to experience and learn about nature. The challenge is to ensure that development does not fragment and degrade the natural systems people come here to visit.

Threats to wide-ranging carnivores (e.g., grizzly bear, wolf, lynx)

Large carnivores are highly valued by most visitors. The continuing existence of these species indicates functioning landscapes, productive habitats, and human understanding and tolerance. These animals need large home ranges and more habitat diversity than the park can provide. Many animals range across jurisdictional boundaries into areas where they are not protected. The World Wildlife Fund's Carnivore Conservation Strategy and the Yellowstone to Yukon Conservation Initiative place a high priority on the conservation of large carnivores in the region.

Degradation of Aquatic Ecosystems

Reservoirs, flood control, highway and railway construction, sewage effluent, and the introduction of non-native fish have altered aquatic resources and the natural flow of many streams in the park. The health of some native fish, aquatic invertebrates, and riparian habitats has declined as a result of these changes.

Wildlife Habituation

Animals respond to changes in their environment. As human use of the park and the surrounding landscape intensifies, and as we modify wildlife habitats and displace predators, some species of animals adapt to the changes in ways that generate conflict. This is especially true in and around the community of Jasper. Conflicts between wildlife and humans, and the associated management actions, often result in wildlife mortalities. Sensitive wildlife avoid areas where there are many people, limiting the amount of habitat available to them.

The park is already addressing many of the above threats. Measures include improved garbage management, an end to fish stocking, closing backcountry roads, temporary and permanent area closures to protect sensitive wildlife species, plans for improved sewage treatment, introduction of prescribed fires, control of non-native plants, and interjurisdictional cooperation in environmental management. These undertakings will provide a strong base for future restoration, maintenance and management.

3.3 A Vision for Ecological Integrity

Jasper National Park of Canada protects and maintains the native biological diversity of this portion of the Rocky Mountains. The park is a living example of the way in which ecological values are protected in a place where appropriate kinds and levels of human activity are welcome. The park's ecosystems and their component native species and natural processes are free to function and evolve. The park supports and is supported by the natural ecosystems of the region around it.

To maintain the park's ecological integrity in a changing world, Parks Canada will focus on:

- promoting and cooperating in scientific studies that add to our knowledge of ecological integrity in the park and surrounding landscape and investigating the ways in which human activities influence the ecosystem;
- managing or reducing stressors that reduce biological diversity or impair ecosystem health;
- applying ecosystem-based management principles in decision making;
- restoring ecological processes, with priority given to those actions which have the potential for significant ecolog;ical benefit
- collaborating with other land managers, neighbouring landowners and interested public organizations to promote ecosystem sustainability and an informed human community in the Yellowhead ecosystem; and
- increasing understanding and appreciation of ecosystem processes, landscape history and conservation issues, and opportunities for stewardship among the community of people who visit, occupy or use Jasper National Park of Canada and surrounding landscapes.

3.4 Communicating the Need for Ecological Integrity

Ecological integrity depends on informed choices by people whose behaviour and decisions influence virtually every ecosystem on Earth. For this reason, Parks Canada has made communication an integral component of every strategic goal in this management plan. This section highlights specific actions to help people understand ecological integrity and its implications. Other chapters, especially A Place for People, describe additional communication initiatives.

3.4.1 Strategic Goal

Canadians understand the challenges involved in maintaining the ecological integrity of Jasper National Park of Canada.

3.4.2 Objectives

To reach broader audiences with key ecological integrity messages by sharing this responsibility with others.

To ensure Canadians value the park as part of an integrated network of protected areas within a regional ecosystem.

3.4.3 Key Actions

1. Coordinate a communications program about ecological integrity that:
   - targets key audiences;
   - involves park staff, researchers, residents, park businesses and stakeholders;
   - presents information on key ecosystem issues; and
   - encourages a shared responsibility for stewardship.
2. Emphasize opportunities to see and learn about significant components of the park's ecosystem on-site at major day-use areas, along the Icefields Parkway, and at the Columbia Icefield.
3. Provide opportunities in the community of Jasper for park visitors to gain an overview of the park's ecosystems and the park's role in a regional, national and international program of conservation and sustainability.

3.5 Shared Regional Ecosystems

Jasper National Park of Canada is involved in several programs to exchange ideas and share land management initiatives in the Yellowhead ecosystem. This type of communication and integrated decision making allows individuals and organizations to contribute to sustainable land use in the region. See also Section 8: A Place for Open Management.

3.5.1 Strategic Goal

Integrated planning and management in the Yellowhead ecosystem.

3.5.2 Objectives

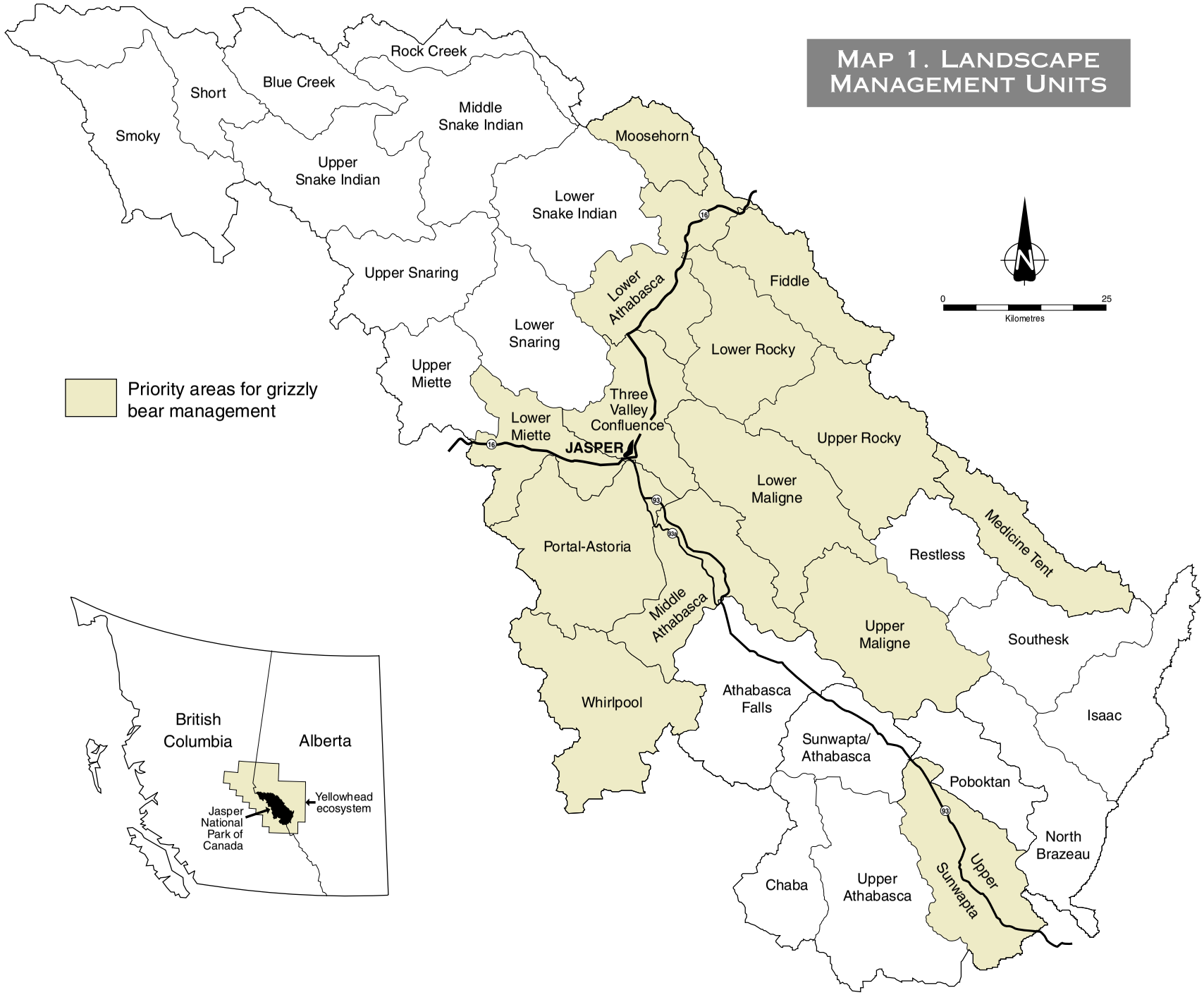
To build relationships and share information among the agencies, individuals and interest groups in the regional ecosystem.

To work towards common goals.

3.5.3 Key Actions

1. Participate, as appropriate, in future regional, multi-agency planning and management initiatives.
2. Continue to participate in the West Central Alberta Caribou Standing Committee, the Foothills Model Forest, and the Integrated Framework for Grizzly Bear Management.
3. Work with the Rocky Mountain Grizzly Bear Planning Committee to conserve and manage grizzly bears at inter-regional and international scales, focussing especially on areas identified in Map 1.
   - undertake model validation to confirm critical habitat, security areas and linkage zones
   - evaluate the potential for prescribed fire to improve habitat
   - identify areas where human use must be modified or restricted to improve habitat effectiveness and security
   - implement human use management actions
4. Consult with regional agencies and land managers on planning and management initiatives related to vegetation issues, including the management of fire, forest insects, and disease.
5. Contribute to the Alberta-British Columbia Intermountain Forest Health Group's initiatives to maintain forest ecosystem health.
6. Support Yellowstone-to-Yukon research and management efforts that clearly contribute to the park's overall goals.
   - protect critical linkage areas
   - reduce habitat fragmentation in key areas (Map 1)
7. In collaboration with others, maintain and enhance geographic information systems and other tools to support decision making at the regional and landscape scale.

Map 1. Landscape Management Units



3.6 Biological Diversity

The best way to protect ecological integrity is by maintaining natural biodiversity. There are four types of biological diversity: landscape, community, species and genetic. Each requires special attention to ensure its continuing viability.

- landscape diversity includes all ecosystems in an area, plant and animal communities, and the physical habitat
- community diversity encompasses all the species living together in a particular habitat
- species diversity refers to the variety of plants and animals in an area
- genetic diversity refers to the variation in genetic make-up among individuals of the same species

Biodiversity is linked to ecological processes, such as fire, flood, avalanche, predation, pollination, seed dispersal and grazing. These natural processes and the physical environment that produces and supports the diversity of life must also be maintained.

3.6.1 Strategic Goal

Biological diversity exists at a variety of scales—genetic, species, community, and landscape.

3.6.2 Objectives

To maintain biological diversity at broad landscape and community scales.

To maintain or restore viable populations of all native species, including the genetic diversity within species.

To protect, maintain or restore rare, vulnerable, threatened or endangered genetic resources, species, and biotic communities.

To ensure that natural disturbances (e.g., wind, flood, avalanches, grazing) and their effects function unhindered.

To focus on maintaining or restoring the compositional, structural and functional integrity of the montane ecoregion.

3.6.3 Key Actions

Landscape

1. Maintain the ecological structure and functions of the montane ecoregion:
   - monitor, evaluate, and, where possible, restore vegetation, appropriate behaviour, and the population size and distribution of herbivores and carnivores;
   - restore appropriate fire regimes and evaluate their effects;
   - minimize the adverse effects of human use and development;
   - continue to analyse the cumulative effects of human use and development; and
   - concentrate research and monitoring on maintaining and restoring native species.
2. Protect and restore rare ecosites, or landscape units, in the park.
3. Work with managers of adjacent land to manage access and use of backcountry areas.

Community

4. Identify benchmark ecosystems for research, monitoring and educational purposes. Coordinate with inter-agency initiatives, partners, and other mountain national parks.
5. In partnership with others, prepare information and management strategies for species and biotic communities of concern (e.g. parks, other government agencies, universities, provincial conservation data centres).

Species

6. Reduce the effect of habitat fragmentation on all species, with attention to indicator species from less studied groups such as small mammals, birds, amphibians, reptiles, insects and plants.
7. Prevent the introduction of non-native species. Where practical, eliminate or control non-native species.
8. Evaluate and monitor the status of species of concern in the park (rare, vulnerable, threatened, endangered, otherwise significant).
9. Participate with other government agencies and groups in management and recovery plans for species of concern. This includes the Alberta Natural Heritage Information Centre (Alberta Environment), Canadian Wildlife Service, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), as well as adjacent land managers.
10. Prepare status reports on species in Jasper National Park of Canada for consideration under federal species at risk legislation.
11. Collect baseline information on little known park species, such as fungi, bryophytes, lichens, amphibians and invertebrates.

3.7 Air Quality

Air quality issues are limited to a few specific areas and concerns. These include heavy summer concentrations of campfire smoke in Whistler and Wapiti campgrounds and occasional, but noticeable, concentrations of fossil fuel emissions around the community, especially during winter temperature inversions. Global transport of air pollution has a small but discernable effect on water quality in park lakes. In addition to air quality concerns, inappropriate lighting is the subject of increasing attention as light pollution interferes with opportunities to view the night sky.

3.7.1 Strategic Goal

Air quality is of the highest possible standard.

3.7.2 Objective

In partnership with others, to ensure that human sources of pollution do not impair visibility, the ability of the ecosystem to support a full range of naturally occurring species, or human safety.

3.7.3 Key Actions

1. Develop and implement codes of practice to reduce vehicle, locomotive, and other fossil fuel emissions in the park.
2. Conduct prescribed fires under conditions that, where feasible, limit the volume, intensity and duration of smoke in populated areas.
3. Using national parks as benchmarks, cooperate with other agencies responsible for atmospheric sciences to monitor long-term changes in air quality.
4. Encourage the use of lighting that is functional and does not detract from the natural environment.

3.8 Geology and Landforms

3.8.1 Strategic Goal

Natural geological processes, including erosion and deposition, shape the landscape and its ecosystems.

3.8.2 Objectives

To protect park landforms and physical processes from the impacts of development and use and restore them where required.

To consider the impact of management decisions on landforms and physical processes outside the park.

3.8.3 Key Actions

1. Develop a long-term plan for gravel extraction and landfilling; keep the impact of these activities on rare or sensitive landforms, ecosites, or other natural features to a minimum.
2. Prepare and implement rehabilitation plans for disturbed sites, including fluvial fans, wetlands, and riparian areas.
3. Ensure development and human use do not impair permafrost in alpine and subalpine areas.
4. Protect and present significant geological, physiographic and soil features, such as the Maligne karst system, the Columbia Icefield (glacial geomorphology), the Jasper Lake dunes, alpine and subalpine permafrost, and fossils.
5. Provide opportunities for the public to learn about the landforms and natural processes of the Rocky Mountain natural region.

3.9 Aquatic Ecosystems

In the past, Jasper's aquatic resources have not received the same attention as its terrestrial ecosystems. This has led to a noticeable decline in the ecological integrity of aquatic ecosystems. Many factors have contributed to this situation including the introduction of non-native fish, the elimination of native fish, the release of nutrients and other chemicals into the water, and development of transportation corridors.

Major Concerns

- the effects of fish stocking—native fish cannot compete with exotic species introduced to park waters. Four of the 18 fish species in Jasper National Park of Canada are non-native.
- wetland impoundment and flow restrictions—in the Athabasca Valley between Jasper and the east gate, there are 52 sites where the railway, highway, and pipeline have altered water flow.
- nutrient levels in the Athabasca River—a new sewage treatment plant will address nutrient addition; long-term changes to the aquatic community must be monitored.

See Section 9.5 for a discussion of water quality and the actions required to improve it.

3.9.1 Strategic Goal

The natural structure and function of aquatic ecosystems are maintained.

3.9.2 Objectives

To maintain water quality, water levels, and flow regimes within their natural range of variability.

To manage human use so that visitors can enjoy and learn about the park in a way that protects the integrity of aquatic ecosystems.

3.9.3 Key Actions

Restoration of Aquatic Ecosystems

1. Identify natural aquatic habitats and fish movement corridors for restoration.
2. Remove the fish barrier across the outlet of Lac Beauvert and reintroduce lake whitefish to the lake.
3. Rehabilitate the riparian willow community and upland vegetation communities in the Maligne Lake outlet area.
4. Maintain or restore viable populations of native fish and other native aquatic species.
5. Identify water bodies that can be used as benchmarks for the study of native fish species and that are unaffected by human disturbance, including angling.
6. Work with transportation corridor managers (railroad, highway, pipeline) to restore natural features and minimize the impact of these corridors on the volume and seasonal changes in water flows, levels and sources.
7. Ensure that in-stream flow needs for aquatic and riparian systems take precedence over withdrawals or diversions of surface and ground water.
8. Minimize the effects of road salt and other local contaminants.

Angling

Recreational fishing will continue. Management will focus on ensuring viable native fish populations. This will involve a more comprehensive approach to aquatic ecosystem management.

9. Implement regulations to protect and conserve native fish stocks.
10. Restructure open seasons for angling to protect native fish during their spawning periods.
11. To ensure their protection, prohibit fishing in water bodies that contain only bull trout, specifically Miette, Kerkeslin, and Jacques lakes.
12. Where both native and non-native species occur in the same water body, consider implementing catch and release regulations to protect the native species.

Communication

13. Where feasible, encourage the public to participate in monitoring and rehabilitating aquatic ecosystems.
14. Undertake a public awareness program that highlights native fish species, their habitats, and the special nature and responsibilities of fishing in a national park.

3.10 Vegetation

Jasper's vegetation has evolved over thousands of years under the influence of prevailing climatic, geological, and human factors. Vegetation, while important on its own, also provides food, shelter and cover for wildlife.

As with all components of the ecosystem, vegetation is dynamic. The park's vegetation responds to short term natural disturbances such as fire, floods, grazing, avalanches, windstorms, insect infestations and disease.

Many of the concerns about vegetation in Jasper National Park of Canada relate to the absence of fire in the ecosystem. These include:

- a decline in biodiversity, specifically in aspen, open conifer, riparian willow, and young pine stands;
- the loss of montane grasslands;
- more older vegetation than would naturally be expected;
- overgrowth of some forested areas, with a significant increase in the canopy;
- more continuous vegetation and a decline in the amount of open space; and
- an unnatural build-up of vegetation to fuel wildfires.

Other concerns relate to managing forest insects and diseases and restoring certain areas disturbed by human use.

3.10.1 Strategic Goal

Natural processes maintain the long-term composition and structure of vegetation communities.

3.10.2 Objectives

To control or eliminate non-native species that threaten the integrity of native plant species and communities.

To maintain or restore the role of fire and other ecological processes, except where limited by safety considerations and the protection of park facilities and neighbouring lands.

3.10.3 Key Actions

Fire Management

1. Define appropriate fire regimes that reflect desired cycles for various vegetation groups, ecoregions, and site moisture classes.
2. Restore at least 50% of the long term fire cycle through prescribed fires, and, where appropriate, limited suppression of fires caused by lightning or accident; monitor the effects.
3. Identify scenarios and locations where randomly ignited fires can contribute to the fire regime.
4. Work with other agencies and stakeholders to encourage understanding and support for the prescribed fire program; consult with affected parties.
5. Protect facilities, communities and adjacent lands from unwanted fires through suppression and fuel management.

Ecosystem Function

6. Monitor forest insect populations and diseases; develop appropriate responses to population fluctuations.
7. Cooperate with government agencies, businesses, universities and others to increase awareness of the ecological importance of natural disturbances, with special attention to forest insects and diseases.
8. Implement measures that promote appropriate grazing and browsing by native herbivores and horses. Maintain vegetation structure and composition to provide adequate habitat for other native species.
9. When vegetation must be removed, protect ecosystem functions and retain as much organic material and as many nutrients as possible.

10. Keep human-caused disturbance to a minimum.
11. In developed areas, encourage the use of native plants and plant communities to promote safety and reduce the potential for human-wildlife conflicts.

Restoration

12. Maintain an inventory of disturbed sites.
13. Restore priority habitats identified through ongoing research and monitoring as closely as possible to the composition, structure and dynamics of native communities.
14. Revegetate disturbed sites with native plant species.
15. Continue to work with the Line Leaseholder's Working Group, and others, to obtain a sufficient quantity and variety of native seeds and other plant material.

Non-native Plants

16. Maintain an inventory of non-native plant species.
17. In cooperation with other stakeholders, implement an Integrated Pest Management Strategy to eliminate or control existing populations of non-native species and reduce long term use of pesticides.
18. Implement appropriate prevention and control methods to reduce the risk of new non-native plant species of establishing themselves.
19. Promote public awareness of, support for, and involvement in the control of non-native plants.

3.11 Wildlife

A priority for wildlife management in Jasper National Park of Canada is the effective movement of wary species such as cougars, wolves and bears. Of particular concern is the cumulative effect of human use and development around the community of Jasper. Movement of animals through this area is important both for connectivity of habitats within the park as well as within the larger region. Habitat connectivity is important because a population's genetic health and evolutionary potential depends on the exchange of genes from different individuals.

Jasper has a variety of rare species. Preliminary research indicates that the park contains four species designated "at risk" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Many animals are on the provincial tracking lists for species at risk. Monitoring of selected species is crucial to determine their status and trends, and to focus management efforts in priority areas.

This management plan also addresses the following wildlife issues:

- adequate connected habitat for the long-term survival of a variety of species including wolves, grizzly bear, and caribou;
- habituation and human-wildlife conflict; ands
- wildlife mortality, especially on roads and the railway.

3.11.1 Strategic Goal

Populations of native wildlife are viable within the regional ecosystem.

3.11.2 Objectives

To maintain and where feasible, restore habitat quality and connectivity for wildlife in the park and on surrounding lands.

To restore long-term patterns of behaviour, distribution and abundance of ungulates.

To reduce human-caused mortality that threatens the viability of wildlife populations in the park and regional ecosystem.

3.11.3 Key Actions

Habitat

1. Continue working with government agencies and the resource industry to maintain or restore regional connectivity for wide-ranging species, including grizzly bears and caribou.
2. Identify fire management/restoration requirements necessary for the long-term maintenance of critical woodland caribou habitat.
   - evaluate habitat requirements, existing habitat supply, and fire history
3. Develop human-use management techniques to maintain or restore connectivity, habitat effectiveness, and security areas for carnivores and woodland caribou.
4. Remove and rehabilitate the Parks Canada woodlot.

Populations

5. With other agencies, including the Yellowhead Ecosystem Working Group, monitor regional caribou and grizzly bear populations; undertake research to address management questions.
6. Monitor caribou populations, movement and distribution in the southern part of Jasper National Park of Canada.
7. Implement approved recommendations from the Jasper Elk Action Working Group to restore appropriate elk distribution and abundance and reduce elk/human conflicts in the community area.
8. Monitor avifauna including songbirds, raptors, and waterfowl in conjunction with regional, national and international initiatives.

Mortality

9. Evaluate wolf mortality in the park; identify critical linkage areas; reduce wolf mortality.
10. Implement the *Bear/Human Conflicts Management Plan* to reduce bear/human conflicts and bear mortalities.
11. Investigate and implement techniques such as reduction of speed limits, to reduce wildlife mortality along park roads, the Canadian National Railway, and the Yellowhead Trans-Canada Highway (16).
12. Assess the effect of more road and rail traffic, as well as of potential twinning of the Yellowhead Trans-Canada Highway, on wildlife mortality and connectivity.

3.12 Indicators of Ecological Integrity

To measure the effectiveness of the actions outlined in this plan, Parks Canada will use certain indicators. Indicators represent components of the ecosystem that are either sensitive to change, or that reflect overall ecosystem health. Indicators must also represent different scales and time frames—from species to landscape and from the short to long term. By comparing the health of an indicator to a target or desired level, researchers can assess progress in achieving the park's goals for ecological integrity.

This approach is directly linked to the *State of the Parks Report*, which identifies three areas for assessing ecological integrity—biodiversity, ecosystem function, and stressors. The indicators chosen will allow Jasper National Park of Canada to assess its progress in these areas.

Indicators and targets, with the associated research and monitoring, will also help Jasper National Park of Canada fulfill its obligations to assess the cumulative effects of human use required by the *Canadian Environmental Assessment Act*.

Many of the actions in this chapter relate directly to establishing targets or comparing the status of indicators with their targets. In cases where information is not currently available to set a target, actions have been identified to fill this information gap. In other cases, actions relate directly to monitoring the indicator's current status with respect to its target. In the future, new indicators will be developed to assess ecological integrity at different spatial and temporal scales. Parks Canada's goal will be to sustain existing levels of ecological integrity and to work towards improvements.

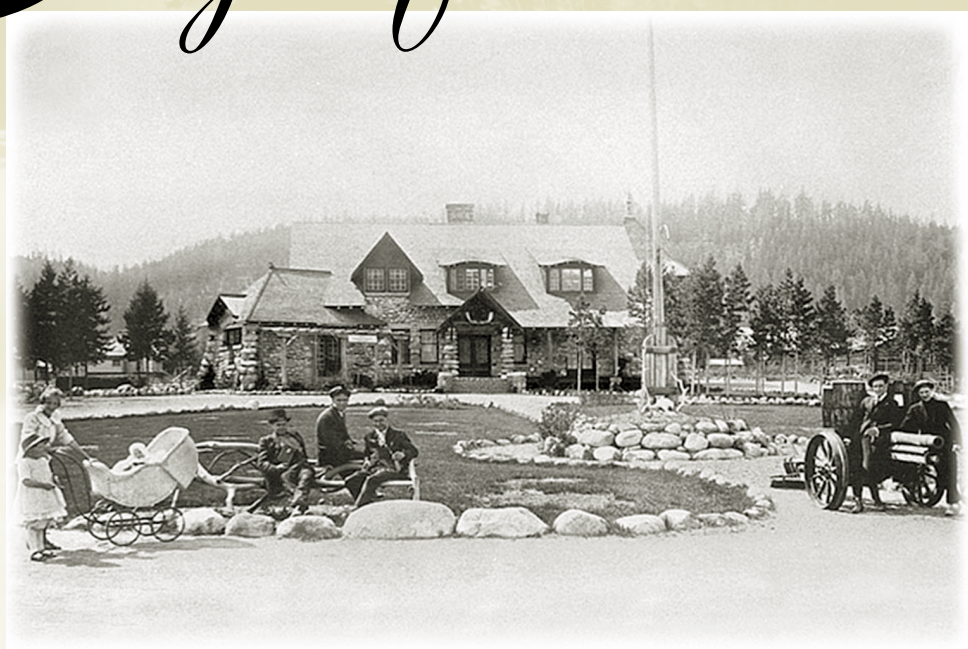
TABLE 1. INDICATORS OF ECOLOGICAL INTEGRITY

INDICATOR	TARGET	STATUS
	AQUATIC ECOSYSTEMS	
Degree of naturally occurring connectivity between water bodies and wetlands (e.g., Athabasca River and associated lakes and wetlands).	Connectivity restored where appropriate.	Research is underway to quantify connectivity loss and to identify and prioritize restoration projects.
Extirpated native fish species restored to native waters.	a) 100% reintroduction of extirpated stocks. b) reintroduced stocks become self-sustaining.	Waterbodies identified; selected reintroductions underway.
Presence of native fish species.	Maintenance of native fish species at selected sites.	Inventory and monitoring ongoing.
Distribution of non-native fish that compete with native fish.	Reduction in the distribution (range) of non-native fish species where they compete with native fish species.	Exact locations and targets need to be identified.
	VEGETATION	
Long-term average fire cycle.	50% through prescribed burns and natural fires.	Prescribed fire program underway.
Extent of unrestored areas (e.g. borrow pits, disused garbage dumps).	Identify area to be restored within three years.	Research and inventory will help establish targets.
Condition of aspen and riparian willow communities.	Aspen and willow communities actively reproducing and progressing through all life stages throughout their range.	Research underway to determine status.
Extent of non-native plant populations that threaten the integrity of native plant species and communities.	Significant reduction in the distribution and impact of priority non-native plant species; weed species eradicated or under control in the park.	Target and priority areas to be set once inventory and databases are completed.
Area of grassland in the montane ecoregion.	Reversal in the decline of grassland.	Further work required to quantify desired increase in grassland area.

TABLE 1. INDICATORS OF ECOLOGICAL INTEGRITY

INDICATOR	TARGET	STATUS
	WILDLIFE	
Supply of winter habitat for caribou.	Identify winter habitat requirements within four years.	Habitat profile will be developed and linked to the Ecological Land Classification. This will help evaluate habitat and establish habitat targets.
Grizzly bear habitat effectiveness.	See Table 2 in section 5.6.	Five Landscape Management Units (LMUs) below target.
Grizzly bear habitat security.	See Table 2 in section 5.6.	Four LMUs below target.
Grizzly bear linkage zones.	Establish target within three years through regional grizzly bear program.	Model validation will occur as part of regional grizzly bear program.
Habitat connectivity for large carnivores.	Identify critical movement corridors within three years for the Three Valley Confluence and Highway 16/railroad corridors.	Threshold values, developed through wildlife movement study, will likely include targets for forest cover in the montane, patch size, connectivity, etc.
Caribou population status (annual population survey/segregation count).	Recruitment > 15%; recruitment greater than or equal to adult mortality.	Proposed species at risk legislation will require a caribou management plan within three years. Determining population status is a critical component of population management.
Annual grizzly bear mortality.	<1% park-wide	Population estimate will provide refined information to determine status.
Minimum grizzly bear population estimate.	Estimate population from regional census within three years.	Research underway to set target.
Viable resident wolf packs in the montane ecoregion.	Determine number within three years.	Research underway to set target.
Songbird diversity.	Presence of all native species.	Continue monitoring program to help establish quantitative target.
Elk population demographics (recruitment rates, density, cow-calf ratio, number of elk-human conflicts).	Establish targets within three years.	Research underway to set target.

A Place of Historical and Cultural Significance



(Jasper Yellowhead Historical Society)

An early view of the present day Information Centre circa 1919. This Calderon-designed building was the park superintendent's residence until 1936. It is now a national historic site.

4.0 A PLACE OF HISTORICAL AND CULTURAL SIGNIFICANCE

4.1 Overview

By linking past and present, our cultural resources help us appreciate the human experience and understand who we are as Canadians. Jasper's cultural resources tell a 9000-year-old story of human life in this area. There are five national historic sites, approximately 500 known archaeological sites, one Heritage Railway Station, 38 federal heritage buildings and one Canadian Heritage River, the Athabasca. There are another 120 buildings in the community of Jasper that have heritage value and thousands of historic artifacts, archaeological specimens, and archival records.

These cultural resources are part of an irreplaceable heritage. They are important in themselves and also for their combined contribution to the significance of a site and sense of place. There are two classifications for cultural resources: Level I: which are directly related to reasons of national historic significance and Level II: which are not related to reasons of national historic significance, but have been determined to have heritage value because of local or regional significance based on historical, aesthetic or environmental qualities.

National Historic Sites in Jasper National Park of Canada

Jasper Information Centre
Jasper House
Henry House
Athabasca Pass
Yellowhead Pass

Parks Canada defines a cultural resource as "a human work, or a place, that gives evidence of human activity or has spiritual or cultural meaning, and that has been determined to be of historic value." It applies this definition to a wide range of resources, sites, structures, engineering works, artifacts and associated records. Parks Canada is committed to identify, protect and present the wide range of cultural resources in its care. This commitment is supported by the *National Parks Act* (1988), *Historic Sites and Monuments Act* (1953), *Heritage Railway Stations Protection Act* (1988), *National Archives Act* (1987), *National Parks Regulations, Parks Canada Guiding Principles and Operational Policies* (1994) and the Federal Heritage Buildings Review Office *Code of Practices*. The Parks Canada *Cultural Resource Management Policy* (1994) governs the administration of cultural resources in national parks and establishes the following principles by which they will be managed: value, public benefit, understanding, respect and integrity.

Parks Canada cooperates with other agencies, organizations, businesses, and individuals to manage cultural resources in Jasper National Park of Canada. All of these parties play an important role in protecting and presenting the park's unique cultural environment.

Despite the completion of some baseline inventories over the last several years, many challenges remain. Better inventories and research will improve cultural resource protection. It will also allow Parks Canada to offer presentation programs that accurately reflect the park's history and that contribute to heritage tourism.

4.2 Strategic Goals

Cultural resources are protected and the associated themes presented.

Commemorative integrity of national historic sites is ensured.

Parks Canada and Aboriginal people collaborate on the protection and presentation of Aboriginal heritage in Jasper National Park of Canada.

The natural, historical and recreational values that led to the nomination of the Athabasca River as a Canadian Heritage River are safeguarded.

4.3 Objectives

To ensure the commemorative integrity of all national historic sites in Jasper National Park of Canada.

To highlight Aboriginal cultural heritage in collaboration with First Nations and Métis in ways that respect their traditions and values.

To protect significant built heritage, archaeological resources, historic objects and documentary records in recognition of their value as irreplaceable cultural resources.

To increase the public's appreciation, understanding and respect for cultural heritage through involvement in the management, protection and presentation of cultural resources.

4.4 Key Actions

Cultural Resource Management

1. Prepare a Cultural Resource Management Plan for Jasper National Park of Canada.
2. Complete commemorative integrity statements for Jasper House, Henry House, Athabasca Pass and Yellowhead Pass national historic sites. The statement for the Jasper Information Centre is already complete. In addition to the commemorative integrity statements, other specific actions for each national historic site include:

   Jasper Information Centre
   - Prepare a comprehensive rehabilitation and use strategy.

   Jasper House
   - Complete the remote sensing of the graveyard site.
   - Update the plaque text.
   - Enhance presentation by relating Jasper House to other national historic sites.

   Henry House
   - Determine, as closely as possible, where the original site was located.
   - Improve the presentation offered at the plaque site.

   Athabasca Pass
   - Complete the archaeological inventory.
   - Investigate options for joint inventory, protection and presentation of the site with BC Parks.
   - Develop off-site interpretation.

   Yellowhead Pass
   - Enhance the presentation of the Yellowhead Pass along Highway 16.

3. Where possible, support projects that enhance our knowledge of the park's cultural resources. Projects could include:
   - assessing the condition of priority buildings
   - compiling oral histories
   - completing a heritage area plan for the Palisades complex, one of the largest collections of federal heritage buildings in the park.

Built Heritage

4. Complete built heritage resource description and analysis reports for buildings that have not been assessed (e.g., backcountry warden cabins, outlying commercial accommodations (OCA), alpine huts, youth hostels); develop a strategic approach for their protection.
5. Complete built heritage conservation and maintenance plans for the park's "classified" and "recognized" federal heritage buildings.

Archaeological Resources

6. Update the park's *Archaeological Resource Description and Analysis.* This update will include new research and analysis, and provide information in a revised, user-friendly format.
7. Monitor the archaeological resources at Athabasca Pass, Henry House, and Yellowhead Pass. A monitoring program is already in place for Jasper House National Historic Site.

Heritage Rivers

8. Use this document as the management plan for the Athabasca Heritage River.
9. Enhance efforts to increase awareness of the heritage values that led to the nomination of the Athabasca River.

Public Awareness and Involvement

10. Use the following themes as the basis for evaluating, preserving, and presenting cultural resources and improving their presentation to the public:
    - occupation and use before European contact;
    - fur trade ;
    - settlement;
    - transportation;
    - tourism and recreation; and
    - managing a national park.
11. Ensure that the presentation of cultural resources at any one site is set in the context of the overall park story.
12. Work with First Nations, Métis, the Jasper-Yellowhead Historical Society and other groups to identify additional significant cultural resources in the park.
13. Study the potential of the Pocahontas area as a day-use facility for visitors in the east end of the park. Evaluate the possibility of using the mine manager's house to orient westbound travelers and to interpret the area's history.
14. Use the historic Maligne Lake Chalet as a key site for interpretation in the Maligne valley.

Aboriginal Involvement

15. Set up a cooperative agreement with the Métis Nation of Alberta to maintain and present cultural resources related to Jasper's Métis history.

A Place for People

Angelic view. A hiker contemplates the outspread wings of Angel Glacier on Mount Edith Cavell. One of the park's most spectacular peaks, the Mount Edith Cavell area is an ideal place to see the effects of glacial action.

5.0 A PLACE FOR PEOPLE

5.1 Overview

Images of Jasper figure prominently in promotional campaigns for the Canadian Rockies. In many respects, these images have created Canada's appeal as an international destination. The numbers testify to their effectiveness. Together, the four mountain parks welcome about seven million people every year. For some of these people, the parks' value lies in the opportunity to experience, first hand, their exceptional wilderness. For others, recreational opportunities such as mountain biking, climbing, and skiing are the key attraction. Whatever the reason, the challenge remains the same—to protect the park's ecological integrity while offering visitors an opportunity for a rewarding, enjoyable experience.

A key priority for Parks Canada is the maintenance of ecological and commemorative integrity. Opportunities for public understanding, appreciation and enjoyment will be permitted to the extent the integrity requirements are not compromised. To achieve this, Jasper National Park of Canada will: encourage appropriate activities; carefully plan and manage facilities and uses; monitor their effects on ecological and commemorative integrity, and provide for renewed emphasis on heritage presentation.

National parks are a cornerstone of Canada's tourism industry. To fulfill this role, and at the same time protect the resources on which tourism depends, requires the cooperation of a number of people and organizations. By working with the tourism sector, Jasper National Park of Canada will improve its ability to offer visitors a quality experience that better reflects the long term goals of the people of Canada for their national parks and historic sites.

There is no question tourism raises a number of significant issues. How to manage growth, particularly day use? How to make sure that shoulder season use does not disrupt wildlife during the sensitive mating and birthing seasons? How to respond to changing needs and expectations? How to improve aging infrastructure such as roads, campgrounds and interpretive signs?

To address these issues, representatives of Jasper National Park of Canada are working with the Jasper tourism industry to implement a heritage tourism strategy. The strategy focuses on high quality, authentic learning and travel experiences that are based on the park's key ecological and cultural values. Visitor services and facilities to support these experiences, including overnight accommodation, will be appropriate for their national park setting. People who are unable to visit the park will have opportunities to connect to its landscape, history and purpose through outreach programs. Education and awareness programs will engage people's curiosity and help them understand and appreciate the national park. A human use strategy will allow people to continue to enjoy the park, while protecting the area's ecological integrity.

5.2 Heritage Tourism

The World Tourism Organization defines heritage tourism as *"an immersion in the natural history, human heritage, arts, philosophy and institutions of a region or country."* For the purposes of the national parks, this definition has been expanded to include environmental stewardship.

What does this mean for Jasper? Jasper National Park of Canada will be a place where people find a range of opportunities to enjoy, understand, appreciate and participate in the preservation of its natural, cultural and scenic features. Powerful and memorable experiences will contribute to Jasper's reputation as one of the world's most unique and environmentally sound tourism destinations.

What does this mean for the tourism sector? A tourism industry that respects the integrity of the natural environment and its importance to long-term economic viability will maintain a competitive advantage in a marketplace that is increasingly demanding quality and authenticity.

5.2.1 Jasper National Park of Canada's Heritage Tourism Strategy

A working group, consisting of representatives from the tourism industry and Parks Canada, has prepared a *Heritage Tourism Strategy* for Jasper National Park of Canada. The strategy is based on the fact that Jasper National Park of Canada offers something that is becoming rarer and more valuable in the world—nature. Surrounding communities may choose to adopt the strategy's principles and participate in some of the initiatives. This is an opportunity for a successful joint tourism planning process, one that will make a significant contribution to the enduring ecological integrity of the park. Parks Canada is committed to the implementation and continued refinement of this strategy.

5.2.2 Jasper National Park of Canada's Market Position

As global markets change, more travelers are becoming interested in heritage tourism. Jasper National Park of Canada will focus its marketing efforts on this segment.

The park will promote opportunities for natural and cultural heritage education; wilderness appreciation and enjoyment; and exploration. Our marketing will be in harmony with environmental realities, including seasonal wildlife sensitivities. A variety of messages that are appropriate for the markets and venues will foster appropriate expectations on the part of the tourism industry and individuals planning to visit the park.

5.2.3 Code of Ethics

Without appropriate environmental practices that protect the integrity of the natural environment, heritage tourism cannot survive. The *Heritage Tourism Strategy* proposes that the local tourism industry adopt a code of ethics based on the code used by the Travel Industry Association of Canada. This will ensure everyone places the same high value on sustainable tourism practices and will encourage the tourism industry and its partners to commit to constant improvement in stewardship, including the management of waste, water and energy.

5.2.4 Strategic Goals

Canadians and their international guests enjoy high quality, authentic learning and travel experiences that are based on national park values and that foster a sense of Canadian identity.

A well-informed tourism industry respects the social and ecological values of Jasper National Park of Canada.

5.2.5 Objectives

To make all visitors and residents aware they are in a national park.

To promote sustainable tourism by encouraging environmental stewardship.

To encourage opportunities, products and services that are appropriate and consistent with heritage and environmental protection.

To help employees share an understanding of the park's natural and cultural heritage with visitors by improving orientation, training and accreditation programs.

5.2.6 Key Actions

1. Develop and market opportunities that enhance understanding and appreciation of Jasper's natural and cultural values while respecting ecological and social carrying capacities:
    - ensure that marketing and awareness programs reflect that Jasper National Park of Canada is part of a national system and available to all Canadians;
    - ensure marketing efforts are properly targeted and information needs of the target markets are met; and
    - promote the *Heritage Tourism Strategy*, including a *Code of Ethics*, for people working in the tourism industry.
2. Work with the tourism industry to:
    - provide the tourism industry with regulatory, safety, and management information on a timely basis;
    - develop marketing strategies and heritage products in conjunction with the tourism industry;
    - participate in joint tourism, marketing, and trade show initiatives;
    - recognize industry members who incorporate heritage tourism principles and environmental stewardship initiatives into their operations;
    - strengthen the presentation and promotion of appropriate activities in the park;
    - strengthen employee orientation and training as it relates to heritage understanding and the sharing of that understanding with visitors; and
    - develop standards and accreditation programs for tour operators.
3. Work with private operators to improve educational opportunities and the communication of park messages to their guests.
4. Within a regional and national context, facilitate new aboriginal tourism products and programs.
5. Identify components of the ecosystem that are particularly sensitive during shoulder and winter seasons. Ensure tourism respects this sensitivity.

5.3 Visitor Services and Facilities

Jasper National Park of Canada and the community of Jasper will continue to offer a wide variety of services and opportunities for experiences that are appropriate in a national park. Parks Canada will make every effort to manage these facilities in a way that provides fair access for a variety of visitors and reduces the potential for conflicting use. Visitors will enjoy sightseeing, skiing, hiking, horseback riding, watching wildlife, cycling, canoeing, rafting, fishing, educational programs and a myriad of other activities.

In a mountainous national park such as Jasper, public safety is an important concern. Public safety must be a shared responsibility. Visitors must take precautions that reflect the risk involved in their chosen activity. This involves knowledge of natural hazards, proper equipment and provisions, adequate skill and fitness, and the ability to cope with emergencies. Parks Canada will concentrate on information, facility design, and staff trained in public safety.

5.3.1 Strategic Goal

Appropriate facilities and services allow visitors with varying interests to enjoy the park.

5.3.2 Objectives

To provide safe, well-maintained, accessible facilities that have a minimal impact on the environment.

To provide services that are responsive and client oriented.

To work with others to provide high quality, appropriate services.

5.3.3 Key Actions

1. Use the Appropriate Use Criteria (Section 8.4) to ensure new activities are appropriate and to evaluate requests for an increase to existing services.
2. Continue to provide safe, well-maintained, appropriate and accessible facilities consistent with park zoning, that have minimal impact. In providing these facilities, Parks Canada will consider the changing needs of park visitors, public safety, educational opportunities, and the potential impact on heritage resources.
3. At Old Fort Point, improve interpretation of the Athabasca Heritage River, parking, traffic flow, and day-use.
4. Manage visitor activities and facilities so they contribute to the specific ecological goals in the sections entitled "Effective Human Use Management" and "A Place for Nature."
5. Ensure equitable access to public services or facilities.
6. Improve services at Miette Hot Springs; profile the area's natural and cultural heritage:
   - ensure visitors have access to information about opportunities in the area and the special features of the Fiddle Valley;
   - improve orientation on the Yellowhead Trans-Canada Highway and at the site;
   - implement an environmentally appropriate method for the treatment of sewage at the Miette Hotsprings area; and
   - prepare an area plan to coordinate visitor use and development of the hot springs area.
7. Use the *Commercial Filming and Photography Guidelines for Jasper National Park of Canada* and the Appropriate Use Criteria to review applications for commercial filming.
8. Implement the *Jasper National Park Guidelines for River Use Management* (1998).
9. The public safety plan for the park will be updated and used to guide the ongoing public safety program, which includes both prevention and response.

5.4 Awareness and Education

Communication is an essential tool for sustaining Jasper as a protected area. Interpretation and outreach play a key role in connecting Canadians to our country's heritage and promoting stewardship of park resources. The more Canadians know about the parks, the more they will support and be involved in the management and protection of park resources. As visitors, they will become more conscientious. As stakeholders and partners, they will become more involved in long-term protection. Parks Canada is committed to the renewal of heritage presentation in Jasper and the important role it plays in communicating the need for ecological and commemorative integrity and building a supportive constituency of Canadians. Jasper's role in presenting the system of national parks and national historic sites needs to be enhanced in the community.

Parks Canada is responsible for ensuring that all visitors have the opportunity to learn about, understand and appreciate the area's nature and history. In addition, it is important for community residents and regional land management agencies to understand national park conservation issues, especially as they relate to ecological integrity.

Parks Canada cannot reach all of these audiences through its own programs. The Agency must work with others to reach as many of these audiences as possible. People learn about national parks in many different ways, through many different media. Visiting them is no longer the only way to experience their richness. The advent of new technologies, coupled with traditional means of communicating, has opened new doors for reaching out to Canadians and international guests of all ages.

Messages of Significance

A system of protected areas: People will understand that Jasper is a national park in a Canada-wide "family" of national parks and historic sites administered by Parks Canada. They will know and appreciate that Jasper represents the Rocky Mountains natural region and is part of the Canadian Rocky Mountain Parks World Heritage Site, designated by the United Nations and recognized internationally.

The commemorative intent of national historic sites: People will understand and appreciate the historic significance of Henry House, Jasper House and the Athabasca Pass to Canada's fur trade history of the early 1800s; the significance of the Yellowhead Pass as the second lowest pass through the Canadian Rockies and its selection as the route for Canada's second transcontinental railway and highway; the significance of the architecture of the Jasper Information Centre as representative of an early 1900s Rocky Mountain style, and the significance of the Athabasca Heritage River. Canadians will appreciate that this is their heritage.

A sense of place: People will appreciate the special character and unique features of Jasper's Rocky Mountain environment: the processes that created and continue to shape the landscape and the influence of the landscape and its climate on flora and fauna, human history and present-day activities. Canadians will appreciate that this Rocky Mountain landscape and its wilderness characteristics are an enduring legacy that strengthens our identity as Canadians.

Ecological integrity: People will understand the role of the park as a protected area within a larger regional ecosystem, the threats and challenges to maintaining the ecological integrity of the park, and what is being done to address these. They will understand that the environment they see today has been and will continue to be influenced by human presence. They will understand that Parks Canada is the lead steward in the protection of the park, but success can only be achieved through cooperation and shared stewardship with visitors, communities, and others, both inside and outside the park.

5.4.1 Strategic Goals

Canadians and their international guests appreciate and understand the nature and history of Jasper National Park of Canada and the role the park plays in Canada's national parks system and the Canadian Rocky Mountain Parks World Heritage Site.

Information is available to help visitors make informed choices.

5.4.2 Objectives

To ensure education and awareness programs build on the idea of shared stewardship and involve third parties.

To foster realistic expectations by providing information that helps visitors understand what a national park can offer and what types of use are appropriate.

To ensure that all information is accurate and includes national messages.

5.4.3 Key Actions

1. Enhance the park's information, interpretive, and educational programs by:
   - improving non-personal media in areas where visitor use is high;
   - providing leadership in cultivating a "community of communicators"; and
   - pursuing appropriate opportunities for shared funding, partnerships, and sponsorships for the development and delivery of heritage programs and products.
2. Create opportunities to present Parks Canada messages in the community of Jasper that link the park to the regional ecosystem, the national system of protected areas, and its place in world heritage.
3. Target outreach activities at youth and urban audiences in British Columbia and Alberta.
4. Use new technology to improve the delivery and management of information and educational services.
5. Improve the availability of basic visitor information in the east area of the park in response to shifting day-use patterns.
6. Coordinate communications with other national and provincial mountain parks and regional visitor information networks.
7. Regularly measure the success of awareness and educational activities.

5.5 Frontcountry Visitor Accommodation Outside the Community

Most of the park's roofed accommodation is located in the community of Jasper. The community plan will govern any redevelopment of these facilities or the addition of new facilities. Outside the community, overnight visitors stay in campgrounds, hostels and outlying commercial accommodations.

The park has ten regular campgrounds (1,770 sites), three group tenting areas (capacity 200 persons) and two overflow areas (capacity 550 units). One area of Wapiti Campground remains open all year. Campground use has fluctuated over the past 20 years. Regular campgrounds are full during July and August, requiring the Snaring Overflow to open for about 50 days per season in 1995 and 1998.

Hostelling International - Northern Alberta operates five hostels, all outside the community, that can accommodate about 200 persons nightly. They provide low-cost rustic accommodation and have recently increased their involvement in environmental education.

Twelve facilities outside the community offer commercial accommodation. The biggest, Jasper Park Lodge, has 442 rooms. The remaining establishments have a total of about 600 rooms. New site-specific guidelines will govern redevelopment of hostels and commercial facilities.

5.5.1 Strategic Goal

Outlying commercial accommodation, hostels, and Jasper Park Lodge provide an alternative choice for overnight accommodation in a manner that maintains ecological and commemorative integrity.

5.5.2 Objectives

Redevelopment of outlying commercial accommodation will be consistent with the park's ecological integrity, visitor management, and historical and cultural resource management goals and objectives and will enhance the character of the built environment and result in appropriate visitor activities and services.

5.5.3 Key Actions

1. Site specific guidelines governing redevelopment of outlying commercial accommodation will follow decisions arising out of the outlying commercial accommodation report and will be considered part of this plan.
2. Maintain the existing capacity of the park's campgrounds (including Snaring Overflow). Allow some adjustments within existing footprints.
3. In the operation and recapitalization of campgrounds, respond to the changing needs of campers and to industry trends that are appropriate for a national park setting.
4. Prohibit new outlying commercial accommodation.

5.6 Effective Human Use Management

Human use management is the direction and guidance of people—their numbers, their behaviour, activities, and the infrastructure they require. While human use management may require some restrictions, it should not be seen as limiting peoples' freedom. It should be seen instead as a means to protect the park for future generations, while allowing as many people as possible to enjoy the experiences and activities it has to offer.

Alternatives for managing access and use vary. Parks Canada's challenge in developing an effective human use strategy is to determine which combination of approaches will address ecological and commemorative integrity, education and visitor needs.

Most human use in Jasper is concentrated in the Athabasca Valley, especially around the community of Jasper. Valley bottoms are critical areas for many wildlife species, providing food, protection and important travel corridors. Unrestricted human use in these areas and unchecked expansion of facilities to meet ever-increasing demand will result in serious habitat disturbances, increased potential for human-wildlife conflicts, and pressure on park ecosystems.

There are two sides to human use management—supply and demand. Supply is the park's capacity to sustain use (activity type, location, and timing) given its ecological and social objectives. Once this capacity is defined, the park can then influence demand accordingly. Defining capacity will require Parks Canada to collect and integrate ecological, social, and economic information (See Landscape Management Units below).

More active management of human use will be required if Parks Canada is to continue to offer visitors the opportunity to enjoy a quality experience and fulfill its mandate to protect ecological integrity and provide opportunities for understanding, appreciation and enjoyment.

Landscape Management Units

One of the key challenges for Parks Canada is to manage human use based on both ecological and social considerations. To achieve this, Jasper has been divided into Landscape Management Units (LMUs) that are approximately the size of the home range of an adult female grizzly bear. Each LMU has habitat effectiveness and security area targets (Table 2). Parks Canada uses habitat effectiveness for grizzly bears to measure the impact of management and recreation on wilderness and sensitive wildlife. While habitat effectiveness and security targets are useful tools, they have limitations. To manage human use effectively, Parks Canada needs a range of indicators for other ecological components.

In addition to ecological goals, visitor experience objectives for each LMU will be developed through consultation.

Backcountry

With increasing development and use in the Yellowhead ecosystem, the extent of true wilderness or backcountry is declining. It is crucial to maintain the integrity of wilderness and the aspects of wilderness that people value.

Recent studies show that human use of backcountry areas has an impact on wildlife, particularly grizzly bears. There are trails in most valley bottoms. In many valleys, trail use has forced wary wildlife further up mountain slopes and side valleys. This reduces the ability of the mountain national parks and surrounding areas to support a viable population of grizzly bears.

Getting away from facilities and roads, or travelling further into the wilderness are important opportunities that will continue to be available. Parks Canada will use the following parameters to manage wilderness areas:

- controlled human use will not damage ecological integrity;
- visitors will experience a sense of freedom, solitude and challenge;
- vast expanses of protected landscapes will support viable populations of wildlife;
- a range of backcountry opportunities will require little or no infrastructure;
- the majority of visitors will be self-reliant and will not depend on mechanized equipment, group tours, or commercial guides;
- small groups will predominate; and
- commercial and non-profit groups will help visitors in some areas learn the skills necessary to enjoy the backcountry.

The following apply to backcountry and wilderness lands or those lands classified as Zone II or Zone III.

- Parks Canada will provide opportunities for high quality, appropriate wilderness experiences. This will emphasize traditional means of travel, self-reliance, appropriate numbers of people, building understanding of the impacts of human use on ecological systems and encouraging appropriate visitor behaviour.
- A wide range of backcountry opportunities will continue to be provided including semi-primitive, primitive and wildland experiences. These categories of backcountry opportunities vary with respect to facilities, infrastructure, degree of management and ease of access. Ecological and visitor experience opportunity goals will determine where each type of experience will be provided. Semi-primitive areas provide the greatest support for visitors. At the opposite end of the spectrum are wildlands where facilities and trails, if they exist at all, receive little maintenance. This Backcountry Opportunity Spectrum (BOS) is based on the recognition that a combination of ecological, physical, sociological and administrative conditions gives value to an area and shapes a visitor's experience.
- Long-standing means of travelling through wilderness such as hiking, cross-country skiing, snow-shoeing and horseback riding will receive preference.
- Mountain bikes are appropriate under specific conditions. Concern about their use to gain faster access to the wilderness means this activity must be assessed using the landscape management unit's goals.

5.6.1 Strategic Goal

Visitors experience the park without impairing its ecological and commemorative integrity.

5.6.2 Objectives

To integrate ecological and visitor experience goals.

To provide opportunities for high quality, appropriate wilderness experiences.

To coordinate human use management strategies with Yoho, Kootenay and Banff National Parks and with other neighbouring jurisdictions.

5.6.3 Key Actions

1. Apply the following principles for human use management:
    - habitat effectiveness and security area targets, based on landscape management units, will be two of the park's human use management tools. The overall objective will be to maintain secure habitat for large carnivores while providing a range of opportunities for visitors. Proposals for human use management consider the number of disturbances rather than specific numbers of people;
    - wildlife travel corridors will remain effective;
    - principles of precaution and adaptive management will apply when the effects on the ecosystem are uncertain;
    - proposals to manage human use will be based on the best available information;
    - the analysis of information and drafting of recommendations will be done at the most appropriate scale (local, landscape, regional);
    - the park will use a variety of techniques for managing human use. These include quotas, relocating trails, moving visitors in groups, removing trail signs and trail head facilities, relocating backcountry campgrounds, and reservation systems;
    - restrict or re-allocate use if its impact is unacceptable;

- education will be the preferred method of solving conflicts between different types of users and gaining support for human use management; and
- opportunities for understanding and appreciation of heritage resources will be considered in decision-making.

2. Develop a demand management strategy that addresses overall growth for the park and uses the Heritage Tourism Strategy:
   - identify and monitor core indicators of sustainable tourism
   - gather baseline data on current and potential impacts of use, especially in the shoulder and winter seasons
   - determine appropriate levels and types of use
   - involve stakeholders as appropriate.
3. Phase in the implementation of a human use management strategy over several years:
   - develop visitor experience and heritage presentation goals for landscape management units;
   - work with stakeholders, users and interested individuals to identify priorities for implementation;
   - develop the database and technical systems to support the human use management strategy;
   - consult the public concerning quotas, the distribution of quotas between users (e.g., horseback riders, hikers, bicyclists, private individuals, commercial operators and organizations), and the specific tools or techniques for managing use; and
   - work with neighbouring jurisdictions to implement the strategy.
4. To improve Parks Canada's understanding of visitor use and improve decision-making, establish a data base about visitors that:
   - focuses on the priority research needs including levels of use, visitor preferences and satisfaction, choice modeling;
   - tracks performance in managing visitor activities;
   - involves the tourism industry, academic institutions, and other appropriate partners; and
   - is linked to the park geographic information system (GIS).
5. Use temporary closures or other restrictions on activities when necessary for public safety (e.g., avalanches, aggressive wildlife), to protect sensitive natural or cultural resources, or to allow site recuperation:
   - inform the public about the reason for these actions as quickly as possible; and
   - close facilities or areas permanently only after consultation with the public and as part of the management plan review process.
6. Develop a comprehensive strategy to deal with wildlife-human conflicts that includes:
   - communication with visitors and representatives of the tourism industry;
   - improved handling of garbage and compost; and
   - management of elk populations in the community area.
7. Permit mountain biking on designated trails.
8. Consider allowing commercial dog-sledding and skijoring, as long as there is a suitable location and no impact on water quality, wildlife, or other park visitors. Dogs may not be kennelled overnight in the park.
9. Prohibit the use of personal watercraft.
10. Prohibit aerial sports, such as hang-gliding and para-sailing.
11. Prohibit the recreational use of over-snow vehicles.

12. Refuse to issue new guiding licenses for fishing or to increase current levels of guided fishing.
13. Beginning in 2000 allow only electric motors on Pyramid Lake.
14. Implement the *Jasper National Park Guidelines for River Use Management*.

Backcountry

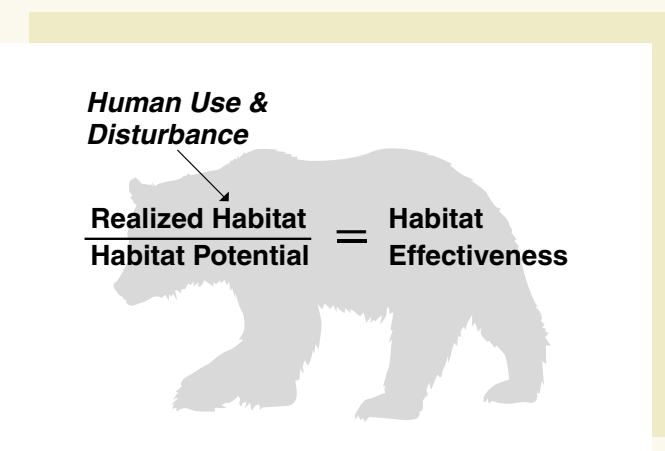
15. Revise the application of the Backcountry Opportunity Spectrum (BOS) to:
    - address future trends in backcountry use;
    - better define levels of service; and
    - contribute to ecological integrity.
16. Review backcountry campgrounds and, where there is excessive capacity, better match them with current demand.
17. Review the park's cave management policy to ensure proper resource protection. In some cases current restrictions are not necessary for resource protection or public safety. As a result, the requirement for permits is often ignored. A new policy would only require permits where there are resource or public safety concerns.
18. Prohibit new mechanized means of travelling to the backcountry.
19. Maintain the current size of the backcountry trails system. Allow some trail re-routing and closures for specific reasons such as ecological integrity, visitor experience, duplication of access, or lack of use. Maintain the capacity of commercial backcountry facilities at current levels:
    - Amethyst Lodge: 25 people;
    - Tonquin Valley Lodge: 25 people; and
    - Skyline Trail Rides Lodge: 19 people.
20. Prohibit new commercial facilities and the expansion of existing commercial backcountry facilities.
21. Prohibit new alpine huts or shelters. Minor expansion may be allowed where it is consistent with LMU objectives.
22. Recognize that horses are an appropriate means of experiencing the park. Allow use of horses to continue at its current level and locations. Horses will not be allowed on:
    - park trails at Wilcox Pass, Fryatt Valley, Geraldine Lakes, Merlin/Jacques Pass, Meadow Creek, Jonas Pass, Eremite Valley, and the Sulphur Skyline Trail;
    - the Skyline Trail from Big Shovel Pass to Maligne Lake and on the lower part of the Watchtower Trail; and
    - all park interpretive trails.
23. Use grazing quotas to manage multi-day horse trips. Apply seasonal restrictions where required to prevent trail damage.
24. Limit commercial horse use in the backcountry to 1999 allocation levels; allow some re-allocation where necessary to achieve LMU objectives.
25. Allow specific non-profit organizations (e.g., the Alpine Club of Canada), that have been traditionally allowed to use the backcountry in groups of more than 10 people, to continue this practice. Include details such as group size, frequency of use, campground rotation, and location in agreements with these organizations.
26. Prohibit the use of helicopters and over-snow vehicles to transport visitors and their supplies to backcountry huts and lodges. Allow helicopters and over-snow vehicles to service these facilities.
27. Allow track setting in Zone II where it currently occurs.

PROFILE: GRIZZLY BEAR HABITAT EFFECTIVENESS & SECURITY AREAS— TWO TOOLS FOR PARK MANAGEMENT

One of the tools Parks Canada uses to examine the impact of human use on sensitive wildlife species is habitat effectiveness models. Using computers, biologists overlay roads, trails, campgrounds, towns, and facilities on a map of vegetation and other landscape features. The resulting model helps determine an area's ability to support species such as the grizzly bear.

The presence of humans in a given area can reduce habitat effectiveness. For example, construction of roads or buildings can remove or compromise habitat. High numbers of people can cause bears to avoid an area.

To measure grizzly bear habitat effectiveness in Jasper, the park has been divided into 33 landscape management units (LMU) (see Table 2). Each LMU is approximately the same size as the home range of a female grizzly bear. Each LMU is classified ac-cording to its ability to serve as useful habitat. Hab-itat effectiveness is a comparison between the po-tential of an area to support grizzly bears and the value of the area as bear habitat, after accounting for human disturbance (realized habitat).



The model predicts that the grizzly bear will no longer use an area as part of its permanent home range if habitat effectiveness is reduced by more than 20 percent. Jasper National Park of Canada's goal is to manage human activities in a way that ensures grizzly bear habitat effectiveness is at least 80% in all but three of the park's 33 LMUs. Currently, 25 of the park's 33 landscape management units are at that level.

The three LMUs where habitat effectiveness will not reach 80% (Three Valley Confluence, Portal-Astoria, and Upper Sunwapta) simply contain too much development, or too many people, to effectively support permanent grizzly bear populations. Because grizzly bears still use these areas to move to other places with suitable habitat, Parks Canada's goal is to maintain links between areas of effective habitat.

A second tool used to manage landscapes for grizzly bears is core security area analysis. This tool recognizes that the most important factor in grizzly bear survival is minimizing contact with people. Core security areas are areas that give bears refuge from people for short periods of time (24-48 hours). These areas allow bears to feed while remaining wary of human presence. These areas are delineated based on size, habitat quality, elevation and level of human activity. In order to ensure the long term persistence of grizzly bears, researchers recommend that approximately 68% of the suitable habitat in a landscape management unit should be secure. Table 2 shows the current and desired security area values for each of the landscape management units in Jasper.

While habitat effectiveness and core security areas are useful tools in determining acceptable levels of human caused impact, they have limitations. In order to manage human use effectively, Parks Canada needs a range of indicators for the grizzly bear and other ecological components.

Five landscape management units are currently below the target of 68% core security area. One of these, the Three Valley Confluence, is too far below the required 68% for significant gains to be made; the intent for this unit is to not reduce security area below its current level of 53%.

TABLE 2. LANDSCAPE MANAGEMENT UNIT HABITAT EFFECTIVENESS (HE) AND SECURITY (SA) TARGETS

LANDSCAPE MANAGEMENT UNIT	PRISTINE HABITAT QUALITY	CURRENT HE (SUMMER %)	TARGET HE (SUMMER %)	CURRENT SA	TARGET SA
3-Valley Confluence	Very High	61	≥61	53	≥57
Athabasca Falls	Moderate	84	≥80	81	≥81
Blue Creek	Moderate	94	≥90	98	≥98
Chaba	Low	99	≥90	98	≥98
Fiddle	Moderate	82	≥80	75	≥75
Isaac	Moderate	94	≥90	96	≥96
Lower Athabasca	High	79	≥80	83	≥83
Lower Maligne	Moderate	77	≥80	74	≥74
Lower Miette	High	77	≥80	81	≥81
Lower Rocky	High	99	≥90	97	≥97
Lower Snake Indian	High	98	≥90	100	100
Lower Snaring	Moderate	100	100	99	≥99
Medicine Tent	Low	94	≥90	100	100
Mid Athabasca	High	78	≥80	78	≥78
Middle Snake Indian	High	97	≥90	98	≥98
Moosehorn	High	99	≥90	100	100
North Brazeau	Low	89	≥90	59	≥68
Poboktan	Low	85	≥90	57	≥68
Portal-Astoria	Moderate	73	≥73	64	≥68
Restless	Low	96	≥90	99	≥99
Rock Creek	High	95	≥90	100	100
Short	Low	98	≥90	98	≥98
Smoky	Moderate	96	≥90	95	≥95
Southesk	Low	96	≥90	97	≥97
Sunwapta/Athabasca	Moderate	85	≥80	86	≥86
Upper Athabasca	Low	100	100	99	≥99
Upper Maligne	Low	78	≥80	64	≥68
Upper Miette	High	96	≥90	100	100
Upper Rocky	Moderate	97	≥90	98	≥98
Upper Snake Indian	High	96	≥90	98	≥98
Upper Snaring	Moderate	99	≥90	99	≥99
Upper Sunwapta	Low	69	≥69	70	≥70
Whirlpool	Low	98	≥90	99	≥99

Area Concepts

The following concepts for the Maligne Valley, Mount Edith Cavell, Tonquin Valley, and Marmot Basin provide detailed direction for these popular areas.

5.7 The Maligne Valley

Since the exploring days of Mary Schaffer, and the outfitting days of Fred Brewster and Curly Phillips, people have come to the Maligne Valley to experience the wilderness of the Rocky Mountains. Its continuing popularity is a testament to the excellent opportunities it offers to see wildlife and enjoy the unspoiled wilderness scenery.

Many of the valley's unique features contributed to the park's designation as a World Heritage Site in 1984. These include Medicine Lake, Maligne Canyon, and one of the largest underground karst systems in North America. A "club site" for harlequin ducks, the Maligne Lake outlet is one of two known areas in the Rocky Mountains with the highest concentrations of this species. The valley is also important to a variety of other wildlife including the grizzly bear, moose, caribou, and sheep.

Research indicates that wildlife and national icons such as Spirit Island will attract increasing numbers of national and international visitors. Managing this growth is critical in maintaining the special qualities of the Maligne Valley. Because the Maligne Valley is an important winter range for caribou, the park will assess the effect of winter activities on this sensitive species.

5.7.1 Strategic Goals

Visitor opportunities are based on experiencing the special features of the Maligne Valley and on understanding and appreciating their importance to the park and surrounding region.

Human use is managed so that the Maligne Valley continues to support and contribute to viable populations of wildlife particularly grizzly bears, caribou and harlequin ducks.

5.7.2 Objectives

To maintain opportunities for viewing wildlife.

To allow a variety of groups with different interests to discover the area.

To keep conflicts between different types of visitors to a minimum.

To improve interpretation in the Maligne Valley.

To maintain grizzly bear habitat effectiveness of >80% and security areas of >68% (≥74% in Lower Maligne LMU) in each Landscape Management Unit.

5.7.3 Key Actions

1. Prepare an area plan to coordinate heritage presentation, visitor use, and services and facilities in the Maligne Lake area. Define the area's ecological and visitor experience thresholds using factors such as crowding, infrastructure capacity, visitor satisfaction, and educational objectives.
2. Keep the Maligne Canyon Hostel at its current location and capacity (24 beds).
3. Prohibit new overnight visitor accommodation in the Maligne Valley.
4. Permit staff housing for Maligne Lake Tours at the existing maintenance compound and limited staff accommodation in the day-lodge. Determine criteria for establishing the appropriate amount of staff accommodation.

5. Develop an integrated approach to communication at key visitor areas in the valley:
    - enlist the help of third parties; and
    - create a focal point for interpretation at the Maligne Lake Chalet.
6. Manage human use in a way that maintains and improves grizzly bear habitat.
7. Implement the *Jasper National Park Guidelines For River Use Management*:
    - close the mid-Maligne River to all in-stream use;
    - close the Maligne Lake outlet to all use during May and June to protect the harlequin duck "club site";
    - rehabilitate the riparian willow and upland vegetation communities in the Maligne Lake outlet area; restrict access to specific locations until restoration is complete; and
    - improve interpretation.
8. Zone the Maligne Lake outlet as an Environmentally Sensitive Site (ESS).
9. Implement an environmentally appropriate method for the treatment of sewage at Maligne Lake.

Winter Use

10. Until an assessment of the impact of human use on caribou is complete, maintain the current infrastructure capacity at Medicine and Maligne lakes.
11. Keep the Maligne Lake road open in winter for people who want to observe wildlife, sightsee, ski, or participate in other appropriate activities.

5.8 Mount Edith Cavell

Mount Edith Cavell is one of the most prominent landmarks in the Athabasca Valley. Voyageurs looked for the massive face of *"La Montagne de la Grande Traverse"* to guide them to the Athabasca Pass and the fur trade route to the west. Today at Mount Edith Cavell, visitors have unparalleled opportunities to discover three types of glaciers, a variety of moraine, primary plant colonization in the wake of the retreating Angel Glacier, and the sheer north face of Mount Edith Cavell. The area is also important because of its caribou rutting range and rare plant communities. In 1988 the meadows were designated an *Environmentally Sensitive Site* because of "the assemblage of such an array of unusual plants not found elsewhere in the Four Mountain Park Block."

Easy access, proximity to the community, and spectacular views make Mount Edith Cavell one of the most popular day-use areas in the park. This popularity offers an ideal opportunity to communicate with visitors. It also poses a threat to the area's important ecological features. Aging infrastructure and traffic congestion also compromise visitor satisfaction.

Improving the quality of opportunities for visitor experiences and the protection of sensitive resources in this area will be a park priority.

5.8.1 Strategic Goal

Visitors have opportunities to experience the park's sub-alpine and alpine life zones.

5.8.2 Objectives

To address congestion by managing use and traffic.

To provide high quality interpretation.

To protect and maintain rare plant communities and surrounding old growth subalpine forest.

To maintain the integrity of caribou rutting and wintering areas.

5.8.3 Key Actions

1. By 2002, alleviate demand for parking in the Mount Edith Cavell upper parking lot during peak periods. Consider techniques such as communication, public transit, traffic quotas, or restrictions on private vehicles.
2. Define the area's ecological and visitor experience thresholds using factors such as crowding, infrastructure capacity, visitor satisfaction, and educational objectives.
3. Improve interpretation so visitors better understand the area's ecological and geological diversity, its glacial features, and the role of Mount Edith Cavell as a historical landmark.
4. Encourage people to take advantage of guided trips.
5. Close the meadow, as required, to protect caribou rutting grounds in the fall and to reduce damage to vegetation from human use in the wet conditions of early spring.
6. Use clearly defined, hardened trails in Cavell Meadows to help protect the area's rare plant populations:
   - re-route trails as necessary to protect rare plants; and
   - carry out detailed rare plant surveys to determine the location, extent, and status of these populations.
7. Maintain the current character, purpose, and capacity of the Edith Cavell hostel.

5.9 Tonquin Valley

The Tonquin Valley has been a popular destination in Jasper National Park of Canada for many years. The Ramparts above Amethyst Lakes symbolize Jasper's backcountry experience. Horseback has been the traditional mode of transport into the area, however, over the last 20 years hiking has become increasingly popular. The Tonquin Valley is important to grizzly bears for forage and travel. Drainages connecting the valley to British Columbia provide critical corridors for large carnivores. Berry crops in the Portal Creek drainage are believed to attract many grizzly bears in August and September, creating the potential for dangerous bear/human encounters. The Tonquin Valley is used by caribou in early June for calving (in side valleys), for feeding all summer and for the rut in October.

Horse use will continue in the Tonquin valley. In recent years concerns have been raised over trail conditions, visitor conflicts and the trampling and grazing effects of horses. Parks Canada will actively manage activities in the valley to achieve clearly defined objectives.

5.9.1 Strategic Goals

The Tonquin Valley remains one of the premier backcountry destinations in Jasper National Park of Canada.

Human use is managed so that the Tonquin Valley continues to support and contribute to viable populations of grizzly bears and caribou.

5.9.2 Objectives

To maintain secure habitat and connectivity corridors for caribou and protect critical habitats (e.g., rutting grounds, calving areas).

To maintain secure habitat and corridors for grizzly bears within the Tonquin Valley and with adjacent Landscape Management Units (LMUs).

To maintain continued, controlled access for both horses and hikers.

To promote understanding, appreciation and respect for natural and cultural heritage in the Tonquin Valley by protecting those resources.

5.9.3 Key Actions

1. Inform all visitors to the Tonquin Valley of its importance to grizzly bears and woodland caribou; explain how they can keep the impact of their presence to a minimum.
2. Minimize human disturbance of caribou during the calving and rutting periods. If the caribou monitoring program shows a decline in the population, determine the cause.
3. Define the area's ecological and visitor experience thresholds using factors such as:
    - grizzly bear habitat effectiveness;
    - forage by wild and domestic animals;
    - amount of bare ground; and
    - visitor satisfaction.
4. Prohibit development of designated trails in Moat Pass, Tonquin Pass, Vista Pass, and Meadow Creek, in recognition of their role as critical movement corridors for grizzly bears.
5. In protecting grizzly bears and the public, give preference to area closures over relocating or removing bears.

6. Allow strictly controlled horse use to continue in the Tonquin Valley under managed conditions:
    - maintain effective, secure and connected habitat for grizzly bears (see also table 2);
    - maintain effective, secure and connected habitat for caribou with special attention to rutting and calving areas;
    - establish management goals and targets and ensure monitoring to measure progress towards targets;
    - improve conditions in the valley by reducing the number of horses, horse nights, scheduled trips, and controlling free-ranging horse movements;
    - attain levels of visitor satisfaction and acceptance of Tonquin Valley trails, and the entire experience, equivalent to those found in other backcountry areas where horse use occurs; and
    - reduce bare ground in grazing areas.
7. Maintain capacity of backcountry facilities at current levels:
    - Campsite: 70 persons;
    - Wates/Gibson Hut: 30 persons;
    - Amethyst Lodge: 25 persons; and
    - Tonquin Valley Lodge: 25 persons.
8. Determine the impact of day trips on horseback in the Clitheroe and Majestic areas and the need for additional standards, monitoring, designated trails, or possible closures.
9. Evaluate special features (e.g. rare species and community types, critical habitat) in the Tonquin Valley to determine appropriate measures for managing visitor use.
10. Document cultural resources of local and regional significance in the Tonquin Valley.

5.10 Marmot Basin Ski Area

Most of the park's winter visitors come to ski at Marmot Basin. This raises environmental issues associated with development and operation of this area, particularly during the summer.

This ski area has an approved long-range development plan. The new Development Review Process (see Section 8.3) will ensure development is consistent with the long-range plan and is evaluated publicly. With the input of the ski area, Parks Canada is preparing guidelines for the development and operation of ski areas. These guidelines will define how the *Canadian Environmental Assessment Act* applies to proposals for development, the information required at various stages of the project, and the role of public participation. They will also include appropriate operational guidelines.

5.10.1 Strategic Goal

A strategy for summer and winter use of the ski area supports the long-term viability of the ski hill, while ensuring no net negative environmental impact.

5.10.2 Objectives

To recognize the area's importance as a cornerstone of winter tourism and provide opportunities for visitors to appreciate natural and cultural heritage.

To ensure the management of the ski area respects approved long range plans and the national park setting.

To provide a reasonable degree of certainty regarding future planning, project review and approvals.

5.10.3 Key Actions

1. Adopt the following principles for ski area management:
    - No new ski areas will be permitted in national parks. However, existing ski areas are the cornerstone of winter tourism in the mountain parks and will be allowed to continue
    - Long range plans and associated development projects must be of sufficient detail to permit cumulative impact assessment
    - Operating practices of the highest environmental standards and quality will be developed and integrated by the ski operators
    - Until new long range plans are in place, new development will only be considered if it is outlined in the current approved plan
    - Detailed ski area guidelines currently being developed will guide ski area management.

Transportation and Utilities

*Roads, rails and bighorn sheep (*Ovis canadensis*). Early park visitors arrived by rail and took day trips on horseback into the surrounding valleys. Now, hundreds of thousands of vehicles travel over park roadways including Highway 16, a national transportation route.*

6.0 TRANSPORTATION AND UTILITIES

6.1 Overview

In a national park, road and rail transportation is more than just moving people between destinations. A key part of managing human use, it provides travelers with the opportunity to sightsee and explore the mountain environment. In fact, almost all park visitors see and experience the park from roads or roadside facilities. This is particularly true in Jasper National Park of Canada, where there are more than 300 km of secondary roads.

Unfortunately these same roads and the railway have a considerable impact on the environment. For this reason, Parks Canada cannot simply respond to demand by expanding parking lots and other infrastructure. Instead, the park must use existing transportation infrastructure more effectively and explore different options, such as public transit.

The Yellowhead Trans-Canada Highway and the Canadian National Railway main line—two major, national transportation corridors—pass through Jasper National Park of Canada. Every year, more than one million vehicles travel along the Yellowhead Trans-Canada Highway. An estimated 25% of these motorists visit the park, the rest simply pass through *en route* to other destinations. The number of vehicles on the highway increases by an average of three percent annually. This growth is expected to continue, due to the area's popularity as a tourism destination, the rapidly expanding population of the Yellowhead corridor, and the continuing expansion of Edmonton and area. As traffic volumes increase within the park, additional passing lanes may be required by the middle of the next decade and possible twinning of some sections may be required as early as 2015.

Parks Canada policy identifies visitor access by commercial or private aircraft as a permissible activity in remote areas where reasonable access alternatives do not exist. The presence of national road and rail transportation corridors in Jasper National Park of Canada, and the proximity of airports on adjacent lands, preclude the need to provide visitors with aircraft access to the park.

Environmental Impact

Given their economic and social significance, and the lack of viable alternatives, the highway and the railway will remain in the park. Parks Canada must, however, look at ways to reduce their environmental impact, particularly on wildlife, vegetation and aquatic ecosystems.

Wildlife

Both the railway and the highway cut through prime wildlife habitat in the montane ecoregion and may affect wildlife movement through these areas.

Wildlife, attracted by grain spills along the railway, come to depend on this food source and, in the process, lose their fear of people.

Wildlife mortality on highways and the railroad has a major impact on populations of elk, mule and white-tail deer, moose, bighorn sheep, mountain caribou and large carnivores. Collisions with vehicles and trains kill an average of 150 large ungulates and carnivores annually. Sixty percent of these mortalities occur on the Yellowhead Trans-Canada Highway.

Vegetation

Trains and vehicles introduce non-native plants into the park. The spread of these plants is a significant threat to native biodiversity and natural wildlife habitats.

Aquatic Ecosystems

The highways and the railway disrupt natural water flow and affect the health of riparian areas. Causeways through wetlands, and culverts under roads and the railway, alter the natural evolution of the park's aquatic systems.

Infrastructure

Much of the park's transportation infrastructure is out of date. Roads, bridges, and parking lots have begun to exceed their normal lifespan. Use of these facilities often stretches their capacity to the limit. Parking lots and pull-offs were not designed to accommodate large recreational vehicles and increased bus traffic. Faster, larger and heavier vehicles damage the road bed. Congestion on scenic drives interferes with visitors' ability to sightsee, one of the most popular national park activities. All these factors contribute to traffic problems and raise concern about public safety. To maintain or upgrade this infrastructure is costly; the park must establish priorities given its limited financial resources.

Scenic Flights

Air traffic, specifically scenic flights, can affect both the environment and the visitor experience, especially in backcountry areas. Although air traffic over the park is currently low, the potential exists for an increase in the number of scenic flights during the period covered by the management plan. While developing regulations with Transport Canada may be an option, voluntary guidelines provide an opportunity to work more directly with the people affected by any change to this activity.

6.2 Strategic Goal

National transportation corridors and secondary roads are managed in a way that supports Parks Canada's commitment to ecological integrity and enables visitors to experience the park.

Utilities have minimal impact on the park's ecological integrity.

The impact of aircraft, and their associated facilities, on ecological integrity and visitor experience is kept to a minimum.

6.3 Objectives

To reduce the environmental impact of roads and the railway, including wildlife mortality.

To maintain a secondary road network that allows visitors to see and experience the park.

To identify areas where roads, the railway and related transportation development has caused loss of terrestrial, riparian and aquatic habitat; to restore these habitats where feasible.

6.4 Key Actions

1. Continue to improve the road surface, viewpoints and signs along the Icefields Parkway. The Icefields Parkway will remain open year-round to accommodate growing shoulder and winter season demand and the requirements of the motor coach and tourism industries.
2. Recapitalize Pyramid Lake Road to meet the needs, as appropriate, of park visitors and operators on the Pyramid Bench.
3. Improve interpretive signs and other media/facilities along park roads.
4. Examine ground transportation issues in the coming decade. Begin by 2001 and focus on the following:
    - appropriate visitor access;
    - the contribution of roads to the visitor experience ;
    - the environmental impact of roads;
    - transportation systems as a tool to manage human use;
    - public transit;
    - parking and traffic flow in and around the community of Jasper; and
    - regional transportation needs and issues.
5. Assess the benefits to wildlife movement of closing Highway 93A between Tekarra Lodge and Alpine Village. Consider permanently closing this section of road, based on the results of the experimental closure.
6. Keep Highway 93A from the Whirlpool River bridge to Athabasca Falls open until conditions become unacceptable. If funds become available, Highway 93A may be recapitalized, although it will receive a low priority.
7. In anticipation of Highway 16 twinning, gather baseline data and any additional information required to identify sensitive areas, critical wildlife habitat, and wildlife movement areas.
8. Continue to apply state of the art mitigation to reduce wildlife mortality in transportation corridors. Place priority on the Yellowhead Trans-Canada Highway.
9. Continue to work with the CNR on ways to reduce the overall impact of the railway. Priority areas include wildlife mortality, grain spills and water flow.
10. Continue efforts to reduce the extent of non-native plants along highways, the railway and utility corridors.

11. Test and implement effective rehabilitation measures in abandoned borrow pits and rights of way, particularly in the montane ecoregion.
12. Prepare strategies to address traffic and parking issues (e.g., congestion, cumulative effects) associated with key secondary roads, pull-offs, and day-use areas.

Air Transportation

13. A comprehensive study will be conducted with the intention of decommissioning the airstrip.
14. To retain the wilderness character of park lands and the quality of the visitor experience, pursue, with local operators, voluntary guidelines for commercial sightseeing. These guidelines would recognize the Athabasca Valley as a visual flight rules (VFR) route and the highly variable weather of the Rocky Mountains. Safety will not be compromised.
15. Work with managers of adjacent lands and provincial licensing authorities on guidelines for flights associated with recreational activities adjacent to park boundaries (e.g., heli-hiking, heli-skiing).

A Place for Community

A bird's eye view of J-shaped, Jasper. The community sits at the confluence of three important river valleys: the Athabasca, Miette and Maligne. Jasper has grown from a whistle-stop along the Grand Trunk Pacific Railway to a community of year-round residents and a holiday destination for millions of visitors.

7.0 A PLACE FOR COMMUNITY

7.1 Overview

In 1910, the Grand Trunk Pacific Railway established a station and divisional point called Fitzhugh in the Jasper Forest Park. A small community quickly coalesced around the station, and while the community was being surveyed its name was changed to Jasper. Today, with a population of 4,700, the community of Jasper serves as both a divisional point for the Canadian National Railway and as an administrative and visitor centre for Jasper National Park of Canada.

The community is located in the centre of Jasper National Park of Canada at the confluence of three major river valleys, the Athabasca, the Maligne, and the Miette. Because it is located within a national park, management of the community takes on a complexity not commonly found elsewhere.

The community's central location is in an area that is critical as a movement corridor and montane habitat for wildlife. Human activity is concentrated in this ecologically sensitive area, and if not managed carefully, changes in community development and associated uses could lead to negative environmental impacts elsewhere in the park.

The community of Jasper, given its setting and heritage resources, presents an excellent opportunity to become a model environmental community, demonstrating leadership in heritage tourism and environmental stewardship. Issues that must be considered in community management include:

- the impact of the community on the park's ecological integrity;
- protection of built heritage resources;
- managing commercial growth;
- provision of an adequate supply of housing for residents; and
- the desire to maintain the community's rocky mountain national park character.

Parks Canada, with input from the public, is preparing a plan for the community of Jasper. The plan sets out a comprehensive program of land-use policies and planning and design guidelines to guide the community into the future. It defines specific design parameters and limits to growth to ensure the community and the park remain healthy. The plan acknowledges the importance of built heritage resources and identifies measures to protect the heritage character of the community. Application of the principles defined in the community plan will help to ensure that the community continues as a model of national park values.

7.2 Role Statement

The community's primary role is that of a visitor centre, providing a focus for and concentration of visitor services and facilities. Surveys show that almost 80% of park visitors visit the community at some point for food, accommodation, supplies and other needs.

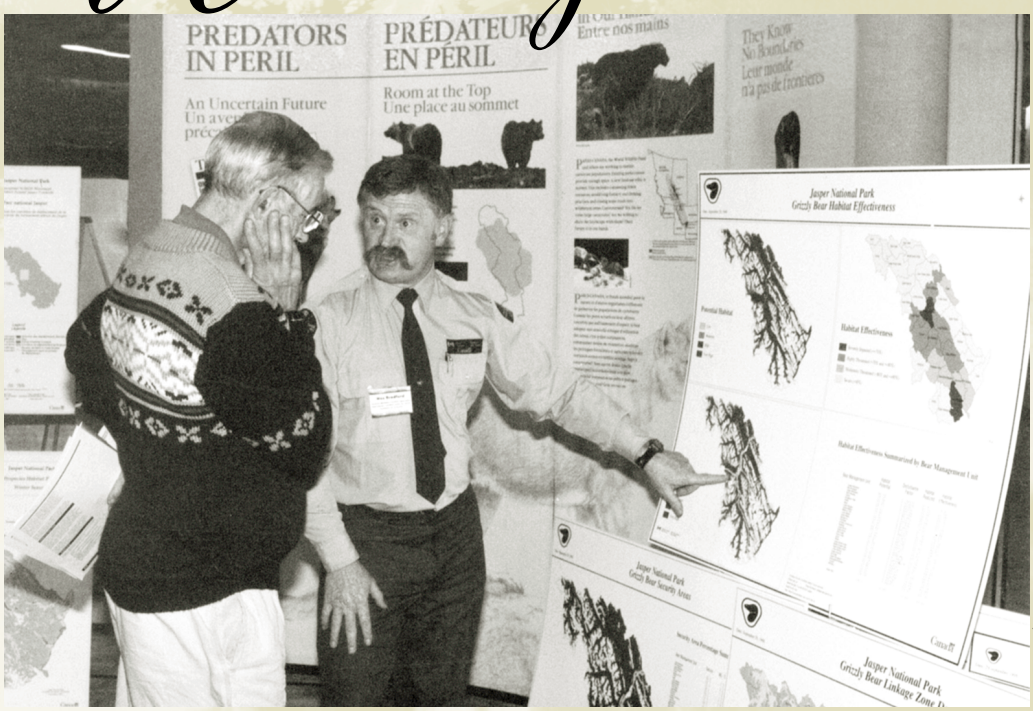
7.3 Strategic Goal

Jasper is a model environmental community, reflecting its position as an integral part of the national park and its vital role as the centre for the presentation of natural and cultural heritage and essential visitor services in Jasper National Park of Canada.

7.4 Key Action

1. Specific guidelines governing development, operation and management of the community will follow decisions arising from the approval of the community plan and will be considered part of this plan.

A Place for Open Management



(The Jasper Booster)

A park warden and a member of the public exchange ideas and information at an open house. All Canadians have a stake in their national parks and a right to be heard about the way they are managed.

8.0 A PLACE FOR OPEN MANAGEMENT

8.1 Overview

Jasper National Park of Canada belongs to the people of Canada. All citizens should feel confident they have an opportunity to participate in key decisions concerning their park. Areas that appear to be of the greatest concern for the public are ecological integrity and cumulative effects, access to park areas, limits to growth, appropriate use, and effective public involvement. This section highlights key strategic changes to ensure decisions are made in a consistent, fair, open, and responsive environment.

The following values and principles will guide governance and decision-making in Jasper National Park of Canada.

Values

- restraint and self-discipline today, for the sake of future generations
- open, participatory decision making
- equal opportunity for a sense of wilderness and a range of quality park experiences
- predictable, consistent and fair regulation
- competent, accountable management
- respect for others

Principles

All actions, initiatives and programs undertaken to realize the vision are implemented in full accordance with the spirit and requirements of the *National Parks Act, Parks Canada Guiding Principles and Operational Policies,* the *Jasper Community Plan* and the *Jasper National Park of Canada Management Plan.*

Standards are defined, enforced, and reviewed so as to ensure the maintenance of ecological and commemorative integrity.

Regulation and decision-making are responsive, open, participatory, consistent and equitable.

There is individual and shared responsibility to provide for protection and preservation of heritage resources.

Proactive, adaptive, and precautionary management take into account cumulative effects and limits to growth in recognition of the finite nature of the park.

Stewardship, based on sound science, is practised through environmentally sensitive management, mitigation and restoration.

Integrity and common sense underlie all decision-making.

Planning and decision-making are coordinated on a regional basis.

Partnerships are encouraged subject to appropriate checks and balances.

There is a shared responsibility to achieve ecological, social, cultural and economic sustainability.

Public participation in decision-making will be guided by the following fundamental practices:

- access to clear, timely, relevant, objective and accurate information;
- adequate notice and time for public review;
- careful consideration of public input;
- feedback on the nature of comments received and on Parks Canada's response to participants; and
- respect for all interested parties and individual viewpoints.

8.2 Public Involvement

Parks Canada is committed to ongoing public involvement. The type of involvement will vary depending on the nature of the decision. Various groups and individuals will be asked for input on implementing this management plan's directions. Participation may consist of advisory groups, open houses, working groups, meetings with neighbouring jurisdictions, or commenting via the Internet. Parks Canada will also host an annual public forum to review and discuss the implementation of the management plan. The public will play an important role in designing the kind of forum that best meets their needs.

This plan sets out several public processes. These include the *Development Review Process*, and a process to review proposed changes in use or level of use, known as the *Appropriate Use Framework*. Jasper National Park of Canada is also committed to providing more opportunities for the public to participate in the research program.

8.2.1 Strategic Goal

Key policy, land-use and planning decisions are timely, fair and consistent, and are arrived at in an open and participatory manner.

8.2.2 Key Actions

1. Set up an annual round table to discuss progress in implementing the management plan.
2. Report regularly to the public on the implementation of the park management plan and how it relates to the *State of the Parks Report*.
3. Set up appropriate processes to consult with the public on future issues. Ensure that local stakeholders are involved as early as possible.

8.3 Development Review Process

Buildings, roads, bridges, and other facilities are all essential to the enjoyment, operation, and management of a national park. The size, design, and use of these facilities must meet the needs of visitors and at the same time respect the park environment. They must also take into account the legislative and liability questions associated with development in a national park.

8.3.1 Strategic Goal

The Development Review Process ensures the consistent application of guidelines and public input to all development, including major renovations, in Jasper National Park of Canada.

8.3.2 Objectives

To ensure development reflects the mandate as described in the *National Parks Act*, Parks Canada's policy, and the *Jasper Community Plan.*

To adhere to high standards for environmental assessment.

To improve consistency.

To involve the public.

8.3.3 Key Actions

1. Adopt a revised *Development Review Process* for all proposals. The process will include the following key components:
    - Review of development proposals will take place in two stages—the development permit review and the building permit review;
    - An Advisory Development Board (ADB) will facilitate public involvement. The board will review all applications publicly to ensure they are appropriate and meet the requirements of the *National Parks Act*, regulations and planning. The ADB will submit its recommendations to the park superintendent;
    - A District Review Board will assess procedural questions arising from ADB recommendations and decisions by the superintendent;
    - Sunset clauses will limit the period during which an approval is valid;
    - High standards for environmental assessment will incorporate the requirements of the *Canadian Environmental Assessment Act* (CEAA);
    - The municipal development review process will serve as a model;
    - All proposals will respect the appropriate development and business licensing criteria as set out in the announcement of the Minister of Canadian Heritage, June 1998; the *Jasper Community Plan*; and the principles guiding the nature and scale of OCA developments outside park communities; and
    - Appropriate development and business licensing criteria will apply to commercial activities that may not require development, but could have an impact on the community (e.g., staff housing, equipment storage).

8.4 Appropriate Use

Parks Canada is responsible for making decisions about what type of use is appropriate in a national park. In cases where the *National Parks Act*, *Parks Canada's Guiding Principles and Operational Policies*, the *Park Management Plan* or the *Jasper Community Plan* are not clear on appropriate use, Parks Canada must rely on other, clearly defined criteria in coming to a decision. Adjustments may be necessary at times and the review process must be flexible enough to accommodate changing public values and perspectives.

8.4.1 Strategic Goal

Use is evaluated using clear criteria that respect the mandate as described in the National Parks Act and Parks Canada's policy framework.

8.4.2 Objectives

To apply appropriate use criteria in assessing new activities and uses, and changes in levels of use associated with existing activities.

To encourage public involvement in the assessment of appropriate use.

8.4.3 Key Actions

1. Set up a process to examine, annually, proposed new activities and use, and changes in levels of use.
    - Invite the public to review the proposed changes.
    - Assess proposals against the criteria for appropriate use in Table 3.

TABLE 3 - APPROPRIATE USE CRITERIA

The following criteria will be used to evaluate the merits of a new use, a change in an existing use, or a significant change in the level or intensity of use. The criteria are all relevant but are not meant to be exhaustive or absolute. They are intended to guide the evaluation process. In applying the criteria, the primary consideration is how the proposed change contributes to or detracts from the spirit and intent of the management plan, the *National Parks Act*, and Parks Canada's policy. The criteria are taken from the Banff-Bow Valley Study Round Table's *Summary Report*.

Impact on Environment

- seeks to assess the extent to which the proposed change impacts the ecological integrity of the region. The assessment will include the effect of participation in the activity as well as the facilities and services required to support the activity.

Effects on Culture and Heritage

- seeks to assess the qualitative dimension and preservation of a use that contributes to the region's heritage and cultural integrity. The assessment will reflect an understanding, appreciation of, and respect for the region's culture and heritage, and evolving cultural identity including aboriginal people.

Quality of Experience

- investigates the extent to which the participant's and other's quality of experience is enhanced or diminished as a result of the proposed change. Its application recognizes that different visitors seek a broad range of different experiences, and that they value different resources, facilities and services in different ways.

Economic Effects

- attempts to understand the economic effects of the proposed change. Issues that would be considered include: cost for visitors to the park, cost and revenues to Parks Canada, and effect on local, regional and national economies and market conditions.

Public Safety

- used to determine the extent to which the proposed change imposes risks or dangers to participants or others.

Equity and Access

- seeks to ensure that all citizens have a fair, reasonable, and equitable opportunity to participate in, and benefit from, the range of appropriate activities and experiences available in Jasper National Park of Canada. It will consider such factors as economic status, physical capabilities, and place of residence of the visitor.

Social Effects/Quality of Life

- examines the social implications of the proposed change. Questions applied here would speak to: level of change to the region's existing social patterns and needs, effects on the social service structure, effects on social indicators (e.g., income distribution, housing costs, levels of crime, etc).

Education and Awareness

- focuses on the extent to which the proposed change contributes to better understanding and appreciation of natural and cultural heritage, Jasper National Park of Canada, its role within the Canadian national park system and in the larger ecosystem.

Level of Use: Frequency, Timing, and Quantity

- would involve questions such as: How often does a proposed activity occur? When does it occur (e.g., season)? How many individuals are involved? What is the level of support required?

Physical Setting Related

- has two components. The first focuses on whether the proposed change is well-suited to the physical setting of Jasper National Park of Canada. The second considers to what extent the proposed change is dependent upon a national park setting.

Heritage Tourism

- focuses on the extent to which the proposed change contributes to the park's Heritage Tourism goals.

Environmental Stewardship

- focuses on the extent to which the proposed change contributes to the park's Environmental Stewardship goals.

8.5 Regional Coordination

Parks Canada believes that, for the ecosystem to be sustainable, everyone concerned must be involved in finding solutions and working towards common goals. Research, restoration, education, tourism and stewardship initiatives will all be more successful if we understand the role of the park within the larger region. This coordination will operate at many levels. Some initiatives will be local, while others will involve the entire ecosystem.

For many years Jasper National Park of Canada has worked with adjacent jurisdictions on questions of common concern. More recently, however, Jasper National Park of Canada has become involved in regional programs that take a comprehensive look at issues and involve all levels of the organization from technical staff to senior management. These include:

1. **Foothills Model Forest**

   One of eleven model forests in Canada, the Foothills Model Forest is part of a federal government initiative that began in 1990. The intent of the program is to develop local solutions for sustainable forest management. Program elements include cumulative effects, grizzly bear and caribou research, criteria and indicators, communications, and socio-economic research. Key sponsors include Weldwood of Canada, Alberta Environmental Protection, the Canadian Forest Service and Jasper National Park of Canada.

2. **Rocky Mountain Tourism Destination Region (TDR)**

   The Rocky Mountain TDR includes Canmore, Banff, Lake Louise, Jasper, Grande Cache and Hinton. It is one of six marketing organizations in Alberta responsible for planning and implementation of regional marketing programs. Parks Canada works with the Board of Directors to encourage marketing activities and programs that are consistent with park values and increase awareness about the parks.

3. **Northern East Slopes Environmental Resource Committee**

   A provincial committee made up of regional directors from various sectors, this group invites stakeholders to address particular issues of relevance to them. Jasper National Park of Canada participates in this way as well as on the implementation of the "Working Framework: Achieving Integrated Grizzly Bear Conservation".

Jasper National Park of Canada can make a valuable contribution as one of several core protected areas within the region. Parks Canada feels that it can contribute most effectively in joint planning and coordinated land use through committees established by others. Parks Canada would support the establishment of, and participate in, groups pursuing integrated approaches to areas of mutual interest.

8.5.1 Strategic Goal

Ecological, social and economic systems in the park and greater ecosystems benefit from integrated management.

8.5.2 Objectives

To work with gateway communities to share expertise in heritage presentation and tourism and to increase understanding of park goals.

To work with others in coordinating regional development and use (e.g., tourism strategies, location and type of development, cumulative effects).

To contribute to an integrated network of protected areas.

To encourage cooperative backcountry management with adjacent lands.

To work with regional communities and agencies in the areas of public safety and emergency services.

8.5.3 Key Actions

1. Continue to participate actively on key coordinating committees established by other agencies in the ecosystem.
   - emphasize participation in the Foothills Model Forest and Northern East Slopes Environmental Resource Committee
   - pursue common goals
   - in addition to short-term concerns, consider long-term strategic issues such as ecological integrity and tourism
2. Participate in environmental assessments or provincial/regional environmental reviews of projects outside the park that are likely to have an adverse effect on the park's environment.
3. Work with regional tourism partners to expand opportunities for heritage tourism in the region.
4. Work with the towns of Hinton and Valemount to examine the potential impact more tourist services in their communities will have on day-use in the park.
5. Pursue the management of the park's backcountry with managers of adjacent land.

8.6 Lake Edith Cottages

Originally established as an artists' colony in 1920, the Lake Edith Cottage area is the only such site in Jasper National Park of Canada. *Parks Canada Guiding Principles and Operating Policies* (1994) recognize such developments as Resort Subdivisions that are "seasonal cottage subdivisions established early in the history of Jasper, Wood Buffalo, Prince Albert and Riding Mountain National Parks". The Lake Edith Subdivision is in the montane ecoregion, critical winter range for a variety of wildlife.

8.6.1 Strategic Goal

The Lake Edith Cottage area fulfills its traditional role as a seasonal resort subdivision in the park.

8.6.2 Key Actions

1. The Lake Edith Leaseholders Association will serve as an advisory group to the park superintendent.
2. Prepare planning and operational guidelines to ensure use of the area remains consistent with its traditional role in the park.
3. Refuse to make additional lands available for private cottages at Lake Edith.
4. Ensure the Lake Edith lots, leased on public lands as a resort subdivision in Jasper National Park of Canada, are only used from April 1 to October 31.

8.7 Research and Information Management

Many of the actions identified in this plan require the collection and analysis of information. Decision-makers, whether they be park managers, tourism operators, local residents or park visitors, need access to this information and, if information is not available, the ability to gather it efficiently. By helping us understand the relationship between "natural" and human processes, interdisciplinary research makes an important contribution to the park's ecological integrity objectives.

In an era of powerful new data management technologies, one of the biggest challenges for decision-makers is organizing and analyzing the diverse kinds of information available to them. Because ecosystem-based management strives to integrate our understanding of whole ecosystems—from continental through regional to park or even community specific—scientists and information managers must make difficult choices about what to study and document. Studies must focus on significant issues and assess the area's environmental, economic and social well-being over time. A common approach is to select a component of the ecosystem, called an indicator, and track its health or changes in its status. Careful choice ensures a full range of indicators (e.g., water quality, carnivore populations, vegetation structure or rare and endangered species) reflect the overall ecosystem in a meaningful way.

8.7.1 Strategic Goal

Research and information, shared among agencies and individuals in the Yellowhead ecosystem, support sound decisions.

8.7.2 Objectives

To increase the public's understanding of the information on which decisions are based.

To implement an integrated research and monitoring program.

To collect and better integrate Aboriginal traditional knowledge, local knowledge and scientific information into decision-making.

To support research in the park.

8.7.3 Key Actions

1. Invite the scientific community, non-governmental organizations and the public to help identify information needs and develop strategies to fill information gaps.
2. Set up a peer review process.
3. Encourage interdisciplinary research that improves understanding of the links between ecological and cultural processes.
4. Work with others to improve the use of science to support decision-making (e.g., institutions that collect and analyze information or agencies that use information for various purposes, including education and environmental assessments).
5. Make the results of scientific research widely available.
6. Establish, in partnership with others, a program to fund social, economic and ecological research.
   - encourage contributions from various sectors, including the business community, universities, non-profit organizations and government
   - focus on financial support for long-term research related to indicators and cumulative effects
7. In addition to its role as a training centre allow the Palisades to be used as a research facility. Continue to place priority on recovering the cost of operating the facility and on recapitalization.

8. Set clear goals for research related to ecosystem management, human use management and heritage presentation.
    - demonstrate how research and information will contribute to management decisions
9. Work with appropriate authorities in the Yellowhead ecosystem to set up a strategic research program and a data/information management system.
10. Ensure that the collection and use of data—ecological, social and economic—transcends jurisdictional boundaries.
11. Identify key information gaps, particularly scientific, social and economic information, and set up processes for obtaining the necessary information.
12. Develop a social science strategy.
    - define interim socio-economic goals
    - refine goals once significant information gaps are filled
13. During the next two years, develop and implement a community awareness and involvement program linked to the park's research program.

A Place for Environmental Stewardship

Two tons of cardboard! Jasper's recycling program (one of the best in Alberta) reduced the amount of garbage in the local landfill by 44% over 8 years.

9.0 A PLACE FOR ENVIRONMENTAL STEWARDSHIP

9.1 Overview

Environmental stewardship reduces the impact of our daily activities on the environment. It is concerned with a range of issues from water quality and energy consumption, to chemical use and contaminated sites. It also includes a wide variety of activities from recycling and reducing resource consumption to restoring disturbed landscapes.

While Parks Canada is responsible for providing leadership in environmental stewardship, effective action requires broadly based support from local residents, businesses and park visitors.

The Government of Canada is committed to the concept of environmental stewardship. This ensures that every government department or agency meets or exceeds environmental laws and regulations, follows the best environmental practices available, and develops and implements a sound environmental management system. Many of the Government's commitments to the Greening of Government Operations have been formalized through amendments to the *Auditor General's Act* and the appointment of the Commissioner of the Environment and Sustainable Development. As a result, Parks Canada must now report to Parliament on its progress in fulfilling its environment responsibilities.

An environmental management system (EMS) helps organizations and businesses apply environmental stewardship considerations to every business decision. It ensures that the greatest environmental risks receive the highest priority.

9.2 Strategic Goals

Parks Canada demonstrates sound environmental practices in all its activities, services and products.

Environmental stewardship is fundamental to the operation of all businesses and institutions.

Visitors and residents contribute to the principles of environmental stewardship and sustainability.

9.3 Objectives

To improve environmental performance by developing and implementing an environmental management system.

To ensure environmental stewardship is an integral part of all new leases, lease renewals and business license applications.

To determine the most appropriate location and method for disposing of solid waste.

To encourage local residents, businesses, and park visitors to share responsibility for environmental stewardship.

9.4 Key Actions

1. Prevent contamination from petroleum storage tanks and ensure compliance with *Canadian Environmental Protection Act* regulations.
2. Employ an integrated pest management system.
3. Apply safe and environmentally responsible management practices to the acquisition, reporting, monitoring, handling, storage, safe use, transportation and disposal of hazardous waste.
4. Implement the contaminated site strategy focusing on the clean up of priority sites.
5. Reduce air emissions by identifying sources of pollution; minimize activities and products that cause harmful air emissions.
6. Reduce gasoline consumption; promote the use of alternative fuels; select new vehicles based on their ability to use alternative fuels.
7. Develop and implement energy management plans for all buildings; incorporate energy efficiency and cost effective technology when building or upgrading facilities.
8. Maintain performance in meeting the goal, set by the Canadian Council of Ministers of the Environment, of reducing solid waste by 50% of the 1988 levels (e.g., through purchasing, reuse, recycling, and composting).
9. Ensure that the use of surface and ground water does not impair aquatic and riparian systems.
10. Implement a water conservation program for all park and commercial facilities. Reduce water consumption by adopting water saving technologies at park facilities.
11. Purchase products and services that meet environmental specifications; replace as many products and services as possible with others that are more environmentally friendly.

12. Demonstrate responsible environmental management to visitors and other groups by applying the best available practices to services and facilities.
13. Keep construction and demolition waste to a minimum.
14. Develop training programs and provide tools that allow park staff to make environmentally responsible choices.
15. Develop communication products and information packages that support shared stewardship initiatives.

9.5 Sewage Treatment

Releasing effluent into park waters has a variety of consequences. Among the most notable are changes in their aesthetic appeal and in the composition of aquatic communities. Adequate sewage treatment reduces the effect of effluent and water conservation helps to reduce the amount of sewage that requires treatment. A new sewage treatment plant is being designed for the community of Jasper. Facilities not connected to this sewage system treat effluent in a variety of ways.

Leadership targets for effluent from water treatment plants are provided as goals which Parks Canada will work towards, using the best available technology economically achieveable. An approach to continuous improvement, as opportunites arise, will be pursued.

Current federal and provincial guidelines and standards permit some impairment of aquatic environments due to limitations of technology and cost. Leadership targets are set out for the cold and nutrient poor waters in the mountain national parks, in recognition of Parks Canada's mandate to maintain ecological integrity of aquatic environments. To achieve this, higher quality effluent from treatment plants is neccessary. These leadership targets emphasize control of nutrients including nitrogen and phosphorus which are recognized as key factors changing aquatic environments.

9.5.1 Strategic Goals

In the long term, effluent matches, as closely as possible, the natural composition of receiving waterbodies.

Sewage from facilities that are not connected to a treatment plant have minimal environmental impact.

9.5.2 Objectives

To minimize the impact of sewage treatment plants, septic tanks, and other human effluent on water resources.

To promote water conservation.

To improve our understanding of long range and local, point and non-point-source pollutants and, where feasible, reduce or eliminate contamination.

9.5.3 Key Actions

1. Work toward the following targets for in-stream release of sewage effluent:

Phosphorus	<0.005 mg/l
Faecal Coliform	<20/100ml (end of pipe) <2/100ml (end of mixing zone)
pH	7.5 — 8.5
BOD_5	Summer <10 mg/l Winter <20 mg/l
Total suspended solids	<10 mg/l
NH_3-N	Summer <1mg/l Winter <5mg/l

2. Examine sewage treatment at outlying facilities; draft guidelines and standards for acceptable sewage treatment. Implement an environmentally appropriate method for the treatment of sewage at Maligne Lake and the Miette Hot Springs area.
3. Reduce the amount of phosphorus entering the Athabasca River in sewage effluent.
4. Reduce the use of phosphates in the park.
5. Monitor water quality through chemical analysis and biological indicators, such as benthic algae and invertebrates.
6. Monitor the performance of wastewater treatment facilities in the community of Jasper, outlying commercial accommodation, campgrounds, day use facilities, hostels, and other facilities.
7. Develop a communications program for the general public and commercial operators about nutrient loadings, including phosphorus, methods to reduce loading, and performance.

Park Zoning

Protecting the wild in a 'wilderness experience'. Parks Canada uses zoning to support the needs of natural areas and park visitors. The zones range from road-accessible frontcountry areas to large tracts of remote wilderness that receive very few visitors.

10.0 Park Zoning

10.1 National Park Zoning System

The zoning system classifies areas according to their need for protection. The suitability of areas for visitor activities is also a consideration in zoning decisions. The system's five categories are described in *Parks Canada Guiding Principles and Operational Policies.*

Large tracts of protected wilderness are becoming a scarce and valuable resource. From an ecological perspective, their importance lies in their ability to support natural processes and to serve as benchmarks. They are critical for animal species with large home ranges and for migrating wildlife.

The *National Parks Act* provides for the designation, by regulation, of wilderness areas of the park. A high level of ecological integrity is synonymous with wilderness. The intent of the wilderness declaration is to assist in ensuring a high level of ecological integrity by preventing activities likely to impair wilderness character. The perpetuation of ecosystems with minimal human interference is the key consideration in maintaining wilderness character. Only development and activities required for essential services and the protection of the park resources will be permitted in declared wilderness areas. Declared wilderness is one of a range of tools which will be used to ensure the preservation of wilderness value. Human use levels in declared wilderness areas will be managed based on landscape management unit objectives and human use strategies.

Well over 90% of the park lands have beeen recommended for wilderness declaration. Wilderness areas are generally consistent, but do not coincide exactly with the Zone II areas of the park. For example, utility and service corridors that cut through Zone II areas, and small Zone II areas between transportation corridors, may not be declared. Appropriate Zone II, and Zone I areas identified in this plan will be declared.

10.2 Zone I - Special Preservation (less than 1% of the park)

Zone 1 lands deserve special preservation because they contain or support unique, threatened or endangered natural or cultural features, or are among the best examples of the features that represent a natural region. Preservation is the key consideration. Motorized access and circulation is not permitted. This plan identifies four Zone I areas that were also included in the 1988 park management plan.

Ancient Forest

The oldest living specimens of Engelmann spruce (*Picea engelmannii)* in the Canadian Rockies, and possibly North America, have been identified at a subalpine site approximately one kilometre west of the Columbia Icefield Centre. The site is near the upper limit of tree growth and is flanked by moraine and the outwash of the Sunwapta River. The trees range in age from approximately 703 to 763 years. These trees are an excellent example of climax succession. The park will not encourage access to the area and will interpret resources off-site.

Surprise Valley (Maligne karst system)

The Surprise Valley is part of the Maligne karst system. The valley, located above the Maligne River, is drained entirely underground through limestone of the Upper Devonian Palliser Formation. It is associated with one of the largest underground river systems in North America. The valley contains deep sinkholes in glacier drift, sink lakes, and some of the finest examples of rillenkarren in North America. The Surprise Valley is designated as a Zone I area because of these significant surface karst features. No new access will be provided to the area. The remainder of the Maligne karst system can accommodate higher levels of controlled visitor activity and will be managed under Zones II, III, and IV.

Devona Cave Archaeological Site

The Devona Cave contains pictographs and other significant material that are important to understanding prehistoric activity and trade in this area. The area is not identified on the zoning map due to its sensitivity and access to the cave will be strictly controlled.

Jasper House

Jasper House has been designated as a national historic site because of the significant role it played in the fur trade. Jasper House is rich in architectural features, artifacts, and faunal remains. Archaeological remains are intact and are very important in understanding the history of the site. Management guidelines for the Jasper House and Devona Cave sites will be developed through the park's cultural resource management program.

10.3 Zone II - Wilderness (97% of the park)

Zone II contains extensive areas that are good representations of a natural region and are conserved in a wilderness state. The perpetuation of ecosystems with minimal human interference is the key consideration. Zone II areas offer opportunities for visitors to experience, first hand, the park's ecosystems and require few, if any, rudimentary services and facilities. In much of Zone II, visitors have the opportunity to experience remoteness and solitude. Motorized access is not permitted.

Much of this land consists of steep mountain slopes, glaciers and lakes. Zone II areas cannot support high levels of visitor use. Facilities are restricted to trails, backcountry campgrounds, alpine huts, trail shelters and warden patrol cabins. Sections of the park will continue to have no facilities.

10.4 Zone III - Natural Environment (1% of the park)

In Zone III areas, visitors experience the park's natural and cultural heritage through outdoor recreational activities that require minimal services and facilities of a rustic nature. Zone III applies to areas where visitor use requires facilities that exceed the acceptable standards for Zone II. No motorized access is permitted, except for snowmobiles used to set tracks and service backcountry facilities and off-season servicing by helicopters. Access routes and land associated with backcountry commercial lodges are in Zone III.

10.5 Zone IV - Outdoor Recreation (less than 1% of the park)

Zone IV accommodates a broad range of opportunities for understanding, appreciation and enjoyment of the park's heritage. Direct access by motorized vehicles is permitted. In Jasper National Park of Canada, Zone IV includes frontcountry facilities and the rights-of-way along park roads. Zone IV nodes occur at Pocahontas, Miette Hotsprings, Snaring Campground and overflow, the Pyramid Bench, Athabasca Falls, Sunwapta Falls, Maligne Canyon, the Maligne Lake day-use area, Jasper Park Lodge, the Columbia Icefield Area and Marmot Basin ski area.

10.6 Zone V - Park Services (Community of Jasper—less than 1% of the park)

The community of Jasper is the only Zone V area in the park. The *Jasper Community Plan* will guide land use decisions in this area.

10.7 Environmentally Sensitive Sites

This designation applies to areas with significant and sensitive features that require special protection. The Maligne Lake outlet has been added to the two Environmentally Sensitive Sites identified in the 1988 *Jasper National Park Management Plan*—the Edith Cavell Meadows and Pocahontas Ponds.

Edith Cavell Meadows

The upper subalpine and alpine meadows near Mount Edith Cavell contain many significant plant species. With one exception, all these species are located elsewhere in the park. However, the existence of such an array of unusual plants indicates environmental circumstances not found elsewhere in the four mountain parks. The meadows are also an important caribou calving and rutting area.

Use of the meadows has increased over the last several years and action is required to protect rare plant communities and provide for the needs of caribou.

Pocahontas Ponds

The wetlands of the Athabasca floodplain near Pocahontas are known locally as the Pocahontas Ponds. This area of small ponds and active and dead stream channels is very important to wildlife. The area provides critical winter range for elk and moose and is also important to small mammals. Carnivores are attracted by these prey species. Numerous bird species occur in high densities, many of which are not found elsewhere in the parks. Raptors such as osprey and bald eagle nest here. The area also provides habitat for the river otter, a species which is rare in the park.

Any major construction in the area (e.g., roads) will change sedimentation and erosional patterns. Care must be taken that future development and use do not have a negative impact on the area's special resources.

Maligne Lake Outlet

The Maligne Lake outlet is a "club site", or area of high concentration for harlequin ducks particularly during the pre-nesting period. Similar concentrations are rare in North America. Harlequin ducks require special management due to their sensitivity to in-stream disturbance, narrow ecological requirements and low reproductive potential. The outlet is part of the mid-Maligne River, a movement corridor between Maligne and Medicine lakes for harlequin duck broods.

Actions to preserve the Maligne Lake outlet include closing the mid-Maligne River to in-stream use, restoring vegetation along the outlet and improving presentation of the site's significance.

10.8 The Montane Ecoregion

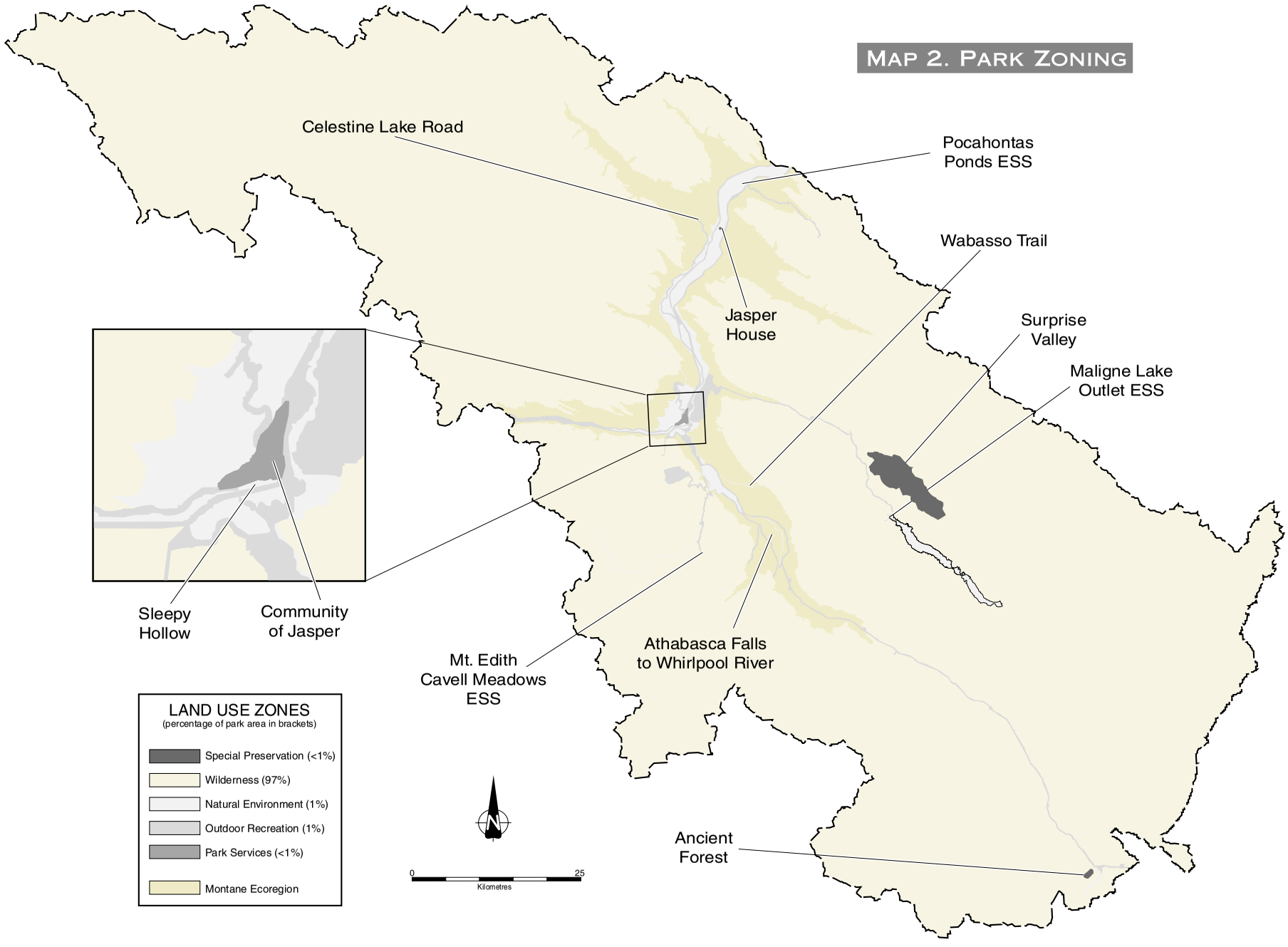
Covering only about seven per cent of the park, the montane ecoregion is critical for wildlife. Warmer, drier winters and a relatively light snowpack offer some relief from harsh winter conditions at higher elevations.

These lower elevation areas on the lower slopes and bottoms of large valleys are important wildlife corridors especially during the fall, winter and spring.

This area is, however, also popular with visitors and most of the park's development is centred in the montane—the community of Jasper, the Yellowhead Trans-Canada Highway, the CN railway and most OCAs and park facilities. Because of the historical extent of development, it is not possible to put the montane ecoregion within a single zone for protection purposes. The montane area is shown on the zoning map (Map 2) to draw attention to the limited amount of montane land that remains undeveloped, and to ensure decisions take into account the limited nature of this important ecoregion.

Parks Canada will continue to emphasize the importance of maintaining the integrity and critical ecological role of the montane. Actions will include research, restoration, human use management, and public education.

Map 2. Park Zoning



Summary of the Environmental Assessment

*A red-necked grebe (*Podiceps grisegena*). The eggs are sitting in the grebe's distinctive floating nest. It is made from a mass of reeds and water weeds and is anchored to other vegetation nearby. Like loons, grebes are expert divers that feed on fish.*

11.0 SUMMARY OF THE ENVIRONMENTAL ASSESSMENT

The following summarizes the highlights of a separate report *Environmental Assessment - Jasper National Park of Canada Management Plan, 2000*.

11.1 Background

The environmental assessment was prepared to ensure the cumulative effects of policies, programs, and proposed actions are understood, and do not contradict the mandate of the *National Parks Act* or diminish ecological integrity.

Settlement, development, transportation and tourism activities over the past century have stressed the park and the regional ecosystem. The issues of greatest concern are:

- landscape fragmentation and loss of habitat connectivity as a result of development and human use in the park and surrounding area;
- the effects of non-native species, development, and flow regimes on aquatic and riparian systems;
- alteration of vegetation succession due to lack of fire and human modification of the landscape; and
- wildlife habituation and mortality.

11.2 Management Plan Proposals and Effects

Aquatic Ecosystems

During the last century, fish stocking, impoundment of wetlands, and transportation corridor construction have substantially altered aquatic environments. The plan proposes to improve the protection offered to native fish and to selectively reintroduce native fish where they have been eliminated. This will be accomplished through improved education and awareness and regulatory changes. The plan proposes a cooperative effort with managers of transportation corridors to restore natural features and reduce the effects of transportation corridors on water volume and seasonal changes in water flows, levels, and sources.

Natural Processes

Effective fire suppression for nearly a century has greatly skewed expected vegetation patterns. Grasslands and shrubby areas have been replaced with closed canopy forests. Buildup of dead and fallen forest materials has created a large, flammable fuel load that could lead to larger than normal wildfires. The management plan calls for a program of prescribed fire to reduce fuels, open up continuous forests, and reduce the intensity of randomly ignited fires. This will enhance wildlife habitat and reverse the conversion of montane grasslands to continuous forest. Active control of non-native plants, such as spotted knapweed and toadflax, will be pursued.

Wildlife

Fragmentation of wildlife habitat will be addressed both at the regional and park scale. Parks Canada will continue to work with other government agencies and the resource industry to maintain or restore regional connectivity for wide ranging species. In the montane ecoregion, the adverse effects of human use and development will be minimized and appropriate relationships between vegetation, herbivores, and carnivores will be restored. Habitat effectiveness and security area targets for grizzly bears will be used in determining the intensity and duration of human use in the park. Caribou habitat will be evaluated and prescribed fire and other restorative techniques will be used to ensure habitat is available in the long-term. Seasonal closures of Mount Edith Cavell meadows will protect caribou rutting grounds. Recommendations from a working group on elk-human conflicts will be adopted to address this issue in the community of Jasper. Animal mortality on the Yellowhead Trans-Canada Highway will be reduced with particular attention to reducing wolf mortality by examining critical linkage areas.

Visitor Services and Appropriate Use

Parks Canada has made commitments about the management of visitor services and appropriate use in Jasper National Park of Canada. A ceiling on the number of permanent residents in the community of Jasper will be set and the community boundary will be reduced to reflect the current developed footprint. Restrictions will be placed on development at Marmot Basin ski area. The system of park trails will not be expanded and backcountry huts, lodges, and shelters will be limited to their current capacity. Mountain bike use will only be permitted on designated trails and other mechanized forms of travel will not be permitted in backcountry areas. The Maligne River will be closed to all in-stream watercraft use and the Maligne Lake outlet will be designated an Environmentally Sensitive Site.

Frontcountry Visitor Accommodation Outside Communities

It is anticipated that the new guidelines for OCAs will result in development lower than permitted in previous guidelines.

Heritage Tourism

The plan outlines a heritage tourism strategy to promote and encourage tourism that is sustainable and compatible with the values on which a national park is based. This will be accomplished by increasing understanding of appropriate activities and appreciation of the park's natural and cultural heritage. Jasper National Park of Canada has embarked on a collaborative partnership with the tourism industry to achieve this goal.

Open Management

Open management will be achieved by continual public involvement, a new *Development Review Process*, and coordination with regional land managers on research, information management, and decisions that affect the larger region.

Environmental Stewardship

The plan commits Parks Canada to be a leader in environmental stewardship and environmentally friendly practices including the development of an environmental management system.

11.3 Cumulative Effects

These management plan actions address the main ecological concerns facing Jasper National Park of Canada. This environmental assessment does not evaluate individual actions. Instead it considers the combined effect of the actions to determine if the park is moving toward or away from improved ecological integrity.

Cumulative environmental effects are the combined impact of past, current, and future projects and activities. Although an environment may be resilient to the influence of a small number of projects spread over time and space, the incremental effects of a large number of stresses arising from many projects and activities may reduce the ecological integrity of landscapes, and even larger regions. In some cases the impact may be so significant that permanent changes result.

The plan addresses diminished ecological and commemorative integrity, and enhances heritage tourism. In most cases, key actions address some aspect of identified stress on a component of the park, and are fashioned to reduce that stress or enhance visitor experiences. Some actions will have immediate beneficial effect. Other situations, such as reclamation of the ecological integrity of the aquatic biome will take many years to accomplish. Restoration of some natural processes such as vegetation succession will take decades to achieve.

Performance targets and thresholds are proposed, and others will be established following more study. For example, goals are set to reduce grizzly bear mortality to less than 1% park-wide; phosphorus levels from the sewage treatment plant will be reduced to tertiary levels (e.g., 0.005 mg/l). Monitoring programs will evaluate the effectiveness of strategies and actions in meeting or setting targets. A monitoring program is key to the success of the actions and identifying any instances where change or redirection is required.

It is clear the cumulative effect of the proposals will move towards enhanced ecological integrity. Fewer animals will die on highways, railways or through conflicts with people. Habitat effectiveness will improve and habitat fragmentation will decrease. A more normal balance of predator-prey interaction will be possible. The incidence of non-native plant species will decrease. Natural vegetation succession will be enhanced, and the threat of uncontrollable wildfire will be reduced. Visitor stress on the park will be reduced by improved management of people's activities. Development limits will be better defined than before; all stakeholders will know what the future holds for services and facilities in Jasper National Park of Canada.

11.4 The Policy

As explained elsewhere in this document, ecological integrity "shall be the first priority" in making decisions about the management of national park lands. The recognition of the importance of ecological integrity is prominent in the identification of concerns and the proposed courses of action described in the 2000 *Jasper National Park of Canada Management Plan*. The vision for Jasper National Park of Canada is consistent with the *National Parks Act* and *Parks Canada Guiding Principles and Operational Policies.*

11.5 Public Input

The preparation of the management plan has offered ample opportunity for public input and expert review. Since the previous plan was approved there have been numerous public surveys pertaining to future management of the parks. The Banff-Bow Valley Task Force (1994-1996) established a round table that represented 14 sectors with an interest in national parks. Parks Canada's response to the Task Force recommendations formed the basis for the 1997 *Banff National Park Management Plan* from which the *Jasper National Park of Canada Management Plan* has taken key policy direction. In the spring of 1999 Parks Canada introduced the *Jasper National Park of Canada Management Plan Concept* for review by the public. This document set out specific management plan proposals and options for future direction. The plan concept was sent to 1,400 individuals at their request, and was discussed with members of the public at open houses.

Parks Canada has analyzed public comments and incorporated suggestions as appropriate. Following Ministerial approval of the plan, many components of the plan will be subject to environmental assessment and public review as specific projects are brought forward for implementation.

11.6 Conclusion

The *Jasper National Park of Canada Management Plan* is consistent with national parks legislation and policies. Satisfactory peer review and public input have taken place. The proposed courses of action are feasible with existing technology. Further research will be conducted before certain actions can begin (e.g. wetland restoration).

The environmental assessment finds the proposals will not cause substantial negative environmental impact. The cumulative effect of the plan will be to move towards improved ecological integrity.