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**BANFF**  
NATIONAL PARK OF CANADA

*State of the Park Report*

MAY 2008



Parks  
Canada

Parcs  
Canada

Canada

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APPROVED

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Kevin Van Tighem  
Superintendent

## EXECUTIVE SUMMARY






- The condition of ecological integrity indicators is, overall, fair with varying trends. Individual measures of most concern are Species at Risk (notably caribou), water quality, aquatic connectivity, non-native plants and grizzly bear population stability.
- There has been success in the restoration of fire through prescribed burns, management of the elk population, the restoration of wildlife corridors, reducing the fragmentation impacts of the Trans-Canada highway through installation of crossing structures and protection measures for the endangered Banff Springs Snail
- The rapidly growing regional population continues to create pressures, with changing uses on surrounding lands, impacts on migratory wildlife and increasing traffic volumes. Offsetting these has been the significant increase in provincial park protective status in both Alberta and BC which provides complementary buffer areas and deflects some recreational use from the national park
- The impact of changing climate is noticeable in measures such as increasing temperatures, lower winter precipitation and glacier recession, and may be a contributing factor to forest insect outbreaks; the long term ecological impacts are difficult to predict
- Cultural resources are still secondary in profile to ecological resources and use levels remain relatively low; because of data limitations, including lack of recent inventories and evaluation, trends are not reported
- Indicators for Visitor Experience and Public Education are still being developed nationally; national measures have not yet been identified. Existing data are used to report on most indicators but there are gaps for Connection to Place, Facilitating Understanding and Influencing Attitudes
- Total visitor numbers continue to slowly and steadily increase, though camping has declined by about 20% in the last five years. There has been a noticeable shift in markets, with a decline in international visitors replaced by regional visitors; the majority of park visits are made by people from the surrounding region. There remain significant opportunities to reach a broader cross- section of urban Canadians
- Visitor satisfaction remains high and visitors participate in a wide range of activities, with driving and townsite related activities (shopping, restaurants) the most popular. About 65% of visitor facilities are in fair condition. Because of its reliance on existing information sources, this State of the Park report reflects the traditional emphasis on facilities and activities, rather than quality of experience.
- Little is known about the effectiveness of public education programs. Better knowledge of markets and the use of new technology are opportunities for reaching more visitors. Many visitors are repeat visitors, requiring different methods of contact from those traditionally used – notably the challenge of reaching them at home before they arrive at the park. The growth of resorts, second home communities, provincial parks and access to last minute tourism “deals” via the internet has broadened the choice of recreational destinations for regional visitors

The report is based on monitoring and research conducted by Parks Canada and external agencies. Information from the programs was used to evaluate and rate the condition of a series of measures, which in turn were combined to rate the suite of indicators presented in the summary table below.

Since this report is based on existing research and monitoring programs that have been designed to meet a wide variety of management objectives, there are inevitable variations in data quality and quantity, and some information gaps exist. For many measures, targets and thresholds have not yet been established. Where necessary, the professional judgment of subject matter specialists, based on evidence, was used to establish condition ratings.

Future state of the park reports will be based on a consistent, comprehensive, long-term monitoring program that is designed to assess the condition of all key aspects of park management.

The following symbols are used in the report:







Condition		Trend	
<i>Good</i> : the condition of the indicator/measure is satisfactory		<i>Improving</i> : the condition of the indicator/measure is improving since the last assessment	↑
<i>Fair</i> : there is concern regarding the state of this indicator/measure		<i>Stable</i> : the condition of the indicator/measure is unchanged since the last assessment	↔
<i>Poor</i> : the condition of the indicator/measure is poor or low		<i>Declining</i> : the condition of the indicator/measure is declining since the last assessment	↓
<i>Not rated</i> : there is insufficient information to determine condition		<i>Not rated</i> : there is insufficient information to determine trend	


The Banff National Park Management Plan was approved in 1997 and amended in 2004 and 2007.







A summary of key management actions prescribed by the Plan is provided in Section 5.0, including information about the degree of success. Cumulatively, these and other actions are expected to result in overall improvements to ecological integrity, cultural resource management, visitor experience and public education, though individual challenges will continue to exist. As long-term monitoring programs are further developed and sufficient time has passed for the full effects of actions to be realized, more specific measurement and reporting of results are anticipated.



The existing park management plan recognizes the majority of the issues identified in this report and in most cases provides appropriate direction to address those challenges and opportunities.

In some cases, this State of the Park Report highlights specific areas that may benefit from additional attention as part of the upcoming management plan review. Of note is that visitor experience is currently approached largely from an asset-based rather than an experiential perspective. In addition, there has been only limited success to date in shifting the focus of program activities centred on ecological integrity, cultural heritage, visitor experience or public education into more holistic approaches that integrate all these elements of the Parks Canada mandate. Identifying key areas that can be addressed in an integrated way to improve resource protection, visitor experience and education presents an essential area for improvement.

Heritage Resources		
<b>Ecological Integrity (EI)</b>		
Native Biodiversity		In general, ungulate, bird and amphibian populations are in fair to good condition and are relatively stable; carnivore mortality rates are also stable. The condition of grizzly bear and Woodland caribou populations is poor
Climate & Atmosphere		Trends indicate increased stresses on some aspects of ecological integrity because of higher temperatures and less winter precipitation; in the absence of thresholds, targets and a reference condition, a condition rating is not assigned
Aquatic Ecosystems		Improvements have been made to water quality as a result of upgraded sewage treatment facilities and increased protection of thermal springs; the condition of aquatic connectivity remains poor; the Bow River immediately below Lake Louise continues to show poor condition for three of six measures
Terrestrial Ecosystems		Non-native plants and exotic pathogens such as white pine blister rust continue to increase, with a contingent effect of reducing ecosystem health. Mountain pine beetle populations have declined but require ongoing control work; ungulate browsing impact on trees and shrubs is decreasing in outlying areas but is still high near the Town of Banff
Regional Landscapes		Although fire program numerical targets are being met, burning has been limited to dry sites in the Front Ranges and overall landscape goals are not being achieved. New provincial protected areas help meet the demand for outdoor recreation and buffer the park against industrial land use but regional development pressures continue to have a negative impact on EI; wildlife-human conflicts have declined and wildlife use of highway crossing structures has increased
<b>Cultural Resource Management (CRM)</b>		
Resource Condition		Mitigative actions have been taken to reduce threat to the integrity of these resources

Selected Management Practices		Comprehensive inventories prepared
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Connection to Place		
<b>Visitor Experience (VE)</b>		
Understanding Visitors		Recent surveys provide improved knowledge of visitors. The number of visitors continues to steadily increase and is now over 3 million each year. 62% are from Canada and 42% are from Alberta. 37% are regular visitors.
Providing Opportunities		A wide range of visitor opportunities are offered by Parks Canada and business partners. Driving and town related activities are the most popular. Recent and ongoing investments in park infrastructure are improving opportunities although 30% of visitor facilities remain in less than satisfactory condition
Quality Service		Satisfaction scores consistently exceed the national target. 82% of visitors surveyed in 2003 rated their park experiences as "extremely enjoyable". There is generally high satisfaction with park visits, except for "value for money"
Connecting with Place		Information is too limited to rate this indicator
<b>Public Education (PE)</b>		
Understanding Audiences		New research approaches have provided new information about audiences. 37% of visitors are repeat regional park users and they account for 51% of all visits but they have a low participation rate in park learning activities.
Extending our Reach		Training is provided to commercial sector employees so that they can provide useful and accurate information to visitors. An online discussion panel permits continuing discussion with visitors. Resource materials are provided to teachers

Facilitating Understanding		Information is too limited to rate this indicator
Influencing Attitudes		Information is too limited to rate this Indicator



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## 1.0 INTRODUCTION

This State of the Park Report (SOPR) provides an objective, evidence-based assessment of the current condition of key aspects of Parks Canada's mandate: heritage resource protection, visitor experience and public education. It is the second such report for the park<sup>1</sup>.

State of the Park reporting is completed every five years in advance of the review of the park management plan, which is a legislated requirement<sup>2</sup>. The Banff National Park Management Plan was approved in 1997 and amended in 2004. The next review is scheduled for 2008/09 in order to coordinate the management planning cycles for the mountain national parks (Banff, Kootenay, Jasper, Mt. Revelstoke, Glacier, Waterton Lakes, and Yoho).

The purposes of the State of the Park Report are to:

- Provide an objective summary of what is known of the condition of the park's resources and of visitors' enjoyment of the park
- Contribute to the identification of issues of concern that may need to be addressed during the next Management Plan review

The process for State of the Park reporting is relatively new and evolving. Monitoring programs are being developed for each key area of the mandate. Ecological integrity (EI) monitoring is the furthest advanced and new programs are being developed to measure the condition of cultural resources, visitor experience and public education. In 2008, the park will complete work to establish a long-term suite of indicators and measures. At present, there are a number of information gaps that exist. These gaps will be filled in subsequent reports as the park's monitoring programs develop.

The selection of the current measures and indicators was based on management plan objectives and the requirements of the national monitoring program. The findings in the report summarize current knowledge about the condition of the park and are important for evaluating the effectiveness of management actions and for identifying deficiencies and adaptive and integrated strategies to be addressed during the review of the management plan.

### 1.1 Achieving the Vision for Banff National Park

The Banff National Park Management Plan (1997, revised 2004 and 2007) establishes a vision that integrates protection, experience and education in ways that are mutually supportive and interdependent. Figure 1 illustrates how the vision elements achieve Parks Canada's integrated mandate. Without public appreciation and understanding of the value of Banff's natural and human history, stewardship and protection of the park's ecological and cultural resources would not occur. Protection and presentation of Banff's

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<sup>1</sup> The first State of the Park Report for Banff National Park was completed in 2003.

<sup>2</sup> The Canada National Parks Act subsection 11(2) requires that "The Minister shall review the management plan for each park every five years, and any amendments to a plan shall be tabled with the plan in each House of Parliament."

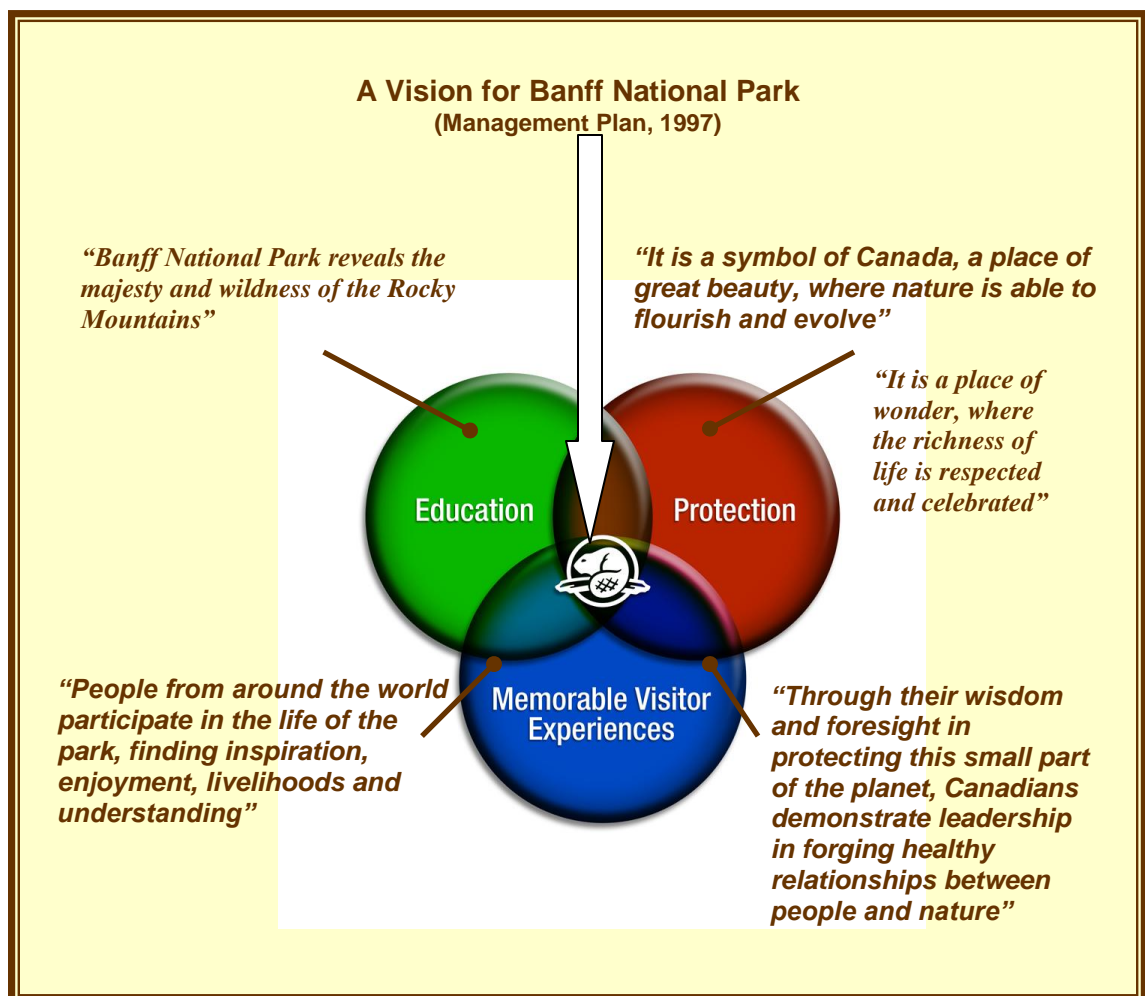
natural beauty, functioning ecosystems and heritage values are essential to providing visitors with a memorable park experience.

The management plan sets out core strategies to achieve the vision by:

- connecting Canadians to Banff National Park through first-hand experiences and learning opportunities
- managing visitor use to avoid impairing the integrity of the park's ecological and cultural resources
- setting limits to growth of the Town of Banff, the Hamlet of Lake Louise, and outlying commercial facilities
- restoring terrestrial and aquatic ecosystems
- protecting and presenting cultural resources
- collaborating with Aboriginal people on the protection and presentation of Aboriginal heritage in the park
- partnering to manage shared wildlife populations and promote regional ecosystem health and
- practising open management through effective public participation

The State of the Park Report provides measures of how well the vision for Banff National Park is being achieved.

**Fig. 1: Banff National Park's Vision for achieving Parks Canada's integrated mandate**



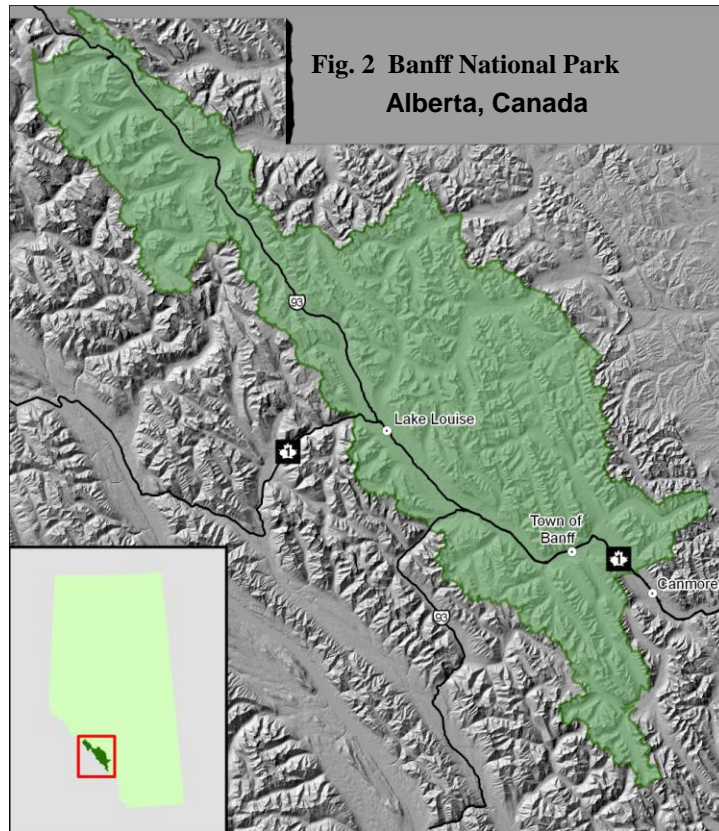
## 1.2 Park Setting

Banff National Park was established in 1885 and is the oldest national park in Canada. It has an area of 6,641 km<sup>2</sup> and can be divided into three ecological zones – the montane, subalpine and alpine ecoregions. Each ecoregion has its own unique characteristics and supports its own complex web of life. The montane ecoregion occurs at lower elevations in the foothills and major valleys of the Rocky Mountains, and is the most biologically productive area.

The park shares boundaries with Jasper, Kootenay and Yoho National Parks and with provincial parks in Alberta and British Columbia. Almost 60% of the park borders other protected areas. Banff National Park is part of the Canadian Rocky Mountain Parks World Heritage Site, together with the other three national parks and Mt. Robson, Hamber and Mt. Assiniboine Provincial Parks in BC.

The park is renowned for its mountain scenery, turquoise lakes and wildlife. Outstanding features include scenic mountains; glaciers; thermal hot springs; endangered species; the largest known cave system in Canada; seven national historic sites; more than 900 species of plants, 56 species of mammals, over 265 species of birds, 5 species of reptiles and amphibians and 20 fish species.

From the beginning, Banff National Park has been a place for people. Known human history began in the park about 11,000 years ago, when Aboriginal peoples lived in and travelled through the Bow Valley. Within the park are the Town of Banff (approximately 8300 residents) and the Hamlet of Lake Louise (about 1500 winter and 1900 summer residents). Two major national transportation corridors bisect the park – the Trans-Canada Highway and the Canadian Pacific Railway. The park is a destination for both Canadians and international visitors, with over three million visitors annually. The recent rapid growth of the Alberta economy and the population boom in Calgary have resulted in more regional visitors, as well as development of lands outside the park. The park is one and a half hours from Calgary.



## 2.0 ASSESSMENT AND EVALUATION METHODS

Parks Canada is developing a comprehensive monitoring program to assess the performance of national parks in protecting ecological and commemorative integrity and in providing public education opportunities and memorable visitor experiences. Within each of these three broad areas, several indicators have been identified to provide a broad representation of key factors influencing the national parks. Each indicator is supported by several measures which are based on data gathered through a variety of sources. Where data are insufficient, professional judgment based on evidence is used to assess conditions. This approach is depicted in the 'iceberg model' shown in Figure 2.

The 'iceberg model' of indicators and measures

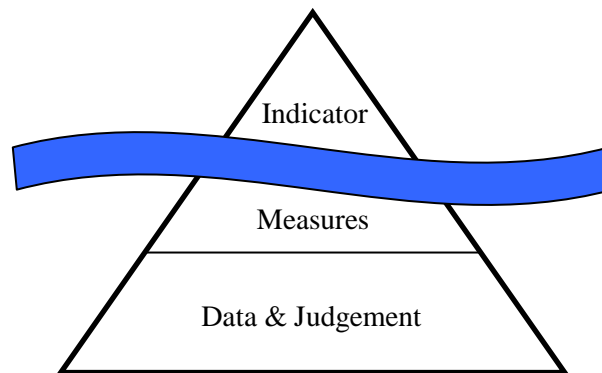


Figure 3

At the time of preparation of this state of the park report, the monitoring program is still in development. Some indicators and measures are based on existing long-term monitoring programs and can be readily assessed and reported. Other indicators and measures are more recently established and monitoring programs provide limited data on which to base evaluations and ratings. In some cases monitoring has not yet begun and information gaps exist.






Data sources include programs undertaken by Parks Canada and external agencies. In some cases where limited data are available, the professional judgment of Parks Canada staff is used to supplement data analysis. As the long-term monitoring program develops, existing gaps will be filled and future state of the park reports will be based on increasingly more comprehensive, rigorous and statistically powerful data.

In addition to providing an assessment of the state of Banff National Park, this report will provide a baseline for the new monitoring program against which future state of the park reports can be compared.

The indicators of resource protection, visitor experience and public education are rated for their condition and trend. The condition and trend ratings are *italicized and bolded*.

For clarity, symbols and colours are used to represent the condition and trend of the indicators and measures, as shown in Table 1.

**Table 1. Symbols used for indicator evaluation**

Condition		Trend	
<i>Good</i> : the condition of the indicator/measure is satisfactory		<i>Improving</i> : the condition of the indicator/measure is improving since the last assessment	↑
<i>Fair</i> : there is concern regarding the state of this indicator/measure		<i>Stable</i> : the condition of the indicator/measure is unchanged since the last assessment	↔
<i>Poor</i> : the condition of the indicator/measure is poor or low		<i>Declining</i> : the condition of the indicator/measure is declining since the last assessment	↓
<i>Not rated</i> : there is insufficient information to determine condition		<i>Not rated</i> : there is insufficient information to determine trend	

## 2.1 Resource Protection Indicators

Measures are rated by comparing the actual state of the measure with its desired state, or target. For some measures, targets are established in existing park management plans (e.g. for prescribed fire). In other cases, targets established by agencies other than Parks Canada can be used (e.g. water quality). Thresholds are also used e.g. where a measure moves from one condition rating to another such as from Fair (yellow) to Poor (red). Where adequate information is not yet available to set a specific target, the professional judgment of Parks Canada staff, based on evidence and validated through expert consultation, is used to determine the rating. Some indicators and measures cannot be rated due to lack of information

A similar approach is used to assess and rate indicators related to cultural resource management. Due to data limitations, including lack of recent inventories and evaluation, trends cannot be reported for cultural resource measures and indicators.

Measure ratings are combined to provide indicator ratings by using a simple majority e.g. if three of five measures are rated in good condition (green), the indicator is assigned a rating of “good”. In cases where there is no majority among measure ratings, the indicator is rated as *fair* to reflect uncertainty as well as concern.

A distinction is necessary between the trend rating assigned to an ecological indicator or measure and the characteristics of the measure. For example, a wildlife population may increase or decrease, but the trend rating and associated arrow symbol refer to whether

ecological integrity is *improving* or *declining*, not to the size of the population e.g. an increase in the elk population beyond its historic range of variability would be viewed as a decline in ecological integrity.

## **2.2 Connection to Place Indicators**

The indicators used to assess visitor experience and public education are relatively new in the Parks Canada monitoring program. Few specific measures and monitoring programs are in place. As a result, ratings for these indicators are mostly based on an analysis of existing survey data, primarily from a 2003 park-wide visitor survey, supplemented by site specific survey information and the professional opinion of Parks Canada staff, based on evidence and validated through expert consultation. With two exceptions, targets, or desired states of the indicators, have not been established— Parks Canada does have targets for visitor satisfaction and exposing visitors to a learning experience. The visitor experience and public education indicators are rated based on the judgment of Parks Canada staff in Banff National Park.

### 3.0 ASSESSMENT OF THE STATE OF HERITAGE RESOURCES AND CONNECTION TO PLACE

#### 3.1 Ecological Integrity

##### Overview

The Canada National Parks Act [2001] defines ecological integrity as “a condition that is determined to be characteristic of its natural region and likely to persist, including abiotic components and the composition and abundance of native species and biological communities, rates of change and supporting processes.” A national park has ecological integrity if all of the native plants and animals still thrive and if natural processes like fire, predation and avalanches are allowed to operate and continue to be the dominant forces affecting their habitats. This State of the Park Report assesses the condition of ecological integrity in the park.

Determining whether or not a park is successful in maintaining EI requires information from a comprehensive set of indicators and measures that reflect trends in a broad array of species, communities, and ecological processes. Changes in the conditions of these indicators are meant to act as early warning bells to stimulate management actions necessary to maintain EI.

Parks Canada is developing a national Ecological Integrity Monitoring and Reporting Program, based on eight geographical regions known as bioregions. The seven mountain parks comprise the Montane Bioregion. Common indicators and measures will be used in each park in the bioregion. The five indicators are Native Biodiversity, Climate and Atmosphere, Aquatic Ecosystems, Terrestrial Ecosystems and Regional Landscapes. Each indicator is based on a number of measures, some of which are also common to the bioregion (e.g. water quality) and some of which are park specific (e.g. thermal springs). An assessment of condition and trend is assigned to the indicator where possible, based on quantitative and qualitative data analysis, expert opinion and accumulated knowledge of the supporting measures. None of the indicators is wholly separate from others, as biological systems are interconnected and some measures are relevant to more than one indicator, but any one measure is only assessed under one indicator.

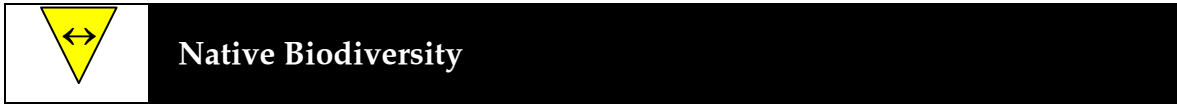
**Due to the summary nature of this report, not all of the measures will be addressed in detail; only representative measures that illustrate the condition rating of the indicator are referenced. However, information on all measures is available in the State of the Park Report Technical Compendium.**

Four of the five indicators are assigned a condition rating of “Fair”. Trends are declining for Terrestrial Ecosystems and stable for Regional Landscapes, Native Biodiversity and Aquatic Ecosystems. The Climate and Atmosphere indicator is given a declining trend but no condition rating is applied because no targets or thresholds exist and it is difficult to define a “normal” reference condition. Although EI is fair overall, it bears emphasizing that there are specific measures in a state of impaired EI (e.g. grizzly bears, woodland caribou, aquatic connectivity) that are key components of Banff National



Park, just as there are other measures (e.g. bird populations and wildlife crossing structures) that indicate a higher or improving state of EI.

## Evaluation



Biodiversity refers to the variety of life that exists in a given place, from genes and species to communities, ecosystems, functions and processes. Native biodiversity in Banff National Park refers to the variety of life that was historically present prior to the establishment of the park. It excludes introduced species, ecosystems, functions or processes.

Native biodiversity is a key element of EI. An ecosystem that has diversity is more resilient to environmental stresses or changes. Several programs are underway to monitor species populations and habitat quality.

**Table 2: Native Biodiversity**

Bioregional Measure	Condition/Trend	Park Specific Measure	Condition/Trend
1. Ungulates		7. Species at Risk	
2. Grizzly Bear Mortality		8. Wildlife Corridors	
3. Grizzly Bear Habitat Security		9. Harlequin Ducks	
4. Birds			
5. Wildlife Mortality			
6. Amphibians			

*Native Biodiversity in Banff National Park is rated as fair overall with a stable trend.*

Monitoring of key species indicates that in general, wildlife populations are in fair to good condition and are relatively stable. The condition of grizzly bear and woodland caribou populations, however, is of significant concern and requires collaboration on a regional level to ensure their persistence in the park. Banff National Park is working

with other government agencies and groups to develop and implement recovery and management programs for these species.

Bird monitoring has been undertaken at Vermilion Lakes over a ten year period, for species diversity, abundance and distribution. A Monitoring Avian Productivity and Survivorship program has been in place since 1989. Both indicate that breeding bird populations are generally in good condition with a stable trend.

The wildlife mortality measure is assessed to be in fair and stable condition, due to the fact that wildlife mortality rates on highways and railways in Banff National Park have either declined (ungulates) or remained static (carnivores) compared to 1997-2001 figures. Mortality of female grizzly bears is an exception which is discussed below.

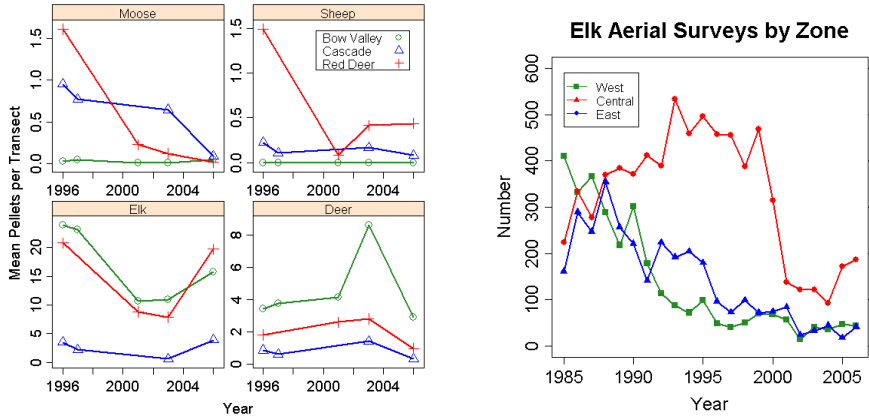
Banff National Park's amphibian measure is assessed to be in fair and stable condition due to increased awareness of amphibian species diversity and distribution as indicated by several recently-initiated amphibian monitoring programs within the park.

Known Species at Risk are the Banff Springs Snail, the Southern Mountains Woodland Caribou, Western (Boreal) Toad and Westslope Cutthroat Trout. Grizzly bears and wolverines are being considered for addition to the list. The snail population measure is rated as fair with an improving trend because of the success of the continuing recovery program. There is a small, isolated herd of caribou in the Pipestone – Siffleur area north of Lake Louise. The population has decreased from 30 – 40 animals in the 1980s, to fewer than 10. The caribou measure is rated as in poor condition, with a declining trend. The boreal toad measure is rated as fair with a stable trend due to increased awareness of its distribution and the initiation of several amphibian monitoring programs. The Westslope cutthroat trout measure is rated as poor with a stable trend because of competition from introduced species, as well as reduced aquatic connectivity and historical loss of habitat.

### **Ungulates**

High elk densities support high wolf densities that incidentally prey upon secondary species such as moose and caribou. Elk densities have declined to more natural levels throughout much of Banff National Park because of predation and management controls but remain high near human use areas (Town of Banff and outside the park at Ya Ha Tinda Ranch) where they are less susceptible to predation.

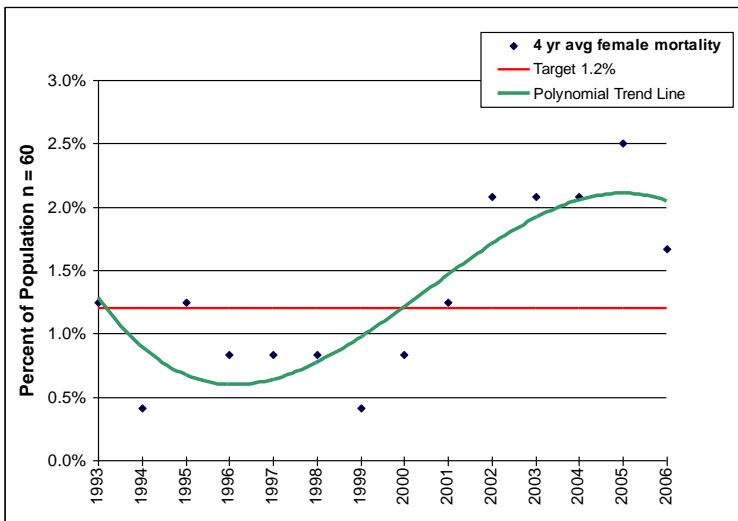
The ungulates measure is assessed to be in fair and stable condition due to the fact that since 2001, the elk population has been relatively stable, except for the area near the Town, where it has increased above the target of 100 animals. Active management and control of the Town herd continues. Deer populations have increased, especially along the eastern portion of the Bow Valley. Moose populations continued to decline in the Cascade and Red Deer valleys but have increased slightly between Banff and Castle Junction. Sheep populations declined, primarily in the Red Deer valley. However, aerial surveys by the province of Alberta indicate a robust and stable sheep population along the eastern slopes of the Rocky Mountains. Mountain goat populations have declined from historic levels, but there is considerable uncertainty about recent trends. Caribou numbers are at critically low levels.



**Fig. 4** Trends in relative ungulate abundance from pellet transects and spring aerial surveys for elk in the Bow Valley.

### Grizzly Bear Mortality

Grizzly bears are identified as a priority species in the Banff National Park Management Plan. Survival of female bears is the key parameter for population persistence as the population is small and has little capacity to recover from decline. Female grizzly bear mortality was within limits for population stability for the entire 1990s and into the early 2000s, despite surpassing the threshold of no more than 1% human-caused mortality identified in the management plan. Demographic analysis up to 2002 documented modest population growth (Garshelis et al 2005). However, known human-caused mortality of independent female grizzly bears has exceeded the proposed threshold of 1.2% for the past 6 years, compromising the population’s reproductive capacity (Figure 5). Recent demographic analysis characterized the population as having the lowest reproduction rate recorded for the species. This situation leaves the grizzly bear population susceptible to decline. Grizzly bear mortality has been rated as *poor* and the trend is toward *decreasing* population viability.

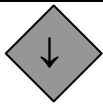


**Fig. 5** Human caused, known, independent female grizzly bear mortalities based on 4- year averages in Banff, Yoho and Kootenay National Parks, 1990 - 2006.

## Grizzly Bear Habitat Security

This measure incorporates both physical habitat quality and levels of human activity to quantify habitat security levels. Grizzly bear habitat is secure when bears have a low probability of encountering humans and can forage with little human-caused disturbance, maintaining their wary behaviour, a trait considered desirable. Several jurisdictions in western North America have set a target to maintain at least 68% of grizzly bear habitat in each management unit as secure habitat. For purposes of this report, this target will be used to rate the overall condition of habitat security in the 40 landscape management units in Banff, Kootenay and Yoho National Parks.

Of the 40 landscape management units, 31 meet the target. Within Banff National Park, 21 of 27 units meet the target. The target is meant to apply to each management unit with the intention of providing an adequate level of grizzly bear habitat security well-distributed across the regional landscape. Given that a considerable proportion (over 22%) of the units do not meet the target, and that many of those are concentrated in higher quality grizzly bear habitat in lower elevation areas, ongoing concern is warranted. This measure has been rated as *fair* with a *stable* trend.



## Climate & Atmosphere

Climate plays a fundamental role in shaping ecosystems in the Mountain National Parks. Distributions of plant and animal species, rates of glacial advance and retreat, patterns of river flow and the frequency and magnitude of natural disturbances are all heavily influenced by properties of climate, such as temperature, precipitation and snow depth.

There is international scientific consensus that the global climate is warming at an unprecedented rate. Park weather data indicate that local climate conditions are following this global trend. If this trend continues, there will be implications for both ecological conditions and visitor experiences in the park. Vegetation and animal distribution patterns may change. New species, including undesirable pathogens, may become established in the park. Summer visitation seasons may lengthen. Winter recreational activities may be affected by changing snow depth and a shorter season of snow cover. Iconic views of glaciers and other park features may change dramatically. Storm patterns and fire cycles may change. Climate affects all aspects of a national park, but the factors that affect climate are global and regional in scale and consequently not responsive to management at a national park scale. Adaptation and mitigation strategies will be required as changes occur.

Environment Canada and others, including Parks Canada, have collected significant data related to climate and atmospheric conditions in the park. Some of the most relevant data are outlined below. Although these data indicate some clear and important

trends, there has not been specific research conducted into the effects of changing climatic conditions on the park’s ecosystems or visitor opportunities.

**Table 3: Climate and Atmosphere**

Bioregional Measure	Trend	Park Specific Measure	Trend
1. Temperature	↓	4. Glaciers	↓
2. Precipitation	↓		
3. Snow Depth	↓		

Legislation defines ecological integrity as “a condition that is characteristic of its natural region and likely to persist”. Climate measures are not persisting within the historic range of variability but changing around shifting means – increasing temperatures and declining precipitation and snow depth. *Consequently, the above measures are assigned a declining trend in relation to their effect on ecological integrity.* Parks Canada has not determined targets, thresholds or reference conditions and a condition rating for this indicator cannot be assigned.

**Weather Data**

The two Environment Canada weather stations in Banff National Park with the longest data collection histories are located at the Town of Banff (1887) and Lake Louise (1915). Parks Canada also operates a network of weather stations, often in collaboration with the Meteorological Survey of Canada or as Park Fire Information Stations.

These stations have yielded relatively good time series data for the main climatic variables. Statistically significant trends include increases for all annual mean temperature measures, except mean maximum temperature at Lake Louise. For the most part, minimum temperatures were increasing faster than maximum temperatures and winter temperatures were increasing faster than spring and summer temperatures. Analysis of precipitation data from the Banff and Lake Louise weather stations shows that precipitation levels are declining for all seasons. Data from the 1950s to 2006 indicate that winter snow depth is also declining.

**Glaciers**

Glaciers are internationally recognized as key indicators of climate and environmental change taking place on a larger regional and global level. This measure examines changes to volume and area of Peyto Glacier in Banff National Park. Descending from the Wapta Icefield, Peyto Glacier (51.67 N, 116.53 W) covers an area of 12 km<sup>2</sup> and is

visible from the Icefields Parkway. It contributes flow to the Mistaya River and the North Saskatchewan River. It is one of the most researched glaciers in North America: studies date back to 1933, and are currently being conducted by national and international organizations, including UNESCO's International Hydrological Programme.

Peyto Glacier is assessed in terms of mass balance (the volume a glacier loses or gains each year) and glacial extent (area). Mass balance is a good assessment tool, in that it can provide a direct signal of climate change as glaciers respond by losing or gaining volume.

Mass balance studies have been conducted on the Peyto Glacier since 1965, making it the site of the longest series of complete mass balance studies of its kind in western Canada.



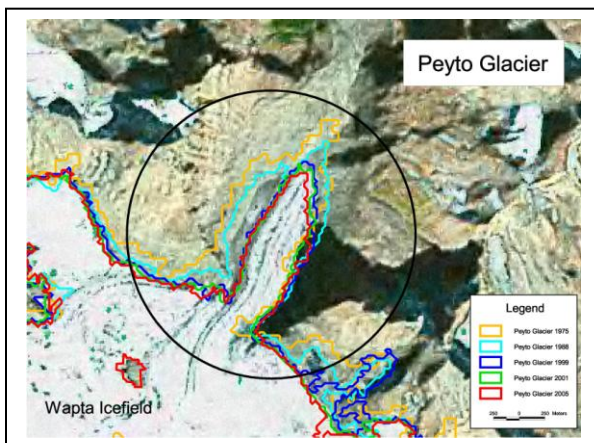
**Fig. 6** Peyto Glacier 1902  
 Vaux family  
 (Whyte Museum of the Canadian  
 Rockies NA 80-1127)



**Fig. 7** Peyto Glacier 2003  
 (C. White 2003-07D-22)

Peyto Glacier has been in recession (net loss of mass) since 1976 (Marshall 2003). It is estimated that Peyto Glacier has lost 70% of its volume since it was first observed in 1896 (Demuth 2006). Satellite imagery indicates that the areal extent of the Peyto Glacier (within a demarcated area) has receded from 231 ha in 1975 to 135 ha in 2005 (fig. 6).

Peyto Glacier has experienced an accelerated decrease of volume and area since the mid-1970s. However, a knowledge gap exists as to how this affects the ecological integrity of the surrounding ecosystem. Condition is not rated for this measure.



**Fig. 8** Areal extent of Peyto Glacier  
 (D. Zell, Parks Canada, 2007)



## Aquatic Ecosystems

Aquatic ecosystems in Banff National Park include rivers, streams, lakes, wetlands, and thermal springs and are renewed and altered by natural processes such as flooding, erosion, deposition, avalanches and fire. They are also impacted by human-caused disturbances, including transportation corridors, dams, construction, diverted flow patterns, introduced species, recreational activities, water usage and the addition of nutrients and chemicals into the water through wastewater and other means. With the help of monitoring and education programs, the park aims to restore natural flow regimes, water levels, biodiversity and water quality to its aquatic ecosystems that will align as closely as possible with those of the naturally occurring waters of the park.

**Table 4: Aquatic Ecosystems**

Bioregional Measure	Condition/Trend	Park Specific Measure	Condition/Trend
1. Water Quality		4. Thermal Springs	
2. Aquatic Connectivity			
3. Water Quantity			

*Aquatic ecosystems are assessed to be in fair condition overall with a stable trend.*

Improvements in the ecological health of aquatic ecosystems within the park include the improved condition of discharge from wastewater treatment facilities and increased ecological knowledge and protection of thermal springs.

Aquatic connectivity is assessed as poor, because of the many culverts along the highways and the railway, plus dams on Fortymile, Cascade and Spray watersheds. Condition is rated as stable because highways are being upgraded and the new section of twinning of the Trans Canada Highway incorporates modern culvert design that restores the ability of aquatic organisms to move upstream and downstream.

The park's thermal springs are concentrated along the base of Sulphur Mountain and at the Third Vermilion Lake. In the last 10 years there has been considerable research at the Sulphur Mountain springs as part of the recovery program for the Banff Springs Snail. Inventories have been conducted, water physicochemistry appears to be stable,

increased protection has been introduced and the snail recovery program is being implemented. The state of EI at the thermal springs is assessed as fair and stable.

No water quantity assessment is available.

### **Water Quality**

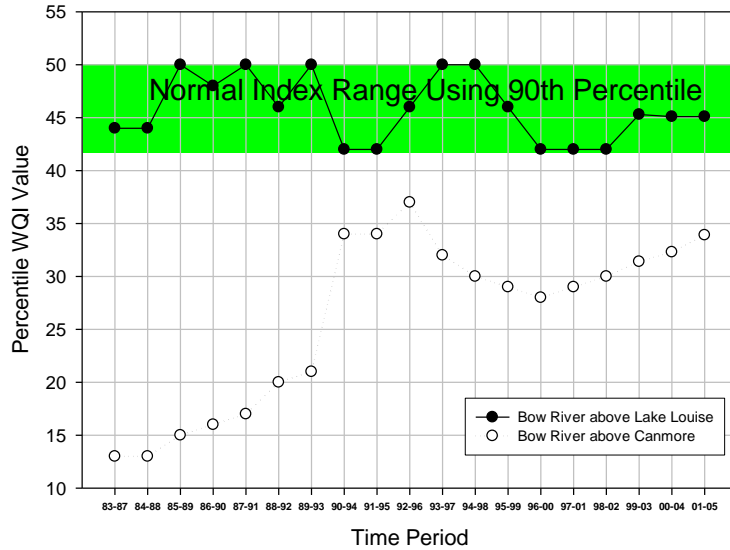
Many rivers and streams in the park are headwaters with high natural water quality (though they can be affected by airborne pollutants from other parts of the world).

Water quality monitoring occurs on the main stems of the Bow River and the North Saskatchewan River as they have been affected by man-made nutrients, notably along the Bow River because of phosphorus from the sewage treatment plants at Lake Louise and Banff. This resulted in unnaturally high abundances of benthic algae and an associated change in the composition of benthic macroinvertebrate communities. The Management Plan set high targets for sewage treatment (end of pipe measures). Major upgrades to the treatment plants have significantly reduced the impacts. Decreasing trends in bacteriological parameters at the monitoring site on the Bow River below the Town of Banff suggest that improvements to sewage treatment facilities have been effective in reducing the concentrations of these parameters and, importantly, extreme values have been virtually eliminated. The trend of increasing dissolved phosphorus at this site has been reversed and, though still higher than at the upstream site above Lake Louise, was already reduced by 15% by 2002 (Glozier et al, 2004). The biological attributes of the Bow River near the park boundary have been almost completely restored to reference conditions since the treatment plant upgrades (Bowman 2007).

The Bow River immediately below Lake Louise remains a concern as three of six measures (chlorophyll, benthic macroinvertebrates, chironomids), continue to indicate poor water quality despite treatment plant upgrades, though condition recovers to fair to good by the time river water arrives at the Town of Banff (Bowman 2007).


The national Water Quality Index indicates good condition with a stable trend for the North Saskatchewan River and for the Bow River above Lake Louise. For the site on the Bow River below the Town of Banff, the Index indicates the condition is fair, with an improving trend. (Glozier et al, 2004, updated to 2006).









**Fig. 9** Water Quality Index

Overall water quality condition is assessed as fair with an improving trend. The exception is the Bow River immediately below Lake Louise which is rated as in poor condition with a stable trend.

 **Terrestrial Ecosystems**

The terrestrial ecosystems indicator examines impacts to native vegetation from a variety of stressors.

**Table 5: Terrestrial Ecosystems**

Bioregional Measure	Condition/Trend	Park Specific Measure	Condition/Trend
1. Non-native Plants		4. Ungulate Browsing Impact	
2. Exotic Pathogens			
3. Insect Disturbance			

*Terrestrial Ecosystems are assessed to be in fair condition overall with a declining trend.*

White Pine Blister Rust is an exotic pathogen which is infecting Whitebark Pine communities throughout their range in the mountain parks. Infection and mortality rates are increasing. The spreading infection, together with fire suppression and mountain pine beetle attacks, is limiting the recruitment and sustainability of Whitebark Pine stands in subalpine communities. The measure is in fair condition, with a declining trend.

Mountain pine beetle populations have exploded in many of western Canada's lodgepole pine forests in the last decade because of milder winters and an abundance of mature pine stands resulting from fire suppression. Active control in the lower Bow Valley has reduced beetle population growth although there is still potential for significant pine mortality to beetles depending on future events. The measure is assessed to be in fair condition, with a stable trend.

### **Non-native Plants**

Non-native plants are a stressor to EI because some are capable of invading natural habitats and displacing native species. Approximately 937 vascular plant species have been identified in the park, 93 of which are non-native (10% of the vascular biota). Most non-native plants are currently confined for the most part to human-disturbed sites and some control measures have been effective but a few have invaded undisturbed areas including scarce, ecologically important habitats such as grasslands, wetlands and riparian areas. A Non-native Plant Control Program is in place to prevent new infestations and limit the spread of established species. To date, control work has been effective in removing or reducing species with small populations but progress can be offset by new introductions of species or populations

The non-native plant measure is assessed to be in fair condition with a declining trend due to several widespread species including Canada thistle, ox-eye daisy and tall buttercup invading undisturbed sensitive habitats, as well as the high continuing risk of introduction of new species along railroads and roadsides. Chemical treatment of these species is constrained by the presence of water (both surface and aquifers), and mechanical or manual removal of the plants is ineffective due to the species biology. Spotted knapweed has potential to move into and degrade native grasslands if not controlled.


### **Ungulate Browsing Impact**

Intense, long-term ungulate browsing can kill or reduce the regeneration capability of trees and shrubs by continuous removal of fruiting bodies and leaves and reduced shoot to root ratios. High elk densities and fire suppression prior to 1990 reduced the height and cover of numerous tree and shrub species in lower elevation areas (< 5800 ft). For example, aspen regeneration to heights >2 m virtually ceased in these areas after 1940, and willow heights in the Vermilion Lakes Wetlands declined sharply after 1980.

Restoration of a more natural mix of trees and shrubs in the Bow Valley requires active management to control elk populations – direct population reductions (select removals





and relocations) and increased opportunity for carnivore predation (restored wildlife corridors, aversive conditioning to move elk from refuge areas near developments). When browsing levels are low enough to allow plant growth to a viable height, prescribed burns are then used to remove conifer shading and stimulate regeneration.

The measure of ungulate browsing impact on tree and shrub height is assessed to be in fair condition with an improving trend, due to declining elk numbers in what were once highly browsed areas of the park. Intensive browsing continues around the Town of Banff where high elk densities persist.

 **Regional Landscapes**

The Regional Landscapes indicator considers EI influences occurring on a landscape level, some of which extend beyond park boundaries.

**Table 6: Landscapes**

Bioregional Measure	Condition /Trend	Park Specific Measure	Condition /Trend
1. Regional Land Use		3. Wildlife-Human Conflict	
2. Area of Disturbance (Fire)		4. Highway Crossing Structures	

*The Landscapes indicator is assessed to be in fair condition overall with a stable trend.*

A large amount of land contiguous to Banff National Park has been protected in British Columbia and Alberta, providing complementary management and helping to absorb some of the increase in recreational demand during the last 25 years. The effect on EI condition is good and the trend is improving. However, there has been increasing development outside these buffers in the nearby communities of Calgary, Canmore, and Invermere and in rural areas, with some impact on regional wildlife movements and habitat. There is also a steady increase in highway traffic. Banff National Park is working with regional partners on shared EI interests e.g. through the Central Rockies Ecosystem Interagency Liaison Group. The condition of EI in the park in terms of development pressures on regional lands is rated as fair with a declining trend.

Wildlife-human conflict occurrences have declined due to active wildlife management, area closures and public education. The wildlife-human conflict measure is assessed to be in good and stable condition, due to the fact that from 1997 to 2006, the number of bear-human contacts and bear-human aggressive encounters remained static, elk-human contacts declined (with a sharp decline after the movement of elk away from the town in

2000), and elk-human aggressive encounters declined. Bears and elk made physical contact with people an average of 1.6 and 2.3 times per year respectively.

### Area of Disturbance: Fire

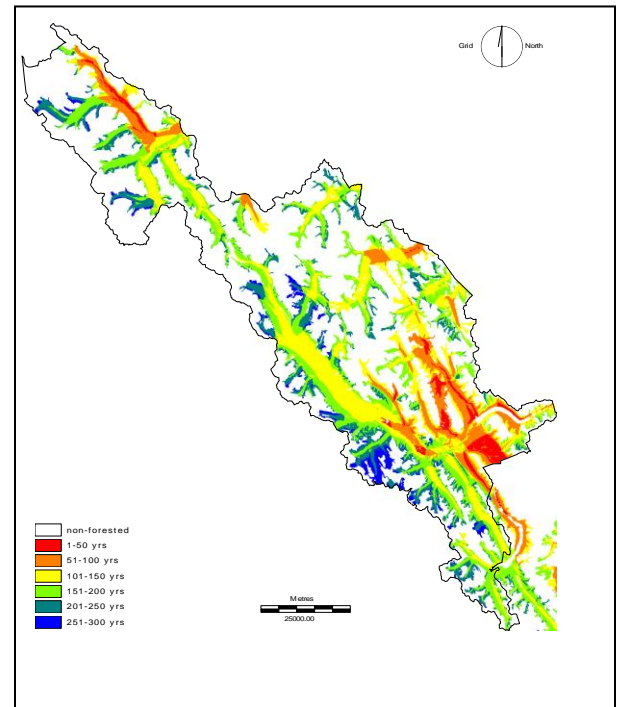
Ecosystems in Banff National Park have been influenced by a variety of natural disturbances.

Fire is the dominant natural disturbance that has shaped Banff National Park and the Canadian Rocky Mountain ecosystems. Fire suppression has led to a gradual aging of forests and a loss of important wildlife habitat. The park management plan set a target of 14 km<sup>2</sup> of burned area per year to fulfill public safety and EI objectives.

The “area of disturbance by fire” measure is assessed to be in fair condition in the park, with a declining trend. Although the burn area target has been met over the past decade (1997-2006), the restoration of fire has been largely limited to dry slopes in the Front Ranges. More fire restoration work needs to be completed in the Main Ranges in

**Fig. 11** Banff National Park fire cycle map (Banff Field Unit Fire Management Plan, 1998)

order to better align with the park’s historic fire cycle. Fire within the larger region has been less than historically occurred.



### Wildlife Crossing Structures

Roads are a challenge to the maintenance of EI in Banff National Park. They affect wildlife populations in two major ways: mortalities from collisions and habitat fragmentation. Of critical concern is the 83 km stretch of the Trans-Canada Highway (TCH) bisecting the park. A major national commercial highway, the TCH carries on average over 17,000 vehicles per day year-round through the park (25,000 per day in the summer). Beginning in the 1980s, wildlife crossing structures were built along the TCH to reduce wildlife mortality and mitigate movement restrictions. To date, the TCH has 24 crossing structures, 22 of which are actively monitored. 7 additional structures are being constructed as part of the current twinning of the TCH near Lake Louise.

A ten year monitoring study, from 1996 to 2006, recorded 86,123 wildlife crossings (13,222 by carnivores, 72, 901 by ungulates). Grizzly bear genetic connectivity is currently being assessed through DNA analysis of hair samples collected at the crossing structures.

The TCH wildlife crossing structure measure is assessed to be in good condition with an improving trend due to wildlife adaptability, additional and larger structures planned for construction during the next phase of highway twinning, and better monitoring of weaknesses in highway fencing. There are no crossing structures along the Canadian Pacific Railway and wildlife mortalities continue to be unacceptably high.

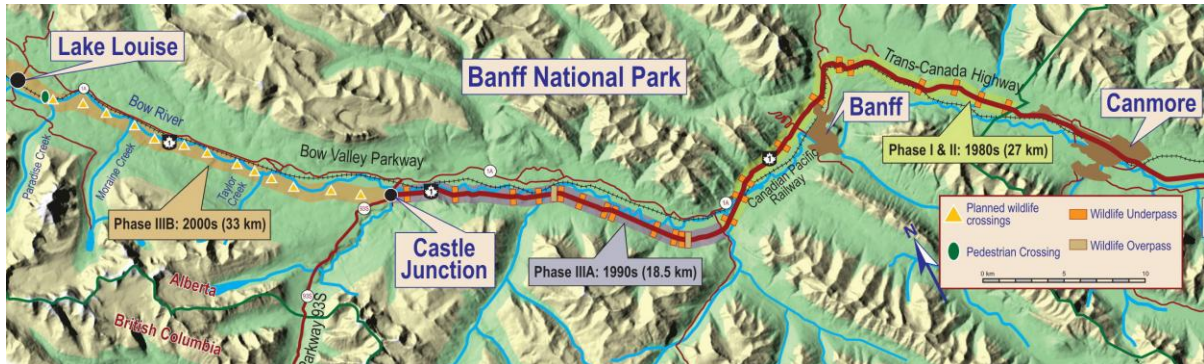


Fig. 12 Existing and Proposed Crossing Structures

## 3.2 Cultural Resource Management

### Overview

Parks Canada defines a cultural resource as a resource that has historic value. It can be a human work, a place that gives evidence of human activity, or an object or place having spiritual or cultural meaning.<sup>3</sup> In national parks, cultural resources often reflect the human interaction with the natural environment.

Cultural resources consist of National Historic Sites (NHS) and other resources which have historic value but are not of national significance. They can include cultural landscapes, archaeological sites, historic objects and federal heritage buildings. There are separate management plans for NHS' and they are not addressed in this State of the Park Report.

The evaluation of cultural resources uses two indicators: Resource Condition and Selected Management Practices. Condition is assessed on the basis of quantitative and qualitative data, expert opinion and accumulated knowledge related to a suite of measures. Due to data limitations, trends are not reported.

*Resource Condition and Selected Management Practices are rated as in fair condition.*





<sup>3</sup> Parks Canada Guiding Principles and Operational Policies; Cultural Resource Management Policy.

## Evaluation

### Resource Condition

Human history in the park dates back at least 11,000 years. The park encompasses close to 800 archaeological sites, more than 100,000 archaeological artifacts, over 300 historic objects, numerous historic structures that include 24 recognized federal heritage buildings, a Canadian Heritage River, and other cultural features including mining towns, World War One internment camps, bridges and gardens.<sup>4</sup>

**Table 7: Resource condition**

Measure	Condition
1. Landscapes and Landscape Features	
2. Archaeological Sites	
3. Objects	
4. Buildings and Structures	


*Resource Condition is rated as fair.*

Actions have been taken to reduce threats to these resources. Buildings and Structures represent a fraction of the total cultural resources and therefore do not affect the overall rating of this indicator. Investments in the maintenance of historic resources are improving.

### Selected Management Practices

A Cultural Resource Management Plan for Banff National Park was completed in 1998.

**Table 8: Selected Management Practices**

Measure	Condition
1. Inventory and Evaluation	

<sup>4</sup> These numbers exclude resources associated with national historic sites in Banff National Park.

2. Cultural Resource Management Strategy	
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*Selected Management Practices are rated as fair.*

Comprehensive inventories give a good indication of the cultural resources that exist. Archaeological resources under threat require further evaluation in order to define mitigation actions. Investments are increasing (e.g. the restoration of stone pathways at the Banf National Park Administration Building.)

### 3.3 HERITAGE RESOURCES - KEY ISSUES AND CHALLENGES

1. the long term monitoring program needs to be fully implemented
2. recovery plans are required for species at risk, especially caribou
3. grizzly bears remain at risk because of low reproduction and human caused mortality; habitat security remains below target but is stable
4. water quality continues to be a concern, in the Bow River below Lake Louise
5. reduced aquatic connectivity , especially from highway and railway culverts, requires attention
6. prescribed fire is on target but will have to be extended to more parts of the park to more closely achieve natural conditions
7. non- native plant species require continuing attention
8. research is required into the long term effects of changing climate on the park's ecological integrity

### 3.4 VISITOR EXPERIENCE

#### Overview

Banff National Park of Canada has provided opportunities for memorable visitor experiences (VE) for over 100 years, with an ongoing reputation for service excellence. The challenge is to continue to do this in a changing world. Knowing who the visitors are, what their expectations are and how their needs are being met are essential to ensuring that visitors continue to enjoy the park.

**Parks Canada has established four national indicators to assess and report on the state of VE: Understanding Visitors, Providing Opportunities, Quality Service and Connecting Visitors Personally with the Place.**

**The program is new and evolving and standardized measures have not yet been developed to support the indicators. This State of the Park Report represents the first opportunity to apply these indicators to VE in Banff National Park, although specific data are lacking for some measures. This deficiency will be remedied in future State of the Park reports.**



There is considerable information available, such as trend series data for visitors entering the park and using facilities such as campgrounds, information centres and backcountry trails, though data collection methods have changed at times. Other data rely on surveys, such as the comprehensive 2003 Survey of Visitors, which are helping to improve knowledge.

The first two indicators, Understanding Visitors and Providing Opportunities, show fair condition, with an improving trend. Quality Service is rated good and stable. Connecting People Personally with the Place is not rated because of inadequate information

## Evaluation



In order to set the stage for a memorable experience, Parks Canada and its tourism partners must first understand its visitors (their characteristics, visitation trends and how and whether these visitors can be segmented to better target opportunities for memorable experiences), as well as potential new markets. There is good and improving knowledge of visitors, and new initiatives are under development to further improve our knowledge.

Total visits to the park continue to increase, driven by the growth of Calgary and surrounding area. In fact, this regional growth has offset the decline of international visitors in recent years. Regional visitors, many of whom are frequent users of the park, have different needs and expectations, as well as different travel patterns. For instance, weekend day traffic originating from Calgary can create entrance gate delays at peak periods, compared to a steady stream of international visitors arriving throughout the week. Repeat visitors are less likely to visit information centres.

**Table 9: Visitor Numbers**

	2004	2005	2006
Total visitors	3,135,727	3,164,906	3,281,435
Total visitor days	7,453,465	7,518,997	7,784,044

Total visitors have increased by 4.6% and total visitor days by 4.4% in this period. Group tour visitors have increased slightly, from 11.6% to 12.6% of the total. These figures are not absolutes as the margin of error for total visitors is 7.5% and for total visitor days, 7.3%.

In 2003, over 62% of visitors were Canadians (42.3% from Alberta), 24% were Americans and 14% were from overseas (10% from Europe). Seasonal variations are notable:



**Table 10: Visitor Origins**

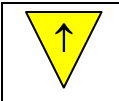
Origin	Total	Summer	Winter
Alberta	42.3%	29.9%	59.3%
Other Canada	20.4%	20.7%	21.8%
United States	23.5%	31.0%	10.9%
Europe	10.2%	13.9%	5.1%
Asia	0.5%	0.7%	0.3%
Other	3.2%	3.9%	2.6%

The preponderance of Canadians, particularly from Alberta, is striking in winter.

The significance of the regional market is further emphasized by the fact that 68% of all visitors are repeat visitors. 97.7% of Albertans and 68.8% of other Canadians had previously visited the park. However, it is noteworthy that previous visits were also reported by 36.8% of Americans, 31.5% of Europeans and 51% of Asian visitors.

Visitors can be grouped into four categories based on behaviour characteristics and expectations:

- Flow Through Visitors (9%) – These visitors tend to be less involved with the park experience than other visitor segments. They are less likely to have made previous visits and tend not to use sources of park information before and during the trip. They spend less and levels of satisfaction are somewhat lower. The group is characterized by older couples and 38% are American.
- Premium Experience Visitors (24%) – Many of these are first time visitors to the park but they tend to seek out park information either before or during the visit. The trips involve higher levels of spending and trip satisfaction is generally high. This group also consists more of older couples, with 37% American and 24% European. They participate in activities like hiking and walking.
- Habitual/Familiar Visitors (37%) – These visitors have usually made previous (three or more) visits within the past two years. Most are Canadians and because they have past experience with the park they do not often seek additional sources of information. Trip spending is generally light to moderate and as the segment name implies, satisfaction is high. There is a higher proportion of younger people and larger group sizes. 82% are Albertans. About one third hike or walk and 18% ski in the park.
- Casual Experience Visitors (30%) – This segment of visitors could also be termed “middle of the road”. In contrast to the above types of visitors, they do not stand out on any particular aspect. Many are repeat visitors and satisfaction with the park tends to be quite high. Older couples are in the majority, with the largest majority (35%) from the United States and 29% Other Canadians. They tend to be a little less active and participate more in driving.



## Providing Opportunities

Banff National Park continues to provide a wide variety of opportunities for people to enjoy and appreciate the outstanding natural and cultural features. The Vision for Banff National Park is that people from around the world will have the opportunity to “participate in the life of the park, finding inspiration, enjoyment, livelihoods, and understanding”. In recent years, considerable investments have been made to modernize and upgrade facilities and opportunities throughout the park.

Roads take visitors to many parts of the park – along the Trans Canada Highway and the Bow Valley Parkway and to Vermilion, Minnewanka and Moraine Lakes and Lake Louise. The Icefields Parkway is an internationally renowned scenic drive. Parks Canada provides 26 picnic sites, 2442 campsites in 13 campgrounds and over 1500km of trails, with 53 backcountry campsites. There are visitor information centres in Banff and Lake Louise and interpretive displays throughout the park.

Commercial accommodation facilities are found throughout the park and most operate year-round. In total there are more than 5560 guest rooms, the majority of which are in the Town of Banff and at Lake Louise. There is a wide range of restaurants and retail stores. In addition, commercial operators provide a 27 hole golf course, guided hikes, mountain climbing, ice walks, snowshoe tours, horse riding, canoe rentals, boat tours and gondolas to mountain viewpoints. Three ski areas provide opportunities for Canadian and international visitors and they are the cornerstone of winter recreation. In addition, there is cross country skiing and snowshoeing.

Camping has decreased by about 20% in the last five years. One third of campers are from Alberta. Tents are used by 42% of campers but a majority of U.S. and overseas campers use motorhomes and large trailers.

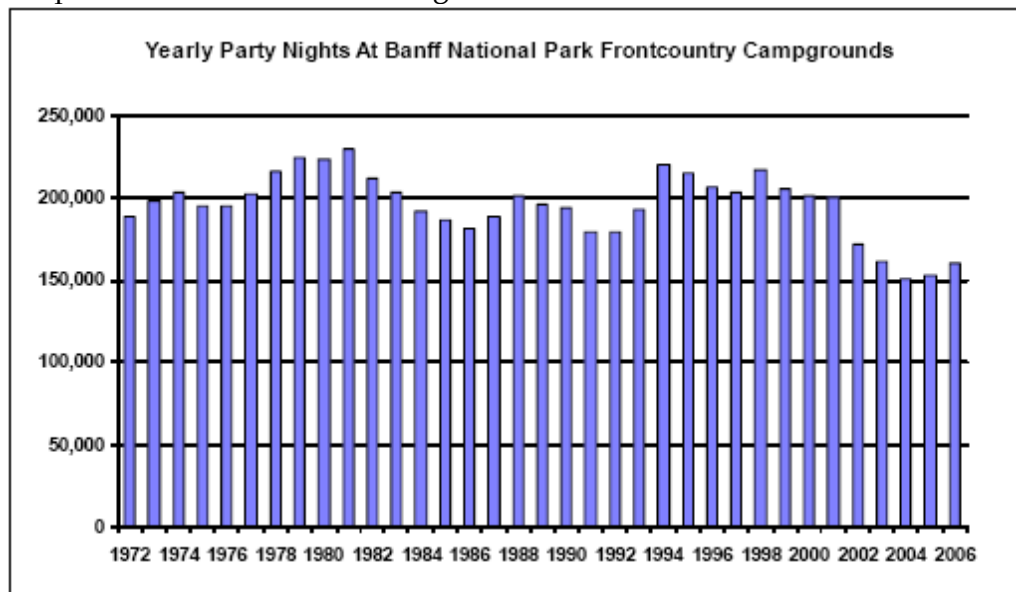


Fig 13 Campground Use

Day hiking continues to be a very popular activity. The most popular trails are Johnston Canyon, Plain of Six Glaciers, Moraine Lake and the Sulphur Mountain, Sundance Canyon and Tunnel Mountain trails near the Town of Banff. Overnight use of the backcountry has decreased in recent years from approximately 36,800 user nights in 2002 to approximately 30,000 in 2006. The 2006 figure consists of about 14,000 user nights at backcountry campsites, with the most popular being Egypt Lake, and about 16,000 at backcountry lodges, climbing huts and group camps; the most popular were Skoki Lodge and Bow Hut.

The two communities and surrounding areas are the focal points for visitors. 79% visit the Town of Banff and 50% visit the Lake Louise/Moraine Lake area. 23% visit the Bow Valley Parkway and Johnston Canyon. Smaller numbers are recorded for nodes along the Icefields Parkway – 9% at Bow Lake/Bow Summit and 5% at Saskatchewan Crossing. More international visitors than Canadians visit Moraine Lake and Lake Louise.

Information is available to visitors in many formats before, during and after their visits. A variety of educational opportunities are provided in Banff National Park, via interpretive programs, displays, roving staff and commercial guides. Only 5% currently take part in Parks Canada’s interpretive programs.

Roving interpretation is provided by Parks Canada in or near communities at popular day-use areas. Similarly, campground theaters provide opportunities to reach a portion of overnight visitors with key information and messages.

The top ten activities for visitors are:

Driving and sightseeing	46%
Eating in a restaurant	42%
Shopping	35%
Sightseeing and landmarks	29%
Hiking	24%
Relaxing	17%
Walking	17%
Riding the gondola	13%
Eating outside a restaurant	12%
Skiing/snowboarding	12%

Visitors tend to participate in “soft” recreational activities and a small proportion participate in more strenuous forms of recreation. Albertans are more active in skiing/snowboarding, cycling and golfing than visitors from other areas.

Much of Parks Canada’s infrastructure in Banff National Park was built decades ago. As with many places across the country, these assets are reaching the end of their design life and need significant reinvestment. The work has begun. About 65% per cent of public assets (e.g. campgrounds, trails) are in fair condition and about 30% percent of assets are in poor condition



## Quality Service

Parks Canada's goal is to deliver consistently high quality services that meet or exceed visitors' needs and expectations. The measure of success is that at least 85% of visitors should be satisfied with their visit and at least 50% should be very satisfied.

The most comprehensive assessment was conducted as part of the Patterns of Visitor Use survey for the four mountain parks in 2003. 82% of visitors rated their visit as "extremely enjoyable", indicating that Parks Canada clearly exceeds its target. Friendliness of park staff, the recreational experience of the visit, and service in both official languages achieved the highest satisfaction rankings. The private sector also contributes significantly to this positive environment, as shown by the high rating for "friendliness of business staff".

Service Attribute	Mean Score (1 to 5)
Friendliness of Parks Canada staff	4.66
My visit as a recreational experience	4.64
Service in official language of choice	4.64
Guided walks/tours	4.38
Friendliness of business staff in the park	4.37
The Columbia Icefields Snocoach Tour	4.36
The "Mountain Guide" publication	4.31
Quality of education/interpretive programs	4.23
Education/interpretive programs	4.22
History/geography info from the business staff in the park	4.22
Pre-trip print publications	4.19
My visit as an educational experience	4.17
Availability of education/interpretive programs	4.13
Parks Canada website	4.12
Travel Alberta website	3.96
Value for entrance fee	3.95
Tourism BC website	3.93
Value for money at attractions/activities in the park	3.78
Value for money at hotels/motels in the park	3.60
Value for money at restaurants in the park	3.54

Fig. 14 Satisfaction Scores (2003 Visitor Use Survey)

**Fig. 15** Importance and Satisfaction Matrix for Independent Visitors to the Four Mountain Parks (2003 Visitor Use Survey)

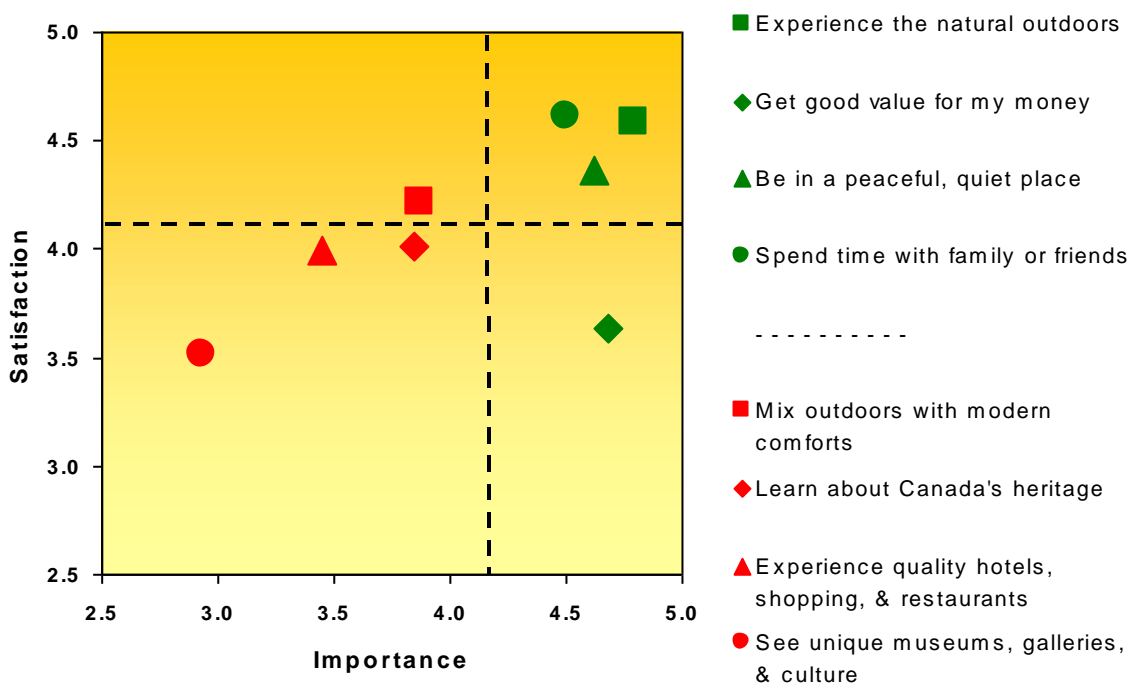


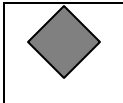
Figure 15 shows both the importance visitors attach to eight different attributes and visitors' satisfaction with these attributes. Of the attributes that are important to visitors, three have satisfaction levels that are high (a score greater than 4 out of 5). One attribute that is important to visitors but for which satisfaction was lower was value for money.

Annual campground satisfaction surveys are undertaken, using a 1- 5 scale rating system. The Parks Canada standard is to have at least 50% of respondents choose the top score. In 2005 and 2006, campers reported high satisfaction with four out of six attributes. Lower scores were reported for "Condition of Facilities" and "Cleanliness of Washrooms".

In 2002 surveys were conducted at Moraine Lake and upper Lake Louise, where there is a shortage of parking at peak periods. 76% of visitors to upper Lake Louise said they were very satisfied with their visit and 71% at Moraine Lake.

The quality of service that is provided is influenced by the condition of the facilities. Parks Canada is re-investing substantial amounts into replacing and modernizing visitor facilities and to improving asset condition. Recent examples in Banff National Park are:

- 77km of highway re-paving
- twinning of 9km of the Trans Canada Highway near Lake Louise
- new, environmentally friendly washrooms at Bow Lake, upper Lake Louise and Lake Minnewanka
- upgrades to campground water systems
- new interpretive displays at Saskatchewan Crossing



## Connecting Visitors Personally with the Place

Connection to Place reflects the relevance and significance of the heritage place to Canadians. This sense of attachment to our natural and cultural heritage is achieved through the processes of understanding, appreciation, support and engagement. The ultimate objective is to foster a shared sense of responsibility for the heritage area, thereby ensuring its long term sustainability. The concept of “Connection to Place “ is under development and measures are not yet defined.

### 3.5 PUBLIC EDUCATION

#### Overview

For most visitors, a visit to a national park is a departure from their daily routine and Parks Canada and its partners provide information, opportunities and facilities so that people can have safe, enjoyable and rewarding experiences. The high percentages for satisfaction levels and repeat visits indicate success.

One of the three components of the Parks Canada mandate is Public Education. With interesting, useful and accurate information, people can enjoy their visits more and also appreciate the importance of heritage places and contribute to their integrity and sustainability.

**Parks Canada is developing four national indicators to measure the state of Public Education (PE):**

**Understanding Audiences,  
Extending our Reach,  
Facilitating Understanding, and  
Influencing Attitudes.**

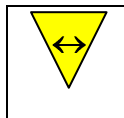
**They are still in development and no measures have yet been determined. New methods of data collection will be required to accurately report on these indicators in the future.**

Past intermittent surveys which were used for other purposes are of limited value in terms of these indicators. As with Visitor Experience, this State of the Park Report represents the first opportunity to view PE in Banff National Park in terms of these

indicators. A limited amount of information is presented in this section. No data are available about the total number of people who are reached by the various programs, the understanding that is imparted and the long- term influence on attitudes, understanding and behaviour.

Based on the limited information that is available, two of the indicators are rated as in fair condition. Understanding Audiences is rated as stable because of the need to continue visitor surveys and Extending Our Reach is rated as improving to reflect ongoing work. The indicators for Facilitating Understanding and “Influencing Attitudes” indicator cannot be rated because of a lack of suitable data.

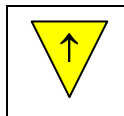
## Evaluation



### Understanding Audiences

Traditional methods of public education need revisiting, as today’s visitors are more comfortable directing their own experiences and learning through hands-on opportunities. The market segments identified in the VE section provide an insight into the use patterns, needs and expectations of the park’s three million visitors.

One very important segment is the Habitual Users, the repeat regional audience that comprises 37% of park visitors and makes 51% of park visits – an estimated 1.5 million visits per year. Surveys indicate a low participation by this group in current learning programs. Only 21% of participants in educational/interpretive programs are Albertans, compared to 29% for other Canadians and 24% for Americans. Surveys of visitors from Alberta indicate that close to 50% are motivated to learn more about the park but not necessarily by attending interpretive programs and not when they are focused on an activity such as skiing.



### Extending our Reach

Parks Canada alone cannot reach more than a limited percentage of visitors. For the majority, their primary contact is often with hotel and retail store clerks, from whom they obtain information. Many of these people are, themselves, new and temporary residents with limited knowledge of the park.

There are numerous examples of the ways in which Banff National Park has extended its reach by working with partners. Parks Canada works with Banff Heritage Tourism, to provide basic training to front-line staff. In 2006, “Banff’s Best” program was delivered to 1700 industry employees. A partnership with the Alberta Motor Association resulted in Parks Canada information inserts in 450,000 copies of Westworld magazine.

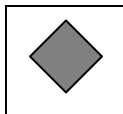
The Banff EcoIntegrity Project has pioneered a new internet-based survey tool in the Mountain National Parks called “ParksListens”. Over 7000 visitors who are representative of the mix of visitors have signed up to participate in online discussion

panels and surveys on a number of park ecological issues and more than 2000 have participated in each of the surveys to date. In this way, a new two-way dialogue has been established with a “virtual” electronically connected audience.

Additionally, the EcoIntegrity Project examined opportunities to reach others in nearby cities through school programs, exhibits, presentations, events and festivals and by talking to ethnic media and community centres in Calgary and Edmonton to learn what is of interest to these audience.

On a national level, Parks Canada is extending its PE reach into the nation’s school systems through an online *Teachers Corner* resource and through the coordinating efforts of nine regional Education Specialists. In Alberta, examples of participation in the classroom include development of a Science-in-a-Crate Biodiversity Kit produced in partnership with the Province of Alberta and a partnership between Parks Canada's Alberta Education Network and Alberta Parks, Tourism, Recreation & Culture to develop online materials on protected areas in Alberta for the 2007 Grade Four Social Studies curriculum.

Because of the geographical distribution of national heritage places, not all Canadians can easily visit them. Consequently, Parks Canada also wants to reach out to Canadians where they live and has identified three priority markets: new Canadians, those living in urban areas and youth. Approximately 18 % of Canadians were not born in Canada (expected to rise to 30% by 2026) and almost 80 % of Canadians live in urban centres. These segments of the population represent important opportunities for Parks Canada to build awareness and appreciation of our national heritage



## Facilitating Understanding

Information is lacking about the success of various programs in facilitating visitors’ understanding and this measure cannot be rated at present. A number of activities are described but their effectiveness has not been assessed.

Banff National Park facilitates public understanding of park’s heritage through its own educational and interpretive programming and through partnerships with local organizations and businesses. Several examples of activities are listed below.

A very successful program has been the Mountain Parks Heritage Interpretation Association (MPHIA) interpreters’ certification courses, which since 1997 has accredited 292 professional interpreters and provided training to almost 1300 others. The program trains local guides to become knowledgeable ambassadors for the mountain parks, in effect multiplying the capacity of park staff to facilitate understanding.

Each year, 70 – 75 companies provide guiding services for visitors, with the majority offering guided hiking.


The park also works with the Friends of Banff to provide Park Radio messages and, in the past, to operate the “Bear Guardian” program – roving interpretive staff who provide on-the-spot information to visitors about safe viewing of bears along the park’s



roads. In 2006, Parks Canada staff (part of the EcoIntegrity project) made 4600 personal contacts at 66 “bear jams”.

The World Heritage Interpretive Theatre annually provides informative and entertaining performances to people inside and outside the park, with themes such as the role of fire and the importance of water.

New interpretive media have been installed along the Bow Valley Parkway, at Saskatchewan Crossing, along the Lake Louise lakeshore, at Bow Falls and Marsh Loop trail.



## Influencing Attitudes

This measure is under development and limited data are available for this report.

In 2006 a focused but limited survey of residents, business owners and government staff was conducted, to determine attitudes towards fire management (natural fires, prescribed fires and forest thinning). The survey indicated that interviewees are much more knowledgeable about and supportive of fire management programs than in 1994. During the intervening years, Parks Canada implemented a significant public education program.

A 2003 survey of park visitors and regional residents indicated that a large percentage had some awareness of the mountain pine beetle issue but limited knowledge of details. A majority supported control programs but favoured reactive management such as the removal of infected trees rather than the burning of susceptible forests.

Another measure of connection is the level of understanding of the importance and value of heritage places. While relatively little information is available to fully understand this element of personal connection, more will be done in the future. As a first step in exploring visitors’ understanding, Parks Canada examined visitors’ recognition of heritage themes. On average, visitors answered three of six true/false questions correctly. European visitors and those from other countries answered slightly more questions correctly than did North Americans. These scores may reflect the different reasons for visiting national parks in the first place, as international visitors rated interest in learning about Canada’s natural and cultural heritage as a stronger reason to visit than did North Americans.

### 3.6 CONNECTION TO PLACE – KEY ISSUES AND CHALLENGES

- the highest percentage of park visitors consists of repeat visitors from the surrounding region, driven, in part, by the rapid growth of Calgary, coupled with a decline in international visitors, especially from the United States. New techniques are required to maintain and engage regional users and to reach underrepresented segments of the population (youth, new Canadians, urban Canadians)
- many visitors are day visitors, with a concentration on weekends, placing pressures on the entry gate and on popular day use areas such as Johnston Canyon, upper Lake Louise and Moraine Lake
- most use is concentrated close to the park's roads and at viewpoints and picnic sites; upgraded facilities are required to meet modern standards
- short day hikes are popular, influenced partly by the aging baby boomer population; more interpretive information could be provided
- the increasing cultural heterogeneity of Calgary provides an opportunity to introduce new and first generation Canadians to the national parks; some alterations to facilities may be required e.g. picnic facilities designed for larger family groups
- for the last 30 years the Alberta provincial parks in Kananaskis Country have helped absorb the recreational pressures as Calgary has grown; however, these parks also reach capacity at peak periods; new methods of managing visitor use, such as improved real-time information about crowding/capacity may be appropriate
- through traffic on the Trans Canada Highway continues to steadily increase, requiring a completion of the twinning program to address safety concerns and protect wildlife movements
- national targets, thresholds and measurement tools are required for evaluating the public education program

#### 4.0 COMMON MOUNTAIN PARK ISSUES

Although each of the mountain national parks has some specific characteristics that are not shared with the others, there are enough similarities that a number of common issues have been identified in the state of the park reports, including:

- Each park has species at risk. Grizzly bears have been the focus of management action for the last 10 – 15 years and continue to require attention. The precarious situation of caribou populations has become critical in recent years in Banff, Jasper, Mt. Revelstoke and Glacier National Parks and throughout their range in Alberta and British Columbia.
- One or more of roads, railways, effluent, water diversions and impoundments affect aquatic ecosystems in all parks. The natural characteristics of many waterbodies have been altered by a legacy of fish stocking with non-native species.
- Terrestrial ecosystems have been modified by a legacy of fire suppression. Currently, non-native plant species account for up to 10 per cent of all plant species in a park. Invasive species are threatening native biodiversity in some locations.
- Climate change is affecting all parks and is most noticeable in glacier recession (except in Waterton Lakes). Long-term monitoring will help identify ecological impacts and influence decisions about what can or should be done to mitigate, or adapt to, the impacts. The recent expansion of mountain pine beetle populations and the decline in caribou populations may prove to have been influenced by climate trends in addition to other factors.
- Cultural heritage has frequently been secondary in national park management. The rich legacies of past associations with the mountains, such as thousands of years of aboriginal history preserved in archaeological sites, and the protection of cultural artifacts, provide opportunities for broadening the stories that are told.
- Although there are fluctuations, visitor use of all parks is stable or slowly increasing. Much of the increase is attributable to the growth of the regional population rather than to international visitors. Coupled with other domestic demographic characteristics – an aging population, a growing urban population, a wider diversity of cultural backgrounds, an increasing proportion of first generation Canadians and a prediction of an overall decline in the Canadian population – these trends require more social science research, innovative program development and effective marketing to ensure the mountain national parks continue to attract, engage and be relevant to visitors.
- Comparatively little is known about the effectiveness of public education programs. The combination of changing visitor characteristics and rapidly evolving technology presents both challenges and exciting new opportunities for sharing Canada's natural and cultural heritage, as represented in national parks and historic sites, with more visitors, both on site and in their homes. Many are repeat visitors and many visit several parks. Programs will have to respond to these circumstances.

- Changing land uses surrounding the parks require continued multi-jurisdictional approaches to issues such as the protection of species at risk and the control of forest insects and disease. The rapid and substantial increases in the provincial park systems in Alberta and BC have provided increased area of complementary park management. The new parks have absorbed some use pressures from the national parks (e.g. in Kananaskis Country) and may also have deflected some visitor use by providing more choice. Similarly, the growth of second home communities and resorts has spread and intensified recreational use across a wider spectrum of destinations other than the national parks

## 5.0 Evaluation of Management Actions

The park Management Plan was approved in 1997 and amended in 2004 and 2007. The following table highlights some actions and results related to key strategic goals in the plan. Annual implementation reports provide additional detail about these and other park management actions and results.

Two examples of management actions are described: the restoration of Devon Lakes and human use management of the lands adjacent to the Town of Banff.

**Table 11: Management Actions**

Strategic Goals	Examples of Management Actions	Results
Restore natural vegetation ecosystem processes; through prescribed fire, achieve 50% of the long term fire cycle	<ul style="list-style-type: none"> <li>• Use of prescribed fire to restore vegetation mosaic</li> <li>• Elk population returned to natural range of variability</li> <li>• Program introduced to control non-native plants</li> </ul>	<ul style="list-style-type: none"> <li>• Fire target achieved but not evenly distributed</li> <li>• Impacts of excessive elk browsing reduced</li> <li>• Spread of non-native plants reduced but not eliminated</li> </ul>

<p>Maintain viable wildlife populations, improve habitat connectivity and protect species at risk; reduce human caused mortality of grizzly bears to less than 1% of the population; achieve habitat security targets for each Landscape (Carnivore) Management Unit</p>	<ul style="list-style-type: none"> <li>• Restoration of movement corridors around the Town of Banff and Lake Louise</li> <li>• Human use management strategies introduced to reduce mortality and improve habitat</li> <li>• Wildlife crossing structures built and monitored</li> <li>• Extensive grizzly bear research undertaken</li> <li>• Action plan introduced for recovery of the Banff Springs Snail (a Species at Risk)</li> <li>• Time-restricted voluntary vehicle closure introduced for the Bow Valley Parkway</li> </ul>	<ul style="list-style-type: none"> <li>• All species still present</li> <li>• Small caribou population still in decline</li> <li>• Grizzly bear population maintained but remains at risk; mortality targets achieved in 1990s but not since 2002; habitat targets not achieved but habitat remains stable</li> <li>• Great variability in wolf population</li> <li>• Good utilisation of corridors and crossing structures</li> <li>• Snail population recovering</li> <li>• Bow Valley Parkway restriction unsuccessful</li> </ul>
<p>Maintain and, where feasible, restore aquatic ecosystems; achieve leadership targets for quality of water discharged from sewage treatment plants; pursue removal of 40 Mile Creek dam and experimental restoration of alluvial fan processes</p>	<ul style="list-style-type: none"> <li>• Lake Louise and Town of Banff waste water treatment plants upgraded to meet leadership targets</li> <li>• Non-native fish removed from Devon Lakes</li> <li>• Amphibian monitoring program introduced</li> <li>• Harlequin duck research continued</li> <li>• Thermal springs research program undertaken</li> <li>• No action taken for dam removal or fan restoration</li> </ul>	<ul style="list-style-type: none"> <li>• Restoration of water chemistry in Bow River to reference conditions at the park boundary</li> <li>• Some recovery of water quality but not to reference conditions immediately below Lake Louise</li> <li>• Increase in invertebrates in Devon Lakes</li> <li>• Integrated management of Cave and Basin National Historic</li> </ul>

		<p>Site to maintain condition of the thermal aquatic ecosystem and the endangered snail population</p> <ul style="list-style-type: none"> <li>• No restoration of 40 Mile Creek or of alluvial fans</li> </ul>
<p>Provide opportunities and facilities to support memorable visitor experiences</p>	<ul style="list-style-type: none"> <li>• Continued operation of all Parks Canada facilities</li> <li>• Increased re-investment in road paving, new washrooms, campground infrastructure and interpretive programs</li> <li>• Relocation of some facilities in Lake Louise area, to improve visitor experience, reduce potential wildlife conflicts and improve ecological integrity</li> <li>• Comprehensive visitor surveys undertaken, including continuing online survey program</li> <li>• Piloting of Human Use Simulation model to test linking of wildlife and visitor information in a spatial context</li> </ul>	<ul style="list-style-type: none"> <li>• Continued increase in number of park visitors</li> <li>• Continued high satisfaction ratings</li> <li>• Improved knowledge of visitors but national measures required for consistency</li> <li>• Reduced wildlife/human conflicts</li> <li>• Improved integration of wildlife information and visitor experiences</li> <li>• No information about connecting visitors with place</li> </ul>
<p>Improve public education opportunities and relate them to heritage tourism</p>	<ul style="list-style-type: none"> <li>• Banff Heritage Tourism (organization) created</li> <li>• Training/awareness programs for seasonal commercial sector staff via partners</li> <li>• EcoIntegrity Program to reach regional repeat visitors</li> <li>• New interpretive media installed</li> </ul>	<ul style="list-style-type: none"> <li>• Increased provision of authentic experiences</li> <li>• More consistent messages provided by trained staff</li> <li>• Increased contact with regional visitors</li> <li>• Improved visitor exposure to ecological</li> </ul>

		<p>messages</p> <ul style="list-style-type: none"> <li>• Some businesses implementing heritage tourism initiatives</li> <li>• National measures required for consistency</li> </ul>
Limit the growth of communities and of public and commercial facilities in the park	<ul style="list-style-type: none"> <li>• Boundaries and commercial space limits legislated for the Town of Banff and Lake Louise</li> <li>• Guidelines implemented for Outlying Commercial Accommodation facilities</li> <li>• Ski area planning started</li> <li>• Park facilities maintained and not increased in capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Footprints and impacts contained</li> <li>• No Net Negative Environmental Impact principles implemented</li> <li>• Continued high use of the park and the communities</li> </ul>
Improve protection and presentation of cultural resources	<ul style="list-style-type: none"> <li>• Main focus has been on national historic sites, which are not included in this State of the Park Report</li> <li>• Inventories continuing e.g. of archaeological sites</li> <li>• New exhibits prepared for the David Thompson Bicentennial</li> </ul>	<ul style="list-style-type: none"> <li>• Profile of cultural and historic resources improved but relatively low visitor use continues</li> <li>• Improved knowledge for development of programs</li> </ul>
Introduce a comprehensive monitoring program	<ul style="list-style-type: none"> <li>• National system for ecological monitoring is being implemented, based on bioregional indicators and measures</li> <li>• National indicators and measures under development for visitor experience, public education and cultural integrity</li> <li>• Extensive ongoing</li> </ul>	<ul style="list-style-type: none"> <li>• Improved data for problem identification and management decisions</li> <li>• Production of 2003 and 2007 State of the Park Reports</li> <li>• Consistent national measures required</li> </ul>

	research and monitoring programs in place e.g. for wildlife use of crossing structures	
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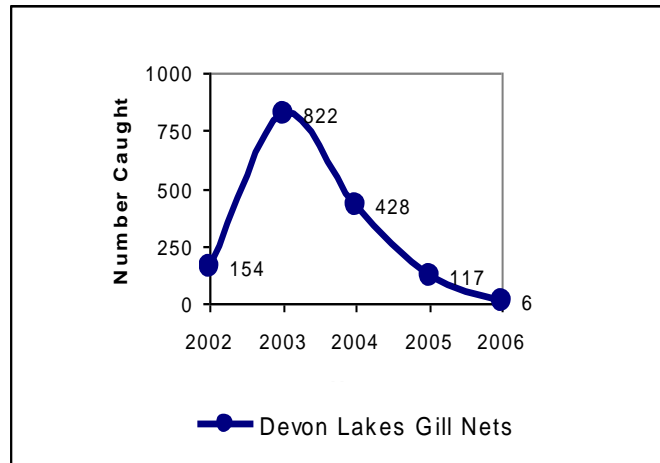
### Example 1: Lake Restoration: Devon Lakes

The Management Plan (page 17) contains the objective: to restore native fish and invertebrate populations on an experimental basis by reducing or eliminating non-native fish species and introducing native species. The Devon Lakes were chosen for implementation.

The Devon Lakes are a series of four alpine lakes that form the source of the Clearwater River system. Since 2002, Parks Canada and the University of Alberta have partnered in a research program to eliminate brook trout from the lower and middle lakes and the upper four kilometres of the Clearwater River, to restore aquatic invertebrates within the lake and river ecosystem. Fisheries enhancement practices during the 1960s resulted in stocking the middle Devon Lake with cutthroat trout and brook trout, and the lower lake with brook trout. Brook trout, a species not native to Banff National Park, have eliminated *Daphnia middendorffiana* (an aquatic invertebrate) from both stocked lakes and *Hesperodiptomus arcticus* from the lower Devon Lake, changed species structure, and altered nutrient cycling and primary production.

Gillnetting the lower and middle two lakes has resulted in the removal of 1,527 brook trout. During 2006, only six brook trout were captured. Completion of the project will require chemical treatment to remove any remaining fish. An assessment of the impact of introduced trout on invertebrates within the upper Clearwater River is currently being undertaken.

Due to the reduction in brook trout numbers and the subsequent increase of aquatic invertebrate species, the restoration of Devon Lakes is assessed as successful so far.



**Fig. 10** Number of brook trout removed from the Middle and Lower Devon Lakes, Banff National Park 2002 - 2006

### Example 2: Human Use Management: Lands Adjacent to the Town of Banff



The Management Plan (page 43) contains the Key Action: Phase in the implementation of a human use management strategy; work with stakeholders, users and interested individuals to identify priorities for implementation.

From 2003 to 2006 Parks Canada and a public advisory group discussed and developed detailed direction for the part of the park that surrounds the Town of Banff. This is the most heavily used area and also the most ecologically sensitive. A set of recommendations was prepared that provide for improved visitor experiences and improved ecological integrity (e.g. safe trail crossings of the Trans Canada Highway that would discourage people from using wildlife crossings). The proposals were strongly supported during public review. The proposals were approved by the Minister in 2007 and tabled in Parliament as an amendment to the park Management Plan. Implementation is underway.

The LATB initiative illustrates leadership in advancing an integrated and participatory approach to Parks Canada's unique mandate of ecological integrity, visitor experience and heritage education.

## 6.0 Summary Assessment

- The condition of ecological integrity indicators is, overall, fair with varying trends. Individual measures of most concern are Species at Risk (especially caribou), water quality, aquatic connectivity, non-native plants, exotic pathogens and the stability of the grizzly bear population
- Water quality is fair overall but remains a concern for the Bow River immediately downstream of Lake Louise. However, major upgrades to the wastewater treatment plants at Lake Louise and the Town of Banff have substantially improved water quality in the Bow River, such that it has returned to reference conditions at the park boundary.
- There has been good progress in management of the elk population, the restoration of wildlife corridors, wildlife use of the crossing structures, restoration of the Devon Lakes system to near natural conditions and the recovery plan for the Banff Springs Snail. The use of prescribed fire is meeting the management plan targets but there is an uneven geographical distribution, with most fire on dry slopes in the Front Ranges.
- Management actions resulting from the management plan have stabilized and, in some cases, reversed the deteriorating ecological conditions which prompted concern in the 1980s and 1990s. Notable management actions which have had a positive impact are the legislated boundaries and commercial space limits for the communities, the removal of facilities from and restoration of the Cascade Wildlife Corridor and the establishment of the voluntary use closure for the Fairholme Environmentally Sensitive Site. The growth of Outlying Commercial Accommodation facilities has been contained. Cooperative working relationships with adjacent jurisdictions have been established. The voluntary seasonal closure of the Bow Valley Parkway during evening and night hours has had very little success

- The impact of climate change is noticeable in areas such as glacier recession; the long term specific ecological impacts are unknown but changes in ecosystems are expected and may already be evident. Adaptation and mitigation strategies will be required
- The rapidly growing regional population continues to create pressures, with changing uses on surrounding lands, impacts on migratory wildlife and increasing traffic volumes. Offsetting these has been the significant increase in contiguous provincial parkland in both Alberta and BC which provides complementary buffer areas and deflects some recreational use from the park
- Cultural resources are still secondary in profile and use levels remain relatively low
- Total visitor numbers continue to slowly and steadily increase and in 2006 reached approximately 3.2 million visitors making approximately 7.8 million visits, the highest use of any park in the system and accounting for 25% of the national total. Camping has declined by about 20% in the last five years. There has been a noticeable shift in markets, with more regional visitors and fewer international visitors, especially from the United States. There remain significant opportunities to reach a broader cross-section of urban Canadians, including members of various ethno-cultural groups and new Canadians
- Little is known about the effectiveness of public education programs but recorded participants are a small percentage of visitors. Better knowledge of markets and the use of new technology are opportunities. Many visitors are regional repeat visitors, requiring different methods of contact from those traditionally used – notably the challenge of reaching them at home before they arrive at the park. Many rely on knowledge from previous visits and do not contact staff or use park information. They constitute 37% of all visitors and account for 51% of recorded visits.
- The growth of resorts, second home communities, provincial parks and access to last minute tourism “deals” via the internet has broadened the choice of recreational destinations for regional visitors and possibly reduced some of the pressures on the park
- Visitor Experience and Public Education reporting will be improved as national direction is developed regarding the measures to be used

Issues for consideration in the management plan review include:

- Strategies to recover species at risk in an ecosystem context that engages and educates park visitors and local stakeholders.
- Continued actions to maintain secure habitat for grizzly bears and reduce female mortality rates.
- Restoration of aquatic connectivity.
- Improved integration as infrastructure and programs are updated, so that visitors, especially repeat regional visitors, can experience the park in uniquely meaningful ways that derive from, and sustain, the park's unique ecological attributes.
- Strategies for enhancing the delivery of Parks Canada's mandate along the Icefields Parkway, to complement existing strategies for the Lake Louise area and the Lands Adjacent to the Town of Banff
- Increased emphasis on meaningful public education, as a key element of visitor experiences and the protection of ecological integrity and cultural heritage.
- Strategies for improving the presentation and appreciation of cultural heritage resources and, especially, of aboriginal history
- Strategies for adapting to the impacts of climate change
- Development of measures, targets and thresholds for visitor experience and public education indicators
- Confirmation of measures, target and thresholds for ecological integrity indicators

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