

A YEAR in Review

BACKGROUND SUMMARY REPORT:

BANFF NATIONAL PARK
ANNUAL PLANNING FORUM

HOSTED BY:
PARKS CANADA AND THE
BANFF CENTRE FOR MOUNTAIN CULTURE

DECEMBER 1 & 2, 2000
THE BANFF CENTRE

Introduction	4
CHAPTER 3.0 A Place for Nature	5
3.1 Overview	5
3.4 Research and Information Management	5
3.5 Communicating the Need for Ecological Integrity	6
3.8 Species and Genetic Diversity	7
3.9 Aquatic Ecosystems.....	7
3.10 Vegetation	8
3.11 Wildlife.....	9
3.12 The Cascade Wildlife Corridor	11
3.14 Vermilion Lakes Wetlands	11
CHAPTER 4.0 A Place of Historical and Cultural Significance	12
4.43 Built Heritage.....	12
4.44 Archaeological Resources.....	12
CHAPTER 5.0 A Place for People	13
5.2 A Place for Heritage Tourism.....	13
5.4 Awareness and Education.....	13
5.5 Frountcountry Visitor Accommodation Outside the Communities.....	15
5.6 Effective Human Use Management	15
5.7 Sulphur Mountain.....	16
5.8 Ski Areas	16
5.9 Banff Springs Golf Course Area.....	17
5.10 Fencing Communities and Facilities.....	17
CHAPTER 6.0 Transportation	18
6.1 Ground Transportation	18
CHAPTER 7.0 A Place for Community	20
7.1 Overview	20
7.2 Town of Banff	20
7.3 Hamlet of Lake Louise	20
CHAPTER 8.0 A Place for Open Management	21
8.2 Public Involvement.....	21
8.3 Development Review Process	21
8.4 Appropriate Use	21
8.5 Regional Coordination.....	22
CHAPTER 9.0 A Place for Environmental Stewardship	24
9.2 Environmental Management.....	24
9.3 Tertiary Sewage Treatment and Phosphate Removal	24
CHAPTER 10.0 Park Zoning	25
10.3 Zone II – Wilderness	25
Appendices:	26
Appendix A) Key Activities to Implement Minister’s Action Plan in Response to the Report of the Panel on the Ecological Integrity of Canada’s National Parks	26
Appendix B) “Connecting with Canadians” Strategy.....	31
Appendix C) Vermilion Lakes Wetlands: Restoration of Water Flow and CPR Track Stabilization	33

Appendix D) Heritage Tourism34
Appendix E) October 19th, 2000 - Ministerial Announcement.....37
Appendix F) Research and monitoring the effectiveness of Trans-Canada highway mitigation measures in Banff National Park43

INTRODUCTION

Parks Canada is pleased to report on another year of implementing the *1997 Banff National Park Management Plan*. The Forum and the supporting background summary report provides the public with an opportunity to learn how well the objectives of the plan are being met and to review other projects and proposals. The Forum also provides a meaningful way for round table sector participants to discuss and identify areas of interest related to management plan implementation.

A Year in Review background summary is organized according to the chapters in the management plan, with numbers corresponding to sections of the plan. A number of appendices provide more detailed information on the following:

- A) Key Activities to Implement the *Minister's Action Plan in Response to the Report of the Panel on the Ecological Integrity of Canada's National Parks*;
- B) "Connecting with Canadians" Strategy;
- C) Vermilion Lakes Wetlands: Restoration of Water Flow and CPR Track Stabilization;
- D) Heritage Tourism;
- E) October 19th, 2000 - Ministerial Announcement Research, and;
- F) Research and monitoring the effectiveness of Trans-Canada highway mitigation measures in Banff National Park.

Following the review of last year's management activities, a number of priorities for 2001/2002 have been identified. The key activities that will contribute to the further attainment of management plan goals next year include the following:

- X Implementing the Minister's Action Plan on Ecological Integrity;
- X Developing an effective human use management strategy for Banff National Park that integrates ecological, social, and cultural goals;
- X Contribute to developing a coordinated human use database;
- X Continuing with the planning program for the lands peripheral to the Town of Banff;
- X Completing and implementing the Moraine Lake Human Use Strategy;
- X Continuing to build on existing research and further strengthening partnerships with regional land managers;
- X Pursuing public transportation in Lake Louise;
- X Continue working with adjacent jurisdictions to mitigate the impacts of major transportation corridors by collaboratively conducting a Regional Transportation Study;
- X Enhancing Aboriginal programs as part of the heritage presentation renewal and heritage tourism initiatives, and;
- X Implementing Ski Area, Outlying Commercial Accommodation guidelines and the Lake Louise Community Plan once they are finalized.

CHAPTER 3.0 A PLACE FOR NATURE

3.1 OVERVIEW

Ensuring ecological integrity in Banff National Park is at the heart of the management plan. Work continues to address the stressors identified in the *1999 State of the Protected Heritage Areas Report* through the implementation of actions identified in the management plan. In addition, steps are being taken to implement the *Minister's Action Plan in Response to the Report of the Panel on the Ecological Integrity of Canada's National Parks*. Key activities to implement the immediate and longer-term actions from the Minister's Action Plan are provided in Appendix A along with a copy of the Minister's Action Plan.

3.4 RESEARCH AND INFORMATION MANAGEMENT

STAFFING

Banff National Park recently hired a Human-Use Database Development Officer to provide a structured, co-ordinated, and accessible method for obtaining social science information. In addition, the Client Research Specialist position, in Yoho, Kootenay, and Lake Louise Field unit, is being re-staffed.

SOCIAL SCIENCE DATABASE

Work is underway to inventory existing information and to develop a standardized database for storage, retrieval, and analysis of social science information. The database will enable us to improve the use of existing social science data and demonstrate its use in decision making. It will also improve communication of social science information with the public. The database will help to: define information gaps and data requirements; provide enhanced capabilities to analyze trends, monitor changes, and integrate social science data with other ecosystem data; support research design; co-ordinate efficiencies with partners in the public and private sectors, and; increase the public's understanding of the information on which decisions are based.

COORDINATING RESEARCH AND DATA COLLECTION

To ensure park management decisions are informed with sound science, a collaborative approach to ensuring the necessary expertise is available is being developed. Opportunities for coordinating and sharing data with a number of regional agencies and organizations continue to be sought.

PATTERNS OF VISITOR USE SURVEY

Parks Canada, in partnership with Alberta Economic Development and the Banff/Lake Louise Hotel/Motel Association initiated an extensive project during the summer of 2000. The objectives of the survey were to measure the levels of visitor use, determine patterns of visitor use, develop a profile of park visitors, evaluate how well key heritage themes are communicated, and measure visitors' satisfaction with their experience. A joint presentation of preliminary results will be made at the Planning Forum.

3.5 COMMUNICATING THE NEED FOR ECOLOGICAL INTEGRITY

Banff National Park has tremendous opportunity to shape public understanding, appreciation, enjoyment and support. This makes it essential for communications activities to be well planned, targeted, and effective. A number of programs continue to provide opportunities for visitors and residents to see and learn about the park. These ongoing programs include:

FRIENDS OF BANFF OUTREACH PROGRAM

Two bear and one wolf elk education kits (edukit) have been developed to fit the Alberta curriculum for Divisions 1-4. These kits continue to be a valuable vehicle for teaching students concepts such as adaptation, habitat, conservation biology, ecology, and cultural ideals. In the past year, the kits were circulated to approximately 37 schools, with 1,100 students using the kits as an environmental education tool. This year, two new elk edukits have been developed. To extend the outreach program further, the edukits will be posted on the Friends of Banff web-site, linked to the Banff National Park web page.

LIVING WITH WILDLIFE PROGRAM

The Friends of Banff and Parks Canada created the Living With Wildlife Program in 1997. The primary objectives of this program are public education, public safety, and reduction of roadside bear habituation. The program includes frequent informal presentations at roadside picnic and rest areas, and formal evening presentations at Baker Creek Bungalows, Castle Mountain Village, and Castle Mountain Hostel. In addition, staff were assigned to rove Tunnel Mountain and Lake Louise campgrounds. This program was beneficial in the delivery of essential information to visitors during the temporary closure of the Lake Minnewanka Loop, because of bear activity.

RESEARCH UPDATES

This program has been held each spring and a newsletter produced twice a year for residents and the general public.

“CONNECTING WITH CANADIANS” STRATEGY

To improve external communications the park aims to implement a strategy to reach and connect with some of our target audiences: youth, ethno-cultural, and populations in major urban centres. The *Connecting with Canadians Strategy* aims to inform Canadians of ecological integrity and commemorative integrity challenges and, influence understanding and expectations of the national parks and national historic sites. The strategy also endeavors to involve Canadians in the enjoyment of these special places and in the shared responsibility for their conservation and the maintenance of their integrity. Appendix B outlines some proposed communication activities.

3.8 SPECIES AND GENETIC DIVERSITY

BANFF SPRINGS SNAIL

Progress has been made on several fronts on the Banff Springs Snail Research and Recovery (BSSR&R) Program since October 1999. Monitoring of the snail population fluctuations, snail microdistribution, and water physiochemistry continues. All five populations continue to fluctuate seasonally. Statistical analyses continue to reveal interesting associations among snail population fluctuations, snail microdistribution, and water physiochemistry.

After many tweaks and modifications, the flow through aquarium system at the Cave and Basin National Historic Site (C&BNHS) is up and running and snails are reproducing. These snails are providing valuable data on the reproductive biology of the species and will be used in re-introduction attempts. An annual report has been prepared, as were two revisions of the Resource Management Plan (RMP) for the Recovery of the Snail. The RMP will be the blueprint for all future work on the conservation of the snail and its habitat and will be finalized by the end of the year. An options analysis identifies habitat conservation problems and possible solutions at all nine historic thermal spring locations of the snail.

For the second consecutive year funding from the Endangered Species Recovery Fund, sponsored by the World Wildlife Fund-Canada and the Canadian Wildlife Service has been obtained. A presentation on the BSSR&R Program and the RMP was given at the international Wetlands 2000 Conference in Quebec City, in August 2000. Final touches are presently being added to the new interpretive display on the Program at the C&BNHS. A status report was also recently prepared to help assess the status of the species in Alberta.

3.9 AQUATIC ECOSYSTEMS

RESTORATION OF NATIVE FISH SPECIES

An ongoing program of fisheries research is directed toward understanding the status of native bull char and cutthroat trout populations in the mountain national parks. The objectives are to determine the genetic divergence across major drainage systems. The results of this study may have implications for issues of biodiversity.

RESTORATION OF AQUATIC SYSTEMS (FLOW REGIMES)

Researchers continue to investigate the potential to improve fish habitat so that indigenous fish populations can be restored and maintained in the Spray River downstream to Canyon Dam and Goat Creek. Work continues to determine the feasibility of various restoration strategies including TransAlta's capabilities to alter stream flow.

Restoration of water levels flows at Vermilion Lakes Wetlands (see 3.14 and Appendix C).

RESEARCH

Approximately fourteen research projects were undertaken in the areas of designating benchmark lakes for research and education, identifying threats to alpine streams and lakes, monitoring water quality and the effects of sewage effluent, restoring water bodies and species research. (e.g. Banff Spring Snail, Bull Char, and Cuthroat Trout).

AQUATIC PRIORITIES

The priorities for next year remain relatively consistent with last year. Parks Canada will continue to focus our efforts on amphibian research, the benchmark lake program, the mapping (GIS) of watershed information and research related to the Forty-Mile Creek Dam inventory.

AQUATICS ADVISORY GROUP

This group continues to assist Parks Canada in addressing operational issues, regulatory issues and angling, and management of resources.

3.10 VEGETATION

PRESCRIBED BURNS

In the past year four prescribed burns were carried out. These areas include:

- Middle Spray - 500 hectares, May 2000;
- Sulphur Mountain fuel break burn, 22 hectares, June 2000;
- Cascade Valley prescribed burn, 80 hectares, September 2000, and;
- Fire behavior research on the Panther River prescribed fire (in progress).

Prescribed burns in Banff National Park have multiple objectives: fuel reduction, maintenance of wildlife habitats, reduction of forest insects and diseases, and maintenance of benchmark ecosystems. They are scheduled for periods when grasses and deciduous leaves are cured, the potential for hot dry weather is minimal and visitation is lower. A presentation on the role of fire in Banff National Park will be made at the Planning Forum

EXOTIC VEGETATION

The control of exotic vegetation is another key area of work. In an effort to control non-native plants that threaten native plant communities or species, a number of non-native plants were sprayed or hand pulled. Canada thistle and perennial sowthistle were sprayed along the Trans Canada Highway, from the East Gate to Sunshine Junction. Spot spraying of scentless chamomile and common toadflax was done at frontcountry disturbed sites. To reduce the population of tall buttercup, hand pulling was done at two backcountry sites (i.e. Stoney Creek and Elk Trap), spot spraying was done in the Lake Louise townsite, and at Johnson Creek, Cyclone, and Mystic backcountry cabins.

FIRE EFFECTS RESEARCH

Through research, Parks Canada gains a better appreciation of the history and roles of fire. Research was conducted on the fire effects on *Hedysarum alpinum*, an important grizzly bear food.

First year of data collection was from the Panther River. Additional research plots were established in the Cascade Valley. Preliminary results indicate that grizzly bears prefer to use this plant in burned areas compared to adjacent unburned habitat. A report was completed comparing burned and unburned plots at the Mt. Cory burn (1977) and Hillsdale burn (1998).

As part of the multi-year white bark pine restoration project, which was initiated in 1998, a research transect was established on Mount Weed, near Highway 93 N.

HERBIVORY MONITORING

Parks Canada continues to collect data from range enclosures in the Bow Valley. Range enclosures separate out the effect of grazing and browsing from other factors such as changes in weather, water table, and fire effects. Analysis of this data will help to show how ungulate browsing affects vegetation, primarily deciduous trees, shrubs and forbs.

FUEL MANAGEMENT

In partnership with Hostelling International, a fuel management plan for Mosquito Creek hostel was completed last fall. Further work is required on the proposed Carrot Creek fuel break. In addition, Parks Canada will be rehabilitating skid trails and landings in the Middle Springs, Banff Springs Hotel, and Johnson Canyon fuel breaks.

FOREST INSECT

Mountain pine beetle (MPB) is a naturally occurring insect in Banff National Park. It colonizes pine trees that are weak or over eighty years old. Banff National Park and adjacent forest lands contain a considerable number of pine trees. A combination of mild winters, the arrival of some MPB from British Columbia and prime aged stands has caused the Province of Alberta to express concerns about a potential threat to adjacent forest lands. Parks Canada is working collaboratively with the Province of Alberta to assess the MPB hazard to pine forests and to develop a strategy, which includes coordination of planned burns.

3.11 WILDLIFE

ELK MANAGEMENT

The relocation of 153 elk to areas within the Central Rockies Ecosystem was a major accomplishment for the Elk Management Strategy. This action will assist in restoring natural ecological processes and reducing elk/human conflict. Extensive research and communication work ensured that the capture and relocation of the elk were successful. The Elk Advisory Committee played an important role in improving the implementation strategy. Parks Canada continues to monitor the movement of relocated elk.

ELK ADVISORY COMMITTEE AND ELK SCIENCE ADVISORY GROUP

The Elk Advisory Committee and the Elk Science Advisory Group assisted Banff National Park in completing an important milestone in wildlife management adjacent to Banff townsite by reviewing the Elk Management Strategy and the related Environmental Assessment. Given the

possibility of unanticipated results, and the need for intensive monitoring, the advisory bodies recommended an adaptive management approach where the results were reviewed annually prior to the following year's implementation. Parks has committed to this annual review process.

BEAR RESEARCH AND MANAGEMENT

The East Slopes Grizzly Bear Project has completed seven years of research with one more year to go to complete the demographic analysis. Future research directions to aid in science based management of this important species will be developed and implemented over the coming years. A presentation on grizzly bear facts will be made at the Planning Forum

BEARS AT TWO-JACK LAKE

Six grizzly bears congregated in the Minnewanka Loop area in late summer to take advantage of an exceptional buffalo berry crop. This prompted the early closure of the Two Jack Campgrounds (Lakeside and Main), and some temporary restrictions on cycling, horseback riding, and hiking. A review of the historic movement patterns of three of the bears (a radio-collared sow with two cubs) suggested that they rarely used areas of high visitor use and that they were there because of poor berry production at higher elevations.

WOLVES

Since November 1999, two new wolves moved into the Bow Valley and formed a pack (Fairholme) east of the town of Banff. Six pups were born this past spring and with the addition of another adult there are currently nine in the pack. All Fairholme wolves and the pack use the seven wildlife underpasses around and east of Banff. The Bow Valley pack consisted of two wolves last year. Four pups were born this year. Members of this pack prefer crossing the TCH at the Healy underpass compared to all others, including 5-Mile bridge. Recently, the entire pack has crossed the TCH on the two overpasses four times. Further, monitoring of crossing structures and wolf movements indicate that two new wolves appear to reside near Castle junction. Two Cascade/Red Deer wolves were legally shot or trapped outside the park last year as well as up to eight wolves in the Clearwater River Valley. "Betty" a founding member of the Cascade pack was found dead of natural causes in the Bow Valley in November.

BISON

A meeting was held in September 1999, to discuss potential bison reintroduction with members of Alberta Natural Resources Service and the Alberta Lands and Forest Branch. It became apparent that bison restoration would not be a simple task and that it would require a cautious and stepwise approach. A process was proposed whereby three questions would need to be addressed before bison reintroduction could proceed: 1) Is bison restoration in Banff National Park an ecologically sound land management decision? 2) Can stakeholder concerns be addressed satisfactorily? 3) What would be an experimental design to test the feasibility of bison reintroduction? To initiate dialogue and research pertaining to bison re-introduction, a workshop was held on October 28, 2000. Participants included representatives of the Province of Alberta, University of Alberta, and the University of Calgary.

CARIBOU

In recent years the population of the Siffleur caribou appears to have declined from high counts of approximately twenty-three made in the late 1980's to a low count of two made in 1999. Although caribou surveys may underestimate true population size due to low sightings, it appears likely that the absolute population size is considerably less than fifty and on a downward trend. Causes of population decline are not known. Parks Canada has scheduled a workshop to discuss the declining population with Provincial land managers and caribou biologists. A winter survey in the Siffleur drainage is scheduled for February 2001, to determine minimum population size.

LYNX

The lynx study is in its fifth year of research. Monitoring of these elusive cats continues to provide important information about local lynx populations and preferred habitat.

MONITORING

Trends in carnivore, herbivore, and vegetation indicator species continue to be monitored in relation to ecological restoration actions. Community volunteers and park staff completed the second year of Monitoring Avian Productivity and Survival (MAPS) of songbirds.

COMMUNICATION REGARDING RESEARCH AND WILDLIFE ISSUES

A research update workshop is held each spring and a newsletter produced twice a year for residents and the general public. Biannually park researchers brief other researchers, staff, environmental groups, educators and affiliated agencies about their work. The Living With Wildlife Program is in its third year. Staff visited residents and distributed literature on wildlife issues; educated campers on bear awareness, worked at 190 wildlife jams and delivered talks at outlying accommodation areas.

3.12 THE CASCADE WILDLIFE CORRIDOR

Closing the army cadet camp, implementing temporary road closures, and discouraging visitor use in sensitive areas have improved wildlife movement. Monitoring of wildlife movement in the corridor continues. A presentation, on the before and after effects of restoring the Cascade Wildlife Corridor, will be made at the Planning Forum.

3.14 VERMILION LAKES WETLANDS

CPR and Parks Canada collaboratively initiated the restoration of water flows and track stabilization in the Vermilion Lakes Wetlands. In September 2000, CPR installed 11 culverts beneath the track in the Vermilion Wetlands, with one more to be installed next spring. These culverts will reduce the barriers to natural water movements in the area and reduce the sources of rail-bed erosion, which will ultimately reduce the risk of derailments in this valued and fragile ecosystem. See Appendix C for more information on this project. This area is included in the Lands Adjacent to the Town of Banff planning process (see Section 5.6).

CHAPTER 4.0 A PLACE OF HISTORICAL AND CULTURAL SIGNIFICANCE

4.43 BUILT HERITAGE

A Built Heritage Resource Description and Analysis (BHRDA) of buildings associated with Banff's camping heritage has been completed. Banff's first campsite, the Rundle Campsite, began operation in 1919 on the site of the Banff Springs Golf Course. The report identifies original buildings associated with Tunnel Mountain campground dating back to 1927. In addition a BHRDA has been completed for upper and lower Lake Louise.

This year Parks Canada completed a recording of Abbot Pass Hut Refuge Cabin National Historic Site. The Park will be coordinating a Historic Sites and Monument Board Ceremony and Plaque for Abbot Pass Hut next year.

The single largest built heritage project undertaken this past year was the conservation work completed on the Superintendent's residence, a recognized Federal Heritage Building. Extensive work was done to restore the exterior finish and appearance of the building. This included new landscaping and fencing. Restoration work was also completed on Stoney Creek Warden cabin.

Parks Canada co-sponsored the completion of inventory reports of cultural resources in the Town of Banff. The grounds of the Park Administration building received a facelift including stone work and the installation of the second finely crafted burl log bridge in the Cascade Gardens. The two burl log bridges have been built to represent the original log bridges built in the gardens in the 1930's.

4.44 ARCHAEOLOGICAL RESOURCES

A comprehensive Archaeological Resource Description for Banff National Park has been completed. This report has been integrated with the GIS mapping inventory for the park and will serve as an important tool for future resource management initiatives. Other archeological work included a survey along the Canadian Pacific Railway line through Banff and Yoho to inventory features associated with the early development of the railway.

Archaeological work at Lake Minnewanka continues to provide significant materials spanning a time frame of some 11,000 years to the Clovis Point Period. These sites speak to the very earliest human occupation of the mountains.

Priorities for next year include working with the operators of Skoki Lodge to implement the conservation maintenance plan; working with the Banff Springs Hotel to complete a Commemorative Integrity Statement; installing a new membrane over the exterior decks at the Cave and Basin to address water damage from deck areas; expanding the sprinkler systems at both National Historic Sites to increase protection of these buildings, and; continuing to work with the Province of Alberta and the Banff Heritage Corporation to enhance the protection and presentation of cultural resources within the Town of Banff.

CHAPTER 5.0 A PLACE FOR PEOPLE

5.2 A PLACE FOR HERITAGE TOURISM

HERITAGE TOURISM STRATEGY

Developed in 1997, and in its third year of implementation, the Banff Bow Valley Heritage Tourism Strategy is designed to celebrate and preserve the park's ecological and cultural integrity. This past year projects included: evaluating the effectiveness of the program; presentations to local, national, and international audiences; establishing an annual Heritage Tourism Awards program; delivering additional accreditation courses, public and private, and; emphasizing messages and images relating to park values, and the nature, history and culture of this World Heritage Site. A detailed strategy for Lake Louise has been developed in collaboration with businesses for Lake Louise, which was founded on the Banff Bow Valley Heritage Tourism Strategy.

Priorities for next year include Year of the Great Bear, and in partnership with the Whyte Museum of the Canadian Rockies, host the *Bears: Imagination and Reality* exhibit from May 19 to September 20, 2001. (see Appendix D for more information).

BANFF'S BEST HERITAGE ORIENTATION PROGRAM

This program provides Park and private sector staff information on the natural and cultural heritage of the park, safety issues and appropriate behavior while living in the Park. This year, the ecological integrity messages were strengthened.

2001 YEAR OF THE BEAR

Banff National Park is a major leader of this event. More than 100 partners are working towards the development of 500 events for this celebration. This event will increase awareness and understanding of black bears and grizzly bears. A major component will be the exhibit *Bears: Imagination and Reality*.

5.4 AWARENESS AND EDUCATION

SIKSIKA INTERPRETIVE EXHIBIT

The Siksika Nation had an interpretive display at the Park Administration Building to present their culture to park visitors. Interpreters were at the site on a daily basis with dancers performing once a week.

CANADA PLACE

On July 9, 2000 the Honourable Sheila Copps, Minister of Canadian Heritage, launched Canada Place, in Banff National Park. Banff was chosen to be the first national park to have a Canada Place as it is an icon of Canadian heritage; the birthplace of our national parks system, and; an internationally recognized landscape. This highly interactive exhibit provides Canadians and

international visitors an opportunity to discover more about Canada's natural and cultural heritage, and the events and people who shaped them.

PARTNERS IN PROMOTING CULTURAL OPPORTUNITIES

Parks Canada continues to work with the Province and other major cultural attractions to promote historic sites and share professional expertise. This initiative includes the Heritage Passport, Alberta Heritage Superpass, and the Pathways to Pastways Programs. Sales of the Heritage Passport increased by approximately 600%, resulting in over 3,600 passes sold.

MOUNTAIN PARKS HERITAGE INTERPRETATION ASSOCIATION (MPHIA)

An association was founded to establish standards, training and accreditation processes for Professional Interpreters. Five courses have been offered to date with four or five more planned for 2001. Approximately fifty Interpreters have been accredited to date.

Beginning in the spring of 2001, tourism operators offering interpretive guiding services in Banff National Park will need to obtain professional accreditation through the MPHIA in order to qualify for a business licence. Training programs, will be offered by MPHIA on an ongoing basis.

MOUNTAIN PARKS INTEGRATED COMMUNICATIONS FRAMEWORK

A draft framework is completed, the goal of which is to integrate communications activities and ensure all communications activities within the Mountain Parks are coordinated, targeted and effective.

YOUNG CANADA WORKS PROGRAM

Eleven students and three supervisors participated in the fifth year of this program. The program successfully brought together a diverse group of participants from across Canada to learn more about each other, enhance their professional and interpersonal skills plus gain a greater appreciation and understanding of Parks Canada's system and operations.

ENVIRONMENTAL EDUCATION CENTRE

On June 26, 1998, the Minister of Canadian Heritage announced that Parks Canada would secure a site on Banff Avenue that would become an Environmental Education Centre and a focal point for Parks Canada. Negotiations are proceeding with leaseholders.

REFERENCE GUIDE FOR TOUR OPERATORS

Through the Transportation and Utilities Advisory Group, a manual for tour operators has been developed. The intent of the manual is to support park communication objectives through staff training at Laidlaw, Brewsters, and other tour companies. The manual provides accurate and appropriate information to ensure tour operators understand and practice proper protocol for visiting the park.

"CONNECTING WITH CANADIANS" STRATEGY

See section 3.5 and Appendix B.

5.5 FROUNTCOUNTRY VISITOR ACCOMMODATION OUTSIDE THE COMMUNITIES

HOSTELS AND OUTLYING COMMERCIAL ACCOMMODATIONS (OCA)

Parks Canada staff have reviewed and discussed with Hostelling International and each OCA operator the recommendations contained in the OCA Review Panel's report on *Outlying Commercial Accommodations and Hostels in the Rocky Mountain National Parks*. This document was made public by the Minister responsible for Parks Canada in April, 2000. Parks Canada will be using the Panel's report as the basis for developing Parks Canada Guidelines for Hostels and OCAs. The panel's report has also been reviewed in light of the recommendations of the *Panel on the Ecological Integrity of Canada's National Parks*, which was also released this spring. Parks Canada is finalizing site specific recommendations. When this review is complete Parks Canada will be advising individual operators.

5.6 EFFECTIVE HUMAN USE MANAGEMENT

HUMAN USE MANAGEMENT STRATEGY FOR BANFF NATIONAL PARK

A human use management strategy is being developed for Banff National Park. This strategy will define and integrate ecological, social, and cultural goals for Banff National Park and will be based on the principles identified in the management plan, the best available science, and principles of adaptive management. A presentation will be held at the forum to review and discuss the proposed strategy.

LANDS ADJACENT TO THE TOWN OF BANFF

At last year's planning forum, a planning framework for lands adjacent to the Town of Banff was presented. At that time, several round table sector participants indicated that specific and realistic goals and clear objectives be established before the planning process begins. It was also suggested that the scope of the study be expanded to include lands north of the TransCanada Highway. Based on this direction, Parks Canada has revisited this planning initiative by applying the same principles and objectives identified for the Human Use Management Strategy and redefining the study area boundary. Public consultation will be an important aspect in developing the strategy.

MORAINÉ LAKE HUMAN USE STRATEGY

Work continues to address ecological and social issues in the Moraine Lake area. For the second year, restricted access was implemented when grizzly bear activity created public safety concerns. This required hikers to travel in a tight group of six or more on trails in the following areas: Larch Valley, Paradise Valley, Eiffel Lake area, Consolation Lakes Valley and on the Moraine Lake Highline trail (parallel to the road). Parks Canada monitored compliance during the restricted access period. In addition, surveys of Moraine Lake users were conducted to receive feedback on this management initiative. Preliminary research was conducted on the Highline trail as the first step in developing a strategy to assess the appropriateness of mountain biking on the trail. Parks Canada will continue to work with the external advisory group to develop short and long-term

solutions for managing use at Moraine Lake. A presentation on Moraine Lake planning initiatives will be made at the Planning Forum.

SKOKI AREA HUMAN USE STRATEGY

Initial background information for the Skoki strategy has been collected. Development of this strategy will commence next year after the Moraine Lake strategy is completed and a human use management strategy for Banff National Park is identified.

MANAGING BIKE TRAILS ON NORQUAY AND STONY SQUAW

Last summer, unofficial mountain biking trails on the south sides of Mount Norquay and Stoney Squaw were closed for rehabilitation. Signs informing cyclists of the closure have been posted and a trail map has been produced for the area. Mountain biking continues to be permitted on Mount Norquay Road, Stoney Squaw Summit Trail, and Lower Stoney Squaw Trail.

TRANSCANADA TRAIL

Parks Canada has identified a potential route in the Spray Valley, from Spray Lakes south. Trail organizers in British Columbia and Alberta are not in agreement on location of the trail in their respective provinces. Until the location of the trail on adjacent provincial lands has been ratified, Parks Canada will not be officially designating a trail in Banff National Park.

SURVEYS-SUMMER 2000

A number of surveys were conducted over the summer. In particular, an extensive Patterns of Visitor Use Study was conducted from June to October 2000 (see Section 3.4). A representative from Parks Canada, the local Motel/Hotel Association, and Alberta Economic Development will be presenting the preliminary findings of the survey at the forum. Other initiatives that were conducted in Banff National Park throughout the summer of 2000 include:

- Moraine Lake restricted access survey;
- Banff Bow Valley Heritage Tourism Strategy Evaluation;
- Banff Campground Survey;
- Friends of Banff Radio Station Survey;
- Canada Place Visitor Survey;
- Backcountry Trail Human Use Monitoring (i.e. trail counters), and;
- VISTA survey and traffic analysis in the Lake Louise area.

5.7 SULPHUR MOUNTAIN

This area is part of the 'Banff Town' carnivore management unit, which will be reviewed in the Human Use Management Strategy being developed for the park and the planning process for the lands adjacent to the town of Banff.

5.8 SKI AREAS

On October 19, 2000, the Honourable Sheila Copps, Minister of Canadian Heritage, released decisions for the planning and management of ski areas in national parks. The decisions provide clear and consistent approaches in order for ski areas in the Rocky Mountain national parks to operate in a manner that will not impair the ecological integrity of the parks. At the same time, the ski areas will be able to change how they operate to better serve skiers through the development of new long range plans (see Appendix E for details on the October 19th Ministerial announcement).

5.9 BANFF SPRINGS GOLF COURSE AREA

The golf course road continues to be closed from November 1st to May 1st and year round after 11 p.m. Wildlife and human use monitoring of the golf course wildlife corridor has indicated increased predation of elk by cougars and wolves.

5.10 FENCING COMMUNITIES AND FACILITIES

Parks Canada continues to examine the feasibility and appropriateness of wildlife fencing in the Lake Louise area. Input from Lake Louise residents will be an important aspect in assessing feasibility, appropriateness, and developing any concepts for fencing and other techniques associated with reducing human/wildlife conflicts in the community.

CHAPTER 6.0 TRANSPORTATION

6.1 GROUND TRANSPORTATION

TRANSPORTATION AND UTILITIES ADVISORY GROUP (T&UAG)

The T&UAG was established following the approval of the management plan. In the past year, the group addressed many of the issues identified in the management plan including: improving interpretation along park roads, in particular the Bow Valley Parkway; and producing a reference guide for tour operators using park roads. A paper was prepared that clarifies the application of CEAA in emergencies situations. The group hosted the Banff National Park Wildlife Transportation Workshop that took place in February 2000.

BANFF NATIONAL PARK WILDLIFE TRANSPORTATION WORKSHOP- FEB. 8TH AND 9TH, 2000

The workshop was initiated to address the following questions: a) What are the species or wildlife-groups of particular concern? b) What are the ecological processes of particular concern? c) What are the consequences of mitigation choices across a range of mitigation options? and d) What approaches might be taken in addressing the unknowns? Assessment of the magnitude of present ecological impacts varied among participants, depending on individual disciplines and perspectives. There was general agreement that ecological integrity was the goal, and that there was a need to co-ordinate research. Overall, the workshop generated interesting discussion and identified a number of good ideas that will assist in the Regional Transportation Study. A report is available that outlines the discussion.

REGIONAL TRANSPORTATION STUDY

A commitment was made in the management plan to study regional transportation needs and issues. To initiate this management objective, a working group was established in the fall of 1999. Participants include various government agencies and representatives from the Town of Banff, Town of Canmore, MD of Bighorn, and the City of Calgary. This study will examine the issues, trends and options for dealing with increasing traffic into and through the Bow Valley. A Terms of Reference is being developed jointly to define the study area, goals, and objectives. Existing information and data gaps are being identified. The working group continues to meet to advance this initiative.

BOW VALLEY PARKWAY

The night voluntary travel restrictions continue on the Parkway from Johnston Canyon east to the TransCanada Highway junction from March to June.

TCH WILDLIFE CROSSING STRUCTURES (WCS)

Since the fall of 1996, Parks Canada has been funding research to assess the ecological effects of roads in Banff National Park. This study focuses primarily on the TransCanada Highway, its permeability for wildlife and effects in terms of wildlife mortality, movements, and habitat connectivity in the Bow River Valley. A presentation of this research will be made at the Planning

Forum by Dr. Tony Clevenger, an independent research scientists and adjunct professor at the University of Calgary and University of Tennessee, Knoxville (see Appendix F).

LAKE LOUISE TRANSPORTATION STUDY AND VISTA

This study was completed in March 2000. The purpose was: to assess the transportation situation in the Hamlet of Lake Louise, Upper Lake Louise, and the Moraine Lake area; to provide an overview of transportation trends in other tourism/protected areas around the world, and; to set out the process to select, evaluate and implement a suggested series of short, medium, and long-term actions. Actions suggested in the report require further evaluation by Parks Canada. Planning will be undertaken in the next year to identify and select appropriate staging areas, determine viable modes of transportation, and to review the logistics and viability of a visitor transportation system. Last summer, Parks Canada introduced VISTA as a pilot project to reduce traffic and parking lot congestion. A presentation will be made on Lake Louise transportation initiatives at the Planning Forum.

CHAPTER 7.0 A PLACE FOR COMMUNITY

7.1 OVERVIEW

FRAMEWORK FOR PARK COMMUNITIES

The new *Canada National Parks Act* (Bill C-27) received Royal Assent in October 2000. This *Act* enables the setting of legal boundaries for each park community, the establishment of permanent caps on commercial development in park communities, and the statutory requirement to use no net negative environmental impact principles for all future community plans.

7.2 TOWN OF BANFF

TOWN OF BANFF COMMUNITY PLAN

Since the approval of the Community Plan in 1998, the Town has been managing a commercial growth scheme, which allocates new commercial growth, and is formulated to achieve build out in 2005. A census taken in June 2000 indicated that the permanent resident population (i.e. 7,716) remains under the 10,000-person cap set in the Community Plan.

ECO-EFFICIENT COMMUNITY PROJECT

The Town of Banff's No Net Negative Environmental Impact (3NEI) Project is an environmental management program, which includes a recently completed Community Energy Plan (CEP) and the cooperative development of Sustainable Buildings and Site Guidelines.

ELIGIBLE RESIDENCY

Parks Canada continues to monitor all transactions related to mortgages and other lease related matters. Parks Canada is promoting increased coordination with the Town of Banff in the issuance of Home Occupation Permits to further address eligible residency.

7.3 HAMLET OF LAKE LOUISE

LAKE LOUISE AREA

There are a number of important decisions that need to be made regarding the Lake Louise area. Parks Canada is particularly concerned about the protection of grizzly bears and their habitat. The inter-relationship between grizzly bears and human use needs to be fully understood before a decision is made on summer use at the ski area.

The Lake Louise Community Plan has been forwarded to the Minister's office for review. The supporting Implementation Guidelines have been drafted and reviewed by the community and will be finalized when the Plan is approved. The Plan and Guidelines have been prepared in collaboration with the Lake Louise Advisory Board and are based on the 3NEI principle. The Guidelines identify strategies that respond to the Eco-community concept.

CHAPTER 8.0 A PLACE FOR OPEN MANAGEMENT

8.2 PUBLIC INVOLVEMENT

ANNUAL PLANNING FORUM

At the 1999 planning forum, it was decided that Parks Canada would conduct public meetings, either every other year or every five years, in a number of urban centres in Western Canada. The intent is to allow the public an opportunity to understand and comment on how Parks Canada is implementing the management plans for the mountain parks. This initiative has been postponed to the winter of 2001 since the plans for Jasper, Waterton, Yoho, and Kootenay National Parks were just recently released.

ENGAGING THE PUBLIC

Various groups and individuals continue to assist Parks Canada in the implementation of recommendations in the management plan. This participation consists of advisory groups, open houses, or working groups. Some of the groups that continue to play an important role in management plan initiatives include the following:

- Cultural Resource Management Working Committee;
- Aquatic Ecosystem Advisory Group;
- Townsite Elk Advisory Committee;
- Heritage Tourism Council
- Transportation & Utilities Advisory Group;
- Advisory Development Board;
- Banff Business' Breakfast Meeting;
- Lake Louise Advisory Board;
- Moraine Lake Human Use Advisory Board;
- Regional Transportation Study Working Group;
- Lake Louise Utility Board, and;
- Lake Louise Transportation Study Committee.

8.3 DEVELOPMENT REVIEW PROCESS

ADVISORY DEVELOPMENT BOARD (ADB)

The role of the ADB continues to become more refined with experience. The ADB functions as a vehicle for the public to directly participate in the review of development applications through advertised public meetings. In January 2001, three new members will join the ADB for a two-year term.

8.4 APPROPRIATE USE

Appropriate use continues to be addressed on a number of fronts. In particular, an appropriate framework has been prepared by the Town of Banff. Discussions continue with the Town on how best to implement the strategy. The Human Use Management Strategy (see Section 5.6), provides a process for reviewing and evaluating types and levels of use so that it better reflects the Park's mandate, addresses increases in use, and incorporates public involvement.

8.5 REGIONAL COORDINATION

REGIONAL LAND USE PLANNING INITIATIVES

Parks Canada is working with adjacent land managers on a number of initiatives including a joint approach with the Province of Alberta and Sunpine Wood Products to link management plans along the eastern slopes of the Rockies. This program will address issues of common concern such as fire, fish and wildlife, and insect and disease management. The benefits of this program include co-ordination of resource and environmental management, enhanced social, economic and ecological wealth and cost effectiveness. A Terms of Reference will be jointly developed in the near future. In cooperation with partners in BCEAG, a regional transportation study is being initiated. This study will examine the issues, trends and options for dealing with increasing traffic into and through the Bow Valley (see Section 6.1). Ecological research to examine the feasibility of reintroducing bison was also initiated this year in the upper Red Deer River area. Parks Canada is part of a research project to examine elk responses to relocation in the Ram River area.

Parks Canada expressed concern to the Province of Alberta about proposed large-scale recreational developments adjacent to the park's southeastern boundary and participated in the preparatory stages of the environmental assessment process. The area has since been designated as a park by the Province of Alberta and the development has been removed from further consideration. Wildlife that move in and out of the park in this area will benefit from increased protection as a result of the Province of Alberta's decision.

REGIONAL COORDINATION AND COMMUNICATION

Parks Canada continues to work with adjacent jurisdictions to encourage a coordinated and integrated approach to managing scientific research, land use, human activities and economic initiatives. The Park is involved with a number of agencies and organizations to ensure ecological integrity, protection and presentation of cultural resources, human use management and heritage tourism. Some of these organizations include:

Bow Corridor Ecosystem Advisory Group (BCEAG): The Province of Alberta chairs this group. In the past year work has continued on a coordinated mapping and data base system. Guidelines for managing human use in the identified wildlife corridors have been developed. A coordinated approach to fire management has been developed.

The Biosphere Institute of the Bow Valley (BIBV): The main efforts this year have been workshops with experts in particular specialties to identify the strengths of the existing information on the Bow Valley and where there are information gaps.

Central Rockies Ecosystem Interagency Liaison Group (CREILG): The priority for this year was looking at human access in a coordinated manner. Access to backcountry areas from adjacent lands will be addressed.

The British Columbia Interagency Management Committee: Land use issues between the Province and Parks Canada have been discussed. Workshops were held to discuss forest health, fire management, access and wildlife management.

Rocky Mountain Grizzly Bear Planning Committee: The group focuses on the management of grizzly bears in the Intermountain Region from the Wilmore Wilderness area to Montana.

East Slopes Grizzly Bear Project (ESGBP): This group has completed seven years of research with one more year to go to complete the demographic analysis.

Alberta Economic Development Authority's New Provincial Tourism Committee. Parks Canada has a representative on the committee.

Town of Banff Heritage Building Strategy: Parks participates in a partnership with the Town and Province to protect heritage buildings.

CHAPTER 9.0 A PLACE FOR ENVIRONMENTAL STEWARDSHIP

9.2 ENVIRONMENTAL MANAGEMENT

ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

EMS is an important tool that can help integrate environmental considerations into day-to-day decisions and practices, as well as improve both environmental and economic performance. Priorities for Banff National Park for the next year include:

- preparing an EMS Action Plan;
- completing baseline data collection for the fourteen environmental aspects identified in the Department's Sustainable Development Strategy;
- investing in the Federal Buildings Initiatives (a Natural Resources Canada program);
- implementing a composting program for the Lake Louise area;
- continuing recycling programs that include systems to capture and remove hazardous waste, and;
- ensuring the inclusion of energy and water conservation in the design of all new development or redevelopment projects.

9.3 TERTIARY SEWAGE TREATMENT AND PHOSPHATE REMOVAL

TERTIARY SEWAGE TREATMENT

Upgrades have been proposed for the two wastewater treatment plants (WWTP) in Banff National Park. Improvement will be made to the Banff and Lake Louise WWTP that will restore water quality to a high standard and reduce the amount of phosphorus in the Bow River. Due to high costs, the improvements to the Lake Louise WWTP will likely be phased in over time, with the first priority being to increase its capacity. Both projects require an environmental assessment and review by the Advisory Development Board.

CHAPTER 10.0 PARK ZONING

10.3 ZONE II – WILDERNESS

WILDERNESS DECLARATION

The four contiguous Rocky Mountain National Parks are the first parks to receive wilderness declaration. The intent of this provision is to enhance the protection accorded to national park lands. It does not change the type of public use permitted in backcountry areas, but does prevent some uses such as motor vehicles.

APPENDICES:

APPENDIX A) KEY ACTIVITIES TO IMPLEMENT MINISTER'S ACTION PLAN IN RESPONSE TO THE REPORT OF THE PANEL ON THE ECOLOGICAL INTEGRITY OF CANADA'S NATIONAL PARKS

This appendix lists the key activities to implement the immediate and longer-term actions from the Minister's Action Plan (attached below).

MAKING ECOLOGICAL INTEGRITY OUR CENTRAL CONSIDERATION:

- X Continue to move ahead with the implementation of the *1997 Banff National Park Management Plan*.
- X Maintain, and where possible improve, the integrity of the areas in Banff National Park that recently received wilderness area designation.
- X Prepare an Environmental Management System (EMS) Action Plan.

BUILDING PARTNERSHIPS FOR ECOLOGICAL INTEGRITY

- X Continue to pursue cooperative research and information management initiatives and to coordinate the management of land use, human activities, and ecological initiatives with neighbouring jurisdictions and Canadian Universities.
- X Work with those who promote and use national parks to ensure an understanding of the ecological integrity mandate so that Parks Canada can attract park visitors to the right place, at the right time, in the right numbers, and with the right expectations.
- X Work to establish clear partnerships with interested Aboriginal peoples to increase knowledge and understanding of ecological integrity in national parks and historic sites.

PLANNING FOR ECOLOGICAL INTEGRITY

- X Prepare a State of the Park Report for Banff National Park prior to the 2002 management plan review.
- X Prepare a Human Use Management Strategy that identifies and integrates ecological, social, and cultural goals.
- X Work with partners in Provincial and Municipal systems to study regional transportation needs and issues in the Bow Valley.

SCIENCE IN DECISION MAKING

- X Ensure that adequate scientific advice is provided in decision-making.

MINISTER OF CANADIAN HERITAGE ACTION PLAN IN RESPONSE TO THE REPORT OF THE PANEL ON THE ECOLOGICAL INTEGRITY OF CANADA'S NATIONAL PARKS

One of the federal government's important Red Book commitments in 1997 was to establish an expert panel to provide advice on maintaining the ecological integrity in Canada's national parks.

After the lessons of the Banff-Bow Valley Study and the subsequent strong actions taken in the Banff Community Plan and the Banff National Park management plan, a national review was clearly needed.

The panel has concluded that our national parks are under serious threat from stresses originating both inside and outside the parks, and that unless action is taken now, deterioration across the whole park system will continue.

This landmark report is a call to action for Parks Canada and for all Canadians to live up to our collective responsibility to protect the existing national parks and to expand the parks system.

In response to the Panel's report, the following immediate and longer-term actions are being announced to make ecological integrity our clear priority. This is the best way to ensure that current and future generations of Canadians and other visitors can continue to enjoy a natural experience in our national parks and derive the many social, environmental and economic benefits they provide.

Making Ecological Integrity Central in Legislation and Policy

- We will move ahead with Parliamentary consideration of proposed amendments in the *Canada National Parks Act*, introduced on March 1st, to reconfirm that maintaining ecological integrity is the first priority.
 - The Act will also formally establish seven new national parks (Wapusk, Aulavik, Gros Morne, Grasslands, Quttinirpaaq, Sirmilik and Auyuittuq) and one park reserve (Pacific Rim) and streamline the process for establishing new national parks.
- We will work with Parks Canada employees and other partners to develop a Charter for the Parks Canada Agency that sets out the core values of the organization centred around protection of ecological integrity in national parks.
 - A draft of the Charter will be completed for review at the Parks Canada Round Table to be held before the end of this year.
- We will ensure that ecological integrity is central to the reports to Parliament which are required under the *Parks Canada Agency Act*.
 - The next State of the Parks Report will be tabled in Parliament later this year.
- We will accelerate the legal designation of wilderness areas in national parks across the system.
 - The designation of wilderness areas in the Banff, Jasper, Yoho and Kootenay national parks will be completed by June 2000.

Building Partnerships for Ecological Integrity

- We will work to improve relationships and cooperative activities with Aboriginal people, particularly at the local level; continue to respect existing Aboriginal and treaty rights; and find new ways to work with Aboriginal people toward common goals of conservation, education and economic development.
 - The Agreement signed this week with the Smith Landing First Nation regarding Treaty Land Entitlement in Wood Buffalo National Park of Canada is one example.
- We will work collaboratively with federal, provincial, territorial and Aboriginal government agencies to build partnerships for effective ecosystem-based management by participating in regional planning processes, biosphere reserves, model forests and World Heritage initiatives.
 - Pacific Rim National Park Reserve will be a core protected area in the recently announced UNESCO biosphere reserve in the Clayoquot Sound region.
- We will advance park values more actively by participating in local and regional processes which may affect the ecological integrity of national parks, and by building partnerships and cooperative arrangements that respect constitutionally-defined jurisdictions.
 - Parks Canada has recently been asked by the Province of Newfoundland and Labrador to participate in the environmental assessment of proposed forestry activities adjacent to Gros Morne National Park.
- We will work with those who market and use national parks to ensure an understanding of the ecological integrity mandate so that we attract park visitors to the right place, at the right time, in the right numbers and with the right expectations.
- We will seek the required funding to expand the national parks system in collaboration with provincial/territorial governments, Aboriginal organizations, local communities, industries, private citizens and NGO's.
 - The Agreement signed last August with Nunavut and the Qikiqtani Inuit Association establishing three national parks in Nunavut is an example.
- We will collaborate with provinces and territories toward the completion of Canada's family of parks and protected areas.
 - Canada's Parks Ministers have agreed to make a public report this summer on the implementation of their 1992 Statement of Commitment and the next steps to be taken.

Planning for Ecological Integrity

- We will revise the Parks Canada Guide for Management Planning:
 - to clearly define ecological integrity as the core of national park management plans;
 - to require a 5-year State of the Park Report for each park; and
 - to provide for an Annual Management Plan Implementation Report.

- We will review the appropriateness of visitor activities during the park management planning process with public consultation.
 - We will continue to encourage Canadians to visit, appreciate and enjoy their national parks – in ways that leave them unimpaired for future generations.
 - There is no intention of removing historic uses such as existing golf courses and ski hills; they will be carefully managed to mitigate and reduce their impacts.
- New management plans for Jasper, Yoho, Kootenay and Waterton Lakes National Parks, as well as community plans for each of the park communities, will be approved in the near future.
 - There have been extensive public consultations in the preparation of these plans and they will be consistent with the Panel recommendations.
- The report of the Panel on Outlying Commercial Accommodations in the mountain national parks will be released in the near future and will be reviewed in the context of the Ecological Panel Report.
- We will ensure that maintenance of ecological integrity is the primary consideration in Parks Canada's assessment of any capital redevelopment of facilities, accommodations and infrastructure belonging to both Parks Canada and to private or commercial operators. Accordingly, capital redevelopments should:
 - be consistent with Park Management Plans, Community Plans and park establishment agreements;
 - be based on a needs analysis for that facility, accommodation and/or supporting infrastructure and be acceptable in the context of current ecological understanding;
 - respect clearly-established limits on development and contain the facility footprint within these limits;
 - contribute to visitor appreciation and understanding of national parks;
 - protect cultural heritage;
 - demonstrate leadership in environmental management;
 - provide adequate staff accommodation; and
 - comply with environmental assessment obligations including consideration of cumulative effects and environmental management systems (EMS) to achieve no net negative environmental impact.

Renewal of Parks Canada to Support the Ecological Integrity Mandate

- We will establish the position of Executive Director, Ecological Integrity.
 - This will be a full member of the Parks Canada Executive Board; will be the national functional leader for ecological integrity across the organization; will recommend the national science strategy; and will make regular reports on ecological integrity to the Board.

- We will ensure that adequate scientific advice is provided in decision-making at all management levels in Parks Canada.
- We will reinforce the responsibilities and accountability of Parks Canada managers with respect to ecological integrity.
- We will develop a national training and orientation program in ecological integrity for Parks Canada staff, managers and partners.
 - This program will be implemented over the next two years.
- Parks Canada managers will facilitate an open discussion with staff about the implementation of this response to the Panel report.
 - The ecological integrity training program will build on this dialogue.

Next Steps

- We will evaluate the Panel's detailed recommendations and develop longer term implementation strategies and related funding requirements for government consideration.
 - This will include a national science strategy focussing on organizational and staffing requirements within Parks Canada and formal connections with universities and other science-based agencies.
 - Implementation will require committed, long term funding beyond Parks Canada's current budget.
- The Chief Executive Officer, Parks Canada, will report publicly on Parks Canada's responses to the Panel Report at the Parks Canada Round Table to be held before the end of this year.

APPENDIX B) “CONNECTING WITH CANADIANS” STRATEGY

A number of initiatives are being undertaken in upcoming years to better align communications with ecological and commemorative integrity objectives. These initiatives include the following:

ON-SITE INTERPRETATION PROGRAMMING

- The existing level of interpretive programming offered by Parks Canada staff will be sustained, and where possible, enhanced through partnerships with the Friends of Banff, the Mountain Parks Heritage Interpretation Association, the Siksika Nation, the Heritage Tourism Council, the Whyte Museum of the Canadian Rockies, and the research community.
- National, regional and local messages related to ecological and commemorative integrity, national significance, and sustainable use will be incorporated into programs delivered by in-house staff and third party communicators.
- Educational programs associated with Canada Place, Banff’s Best, Research Updates, the Bears: Imagination and Reality exhibition, the International Conference on Human Use Management, and the new Whyte Museum theater and signature film will extend the reach of on-site programs.
- Replace theater facility at the Lake Louise Campground.

PUBLICATIONS

- AB/Eastern BC Vacation Planner (45,000 copies) and Mountain Park Visitor Guide (800,000 copies) will be used to convey national, regional and local messages related to ecological and commemorative integrity and human use management.

MASS MEDIA

- Proactive media relations will be used.
- The new AB/eastern BC video will be shown on flights coming into Calgary and Edmonton.

INTERNET

- The web-site will be redesigned to meet new federal guidelines and to function more effectively as an awareness, outreach and public safety tool.
- Develop and implement campground reservation systems, improved 1-800 service, and interactive Internet forums.

HERITAGE-BASED TOURISM

- The Banff/Bow Valley Heritage Tourism Strategy and the Strategic Marketing Plan continue to guide sustainable tourism and heritage presentation.
- Canada Place, the Calgary Airport exhibits, the Bears: 2000 and Beyond traveling exhibit, For All Time communications products, the Ya Ha Tinda museum exhibits, and the Year of the Great Bear Legacy program provide opportunities to reach priority outreach audiences.

- Media kits, best bets brochures, updates and trade show participation will be used to inform, influence and involve the tour industry in achieving integrity and human use management goals.
- A new “Road Scholar” itinerary will be introduced in partnership with Saga Holidays.

DISCOVERY CENTRE

- Modules will be incorporated into the planning process for the Environmental Education Centre.

APPENDIX C) VERMILION LAKES WETLANDS: RESTORATION OF WATER FLOW AND CPR TRACK STABILIZATION

For over 100 years, the Canadian Pacific Railway (CPR) line has bisected the Vermilion Wetlands, one of the most biological rich areas in the park. Water levels and plant communities differ from one side of the tracks to the other. The build up water on the north side of the track is a problem for the railway at various times of the year. The lack of water moving from one side of the tracks to the other aggravates the annual freeze and thaw cycle, which compromise the stability of the CPR rail-bed and increases the potential for a train derailment.

The immediate need to address the rail safety issue provided an opportunity for Parks Canada to achieve a strategic ecological goal for Vermilion Wetlands as outlined in the Banff Park Management Plan (1997):

- The restoration of water levels and flows and natural biodiversity, age and distribution of vegetation in a way that reflects the influence of natural processes while still allowing public use and enjoyment.

CPR and Parks Canada share the goal to restore natural water flows and ensure track stability throughout the Vermilion Wetlands. A proposal was brought forward this spring to allow water to flow back and forth from the Vermilion Wetlands to the Bow River basin. It will also ensure railbed safety, allow nutrient enrichment throughout the wetlands and the natural regime of vegetation succession, will maintain wildlife habitat and bio-diversity.

Key actions undertaken this fall:

- nine culverts installed at seven locations (at least one more will be installed next spring)
- Bow River levee stabilized
- old road segment west of Second Lake removed
- monitoring programs initiated

APPENDIX D) HERITAGE TOURISM

BACKGROUND

Developed in 1997 and in its fourth year of implementation, the Banff/Bow Valley Heritage Tourism Strategy is designed to balance tourism and use with park protection in order to sustain tourism and protect Banff National Park for all time.

The Heritage Tourism Strategy complements the Park Management Plan and the Banff Community Plan by working to sustain the health of the tourism industry within the national park context. It supports a view of Banff that focuses specifically on heritage values compatible with landscape and heritage appreciation. The Heritage Tourism Strategy assures that the objectives of the tourism industry are consistent with changing ecological circumstances in the national park.

The Banff Bow Valley Heritage Tourism Council is a volunteer board composed of representatives of the Banff Lake Louise Tourism Bureau, the Banff-Lake Louise Hotel Motel Association, the Whyte Museum of the Canadian Rockies, the Banff Centre, the Town of Banff, the Mountain Parks Heritage Interpretation Association, the Lake Louise tourism community, outlying commercial accommodation, Tourism Canmore and Parks Canada.

In order to realize the Heritage Tourism Strategy it is necessary to fulfil four linked objectives. The objectives of the Banff Bow Valley Heritage Tourism Strategy are to:

1. Make all visitors and residents aware they are in a national park and World Heritage Site by actively fostering appreciation and understanding of the nature, history and culture of Banff National Park and surrounding areas;
2. Encourage, develop and promote opportunities, products and services consistent with heritage and environmental values;
3. Encourage environmental stewardship initiatives upon which sustainable heritage tourism depends, and;
4. Strengthen employee orientation, training and accreditation programming as it relates to sharing heritage understanding with visitors.

1999/2000 ACCOMPLISHMENTS

Objective 1: Making Visitors Aware of Park Values

- Close association with the Banff-Lake Louise Tourism Bureau and businesses to refocus marketing and advertising initiatives on National Park and World Heritage Site values.

- Encouragement of partner businesses to develop products and services consistent with national park heritage through direct consultation and evolving advertising guidelines in the Mountain Guide.
- Promotion of heritage tourism principles and initiatives through key note speeches to regional conferences and a series of half-day/full-day guided excursions for 350 travel writers and publicists from around North America during the Society of American Travel Writers Annual Convention in October 1999.
- Incorporation of heritage tourism themes into Parks Canada's Alberta/eastern BC Vacation Planner, the Mountain Park Visitor Guide and other promotional materials representing the Banff and Lake Louise area.
- Emphasis on park values, and the nature, history and culture of this World Heritage destination during travel trade familiarization tours and trade shows, such as Kanata, the National Tour Association Convention, Spotlight Canada UK, and Rendez-vous Canada.

Objective 2: Encouraging Products and Services Consistent with Heritage

- Continued offering of the heritage passport program in Banff.
- Work with Lake Louise businesses to incorporate heritage tourism principles in their facilities, programs, and activities.
- Establishment of an annual heritage awards programs that recognizes individuals, businesses, and institutions for their commitment to the Heritage Tourism Strategy.

Objective 3: Encouraging Stewardship Initiative Consistent with Heritage Values

- Development of *The Year of the Great Bear*, the first eco-system based heritage tourism strategy event that will feature 5000 interpretive and educational events in the mountain national parks celebrating the role the bear plays as an indicator of ecosystem health in the mountain west.
- Expansion of the heritage tourism concept beyond Banff, Jasper, Yoho and Waterton-Glacier International Peace Park, resulting in establishment of an international heritage tourism council in North America.

Objective 4: Strengthening Orientation, Training and Accreditation

- Promotion and delivery of the Heritage Tourism Orientation Program to 884 employees in Banff and 1277 in Lake Louise this past summer.
- Evaluation of the effectiveness of the heritage tourism program, beginning this past year with surveys and focus groups related to Banff's Best Heritage Orientation Program.

- Individual consultation with partner businesses on mechanisms for improved interpretation and stewardship of national park landscapes and culture resulting in the new training programs and publications.
- Delivery of additional courses towards accreditation in private and public sector interpretation through the Mountain Parks Heritage Interpretation Association.

MAJOR PRIORITIES FOR 2000/2001

Reorganization of the Banff Bow Valley Heritage Tourism Council: Though the partners and many leading edge tourism operators have embraced the Heritage Tourism Strategy, a great deal more work has to be done to ensure broader involvement. In order to meet its own promise to fulfil the objectives of the strategy, the Banff Bow Valley Heritage Tourism Council will be reorganized to achieve greater volunteer commitment to the process.

Year of the Great Bear: In 2001, the mountain national parks and surrounding areas will celebrate the Year of the Great Bear, a heritage tourism partnership aimed at expanding local and regional understanding of the value of intact ecosystems inside and outside our national parks to our tourism future. More than 100 tourism partners have come together to demonstrate their commitment to heritage tourism and ecological integrity, by offering programs on bear behaviour and ecology.

Accreditation: Beginning in the spring of 2001, tourism operators offering interpretive guiding services in Banff National Park will need professional accreditation through the Mountain Parks Heritage Interpretation Association (MPHIA) to qualify for a business licence. Training programs will be offered by MPHIA on an ongoing basis.

Banff's Best Heritage Tourism Program: Banff's Best Heritage Orientation Program will be revitalized in the spring of 2001 to incorporate ecosystem messages associated with the goals of The Year of the Great Bear.

APPENDIX E) OCTOBER 19TH, 2000 - MINISTERIAL ANNOUNCEMENT

Minister Coppins Announces Decisions to Ensure National Parks will Remain a Legacy for all Canadians

OTTAWA, OCTOBER 19, 2000 – Sheila Coppins, Minister of Canadian Heritage, today announced that the new *Canada National Parks Act* (Bill C-27) has been passed by the Senate and will be moving forward to receive Royal Assent. It is through this new Act that Parks Canada will deliver on its mandate for the protection of Canada's natural heritage in our world-renowned national parks system.

The new Act moves ecological integrity to the top of the parks' management agenda. It will formally establish seven new national parks, provide greater protection for wildlife, flora and cultural resources within the parks, and control commercial development in park communities.

“Our national parks are a national treasure and among the best loved symbols of Canadian identity,” said Minister Coppins. “They must be properly protected and wisely managed. The new Act will help us preserve the ecological integrity of Canada's national parks, and leave them unimpaired for future generations to enjoy.”

In the new *Canada National Parks Act*, penalties for wildlife poaching have been raised significantly, bringing them in line with other federal legislation. The new Act also makes it illegal to traffic in protected wildlife, rare plants and fossils.

The Canada National Parks Act establishes a legislative framework for park communities for the first time. The boundaries of all communities within the national parks will be fixed, and commercial development within them capped.

Completion of the national parks system will be facilitated, because the new Act simplifies and accelerates the process of establishing or enlarging parks in the future. Seven national parks of Canada will be formally established (Gros Morne, in Newfoundland; Wapusk, in Manitoba; Grasslands, in Saskatchewan; Aulavik in the Northwest Territories; and Auyuittuq, Sirmilik and Quttinirpaaq in Nunavut), together with one national park reserve (Pacific Rim, in British Columbia).

In addition, Minister Coppins announced the release of several key decisions affecting national parks in western Canada, particularly the Rocky Mountain national parks, including the release of Park Management Plans for Jasper, Waterton Lakes, Yoho and Kootenay national parks, and Parks Canada completion of regulations declaring over 90 per cent of the Rocky Mountain national parks as wilderness areas. In addition, the Minister released decisions for the planning and management of ski areas in national parks.

“Today’s decisions complete the work I started in 1996 with the release of the Banff - Bow Valley Study,” Ms. Copps said. “Today, we are announcing decisions that confirm ecological integrity is the number one priority of these national parks and ensure a quality visitor experience for generations to come.”

The management plans for Jasper, Waterton Lakes, Yoho and Kootenay national parks of Canada adhere to the principles and themes of the Government’s response to the Ecological Integrity Panel report announced on March 23, 2000 and reflect the key themes and principles of the *Banff National Park Management Plan* (1997).

Maintaining wilderness area values has always been a priority for Parks Canada. Banff, Jasper, Yoho and Kootenay national parks are the first to include wilderness area declarations. These regulations will subsequently be extended to other national parks upon completion of management plans and subsequent wilderness area plans. Parks Canada has completed these regulations and they have been submitted to Cabinet for approval.

“The wilderness character of Canada’s national parks has become an important symbol of our heritage and is uniquely Canadian,” said Ms. Copps. “Canadians and future generations of Canadians are the heirs to this precious land resource – it is a legacy for all Canadians. With today’s decisions, we have chosen a course that will secure, in perpetuity, these special places and ultimately, our heritage.”

Decisions on the planning and management of national park ski areas provide clarification for ski area operators, ski area design consultants and Parks Canada staff. The decisions provide clear and consistent approaches in order for ski areas in the Rocky mountain national parks to operate in a manner which will not impair the ecological integrity of the parks. At the same time, the ski areas will be able to change how they operate to better serve skiers through the development of new long range plans.

“This Government is committed to protecting our national parks through clear action. I am now asking tourism operators, residents and all Canadians to join us in meeting this challenge. Canadians take much pride in our national parks; they are symbols of Canada and of our collective identity as a nation. We must work together as guardians of these important symbols of our national and international heritage.”

Backgrounder: Management Plans for Waterton Lakes, Jasper, Yoho, and Kootenay National Parks of Canada

In the fall of 1998, Parks Canada began a coordinated revision of the management plans for Jasper, Kootenay, Yoho and Waterton Lakes national parks of Canada. To ensure a consistent management philosophy is applied in planning for all Canada’s Rocky Mountain national parks, the revised plans reflect the key themes and principles of the *Banff National Park Management Plan* (1997).

Jasper, Kootenay and Yoho national parks, together with Banff National Park and the British Columbia provincial parks of Hamber, Mount Robson and Mount Assiniboine, are recognized internationally as a UNESCO World Heritage Site. The Canadian Rocky Mountain Parks World Heritage Site is one of the largest protected areas in the world.

Waterton Lakes National Park is a core protected area in a biosphere reserve established by the World Conservation Union (IUCN). In addition, Waterton Lakes, together with Glacier National Park in Montana, forms the Waterton-Glacier International Peace Park, which was commemorated in 1932 and was recognized internationally as a UNESCO World Heritage Site in 1995.

These management plans are the key tools to meet the challenges of these special places. They are a blueprint for action and they ensure public involvement and science are integrated into the decision making process. Parks Canada is making firm commitments to incorporate environmentally sound practices in its own operations and encouraging others to do the same.

The key themes and principles presented in these management plans include:

- National parks are first and foremost a place for nature. Maintaining ecological integrity is the cornerstone of these national parks and the key to their future health.
- National parks will continue to be a place for people to visit, to experience and to learn.
- National parks are a place for environmental stewardship.
- National Parks are a place for open management, where decisions are open and transparent.

The management plans for Jasper, Yoho, Kootenay and Waterton Lakes adhere to the principles and themes of the Government's response to the Ecological Integrity Panel report announced on March 23, 2000. Through these plans, Parks Canada will:

- ensure ecological integrity is the overriding priority,
- establish a long-term vision for the parks in the greater ecosystem,
- incorporate ecosystem-based planning,
- provide feedback on the state of the ecosystem through monitoring and evaluation,
- establish visitor management with ecologically appropriate limits,
- establish measurable objectives and performance indicators,
- be held accountable through annual implementation reports and individual state-of-the-park reports every five years.

Backgrounder: Planning and Management of National Park Ski Areas

Downhill skiing has a long history in Canada's national parks. The Banff Ski Club was formed in 1917 and the first commercial ski facility began operations in 1934. Downhill skiing is a cornerstone of winter tourism in the Rocky Mountain national parks. Banff and Jasper national parks of Canada are international ski destinations attracting hundreds of thousands of skiers each

year. Due to the pressures placed on alpine and subalpine environments, the 1988 National Parks Act amendments prohibited developing new commercial ski areas inside the national parks.

The nature of skiing and skier expectations, as well as national parks policies have changed considerably since the initial Long Range Plans were approved for Skiing Louise, Sunshine Village, Marmot Basin and Banff Mount Norquay in the early 1980s. In order for these ski areas to operate in a manner which will not impair the ecological integrity of the parks, new clear and consistent approaches are needed.

In keeping with the recommendations of the Panel on the Ecological Integrity of Canada's National Parks, Minister Copps today announced four key decisions which will direct the future planning and management of ski areas in the mountain national parks:

- capacity limits will be permanently capped through updated long range plans finalized with ski area operators within two years. Any consideration of capacity increases will be limited by industry standards and the principle of no net negative environmental impact;
- there will be no new ski runs or expansion of existing runs, and no significant terrain modification, including glading. Replacement or upgrading of ski lifts will be considered provided capacity limits are not exceeded and tree removal is minimized;
- no expansion beyond existing parking lot footprints will be considered. Offsetting parking pressures through public transit for skiers will be required;
- no new facilities will be considered. The commercial areas will be permanently capped through updated long range plans, to be finalized within two years. Prior to finalizing new long range plans, consideration for replacement or upgrading of existing facilities will be limited to existing footprints;

In addition, the following conditions will apply to all ski area proposals:

- ski area policy will be regulated under the *Canada's National Parks Act* and the management of ski areas will continue to be screened through the principle of no net negative environmental impact, and;
- any expansion of existing facilities considered through a long range plan will be restricted to previously disturbed areas, permit no tree cutting, uphold the highest environmental management systems standards, and basic design standards appropriate for the approved ski area capacity limit.

This planning and management policy will be further enhanced through ski area specific regulations, finalization of detailed planning and operational guidelines and through new long range plans for each ski area. Long range plans will be subject to a comprehensive study set out in the *Canadian Environmental Assessment Act* and must adhere to the principle of no net negative

environmental impact and demonstrate leadership in environmental stewardship. Approved long range plans will be appended to the park management plan.

Today's decisions will protect the natural landscape of the national parks of Canada. Through new long range plans, the ski areas will be able to propose adjustments to meet the needs of skiers.

Three projects are at an advanced stage of environmental assessment and review; Eagle Ridge at the Marmot Ski area in Jasper, World Cup Course Improvements at Skiing Louise, and the Goats Eye Day Lodge at the Sunshine ski area in Banff. Eagle Ridge and the Lake Louise Men's Downhill have been approved. Goat's Eye Day Lodge is subject to a comprehensive study, as required under the Canadian Environmental Assessment Act, and it will be reviewed in accordance with previous interim guidelines in place when this project was put forward.

Backgrounder: Wilderness Area Declarations

Amendments made in 1988 to the *National Parks Act* stipulate that the Governor in Council may, by regulation, declare any region of a park that exists in a natural state or is capable of returning to a natural state to be a wilderness area.

The declaration of wilderness areas was first provided for in the 1988 amendments to the National Parks Act and was confirmed in the Banff-Bow Valley Study (1996) and the Banff National Park Management Plan (1997). In response to the report of the Panel on the Ecological Integrity of Canada's National Parks released on March 23, 2000, Minister Copps' *Action Plan* committed to accelerate the legal declaration of wilderness areas in national parks across the system.

Parks Canada has completed regulations declaring over 90 per cent of the Rocky Mountain national parks as wilderness areas. Minister Copps has submitted these regulations to Cabinet for approval.

Banff, Jasper, Yoho and Kootenay national parks of Canada are the first to include this declaration. The regulations will subsequently be extended to other national parks upon completion of management plans and subsequent wilderness area plans.

The Act does not preclude public use of declared wilderness areas, it does specify that any activity likely to impair the natural character may not be permitted. The intent of this provision is to enhance the protection accorded to national park lands. Uses will be managed in accordance with the management plans for the individual parks.

Maintaining wilderness area values has always been a priority for Parks Canada. This regulatory initiative will enhance protection and ensure that these lands will continue to be preserved in their natural state for public appreciation and enjoyment.

APPENDIX F) RESEARCH AND MONITORING THE EFFECTIVENESS OF TRANS-CANADA HIGHWAY MITIGATION MEASURES IN BANFF NATIONAL PARK

Background Information for Banff National Park Planning Forum, December 2000 prepared by:
Anthony P. Clevenger, Ph.D.

Faculty of Environmental Design, University of Calgary, Calgary, Alberta T2N 1N4 and Department of Forestry, Wildlife and Fisheries, The University of Tennessee, Knoxville, Tennessee 37901-1071, USA.

Banff and Yoho have the distinction of being the only national parks in North America (perhaps the world) to have a major transportation corridor running through them. A major motorway like the Trans-Canada highway (TCH) can have a significant impact on the park ecosystem. Mitigating the effect of the TCH on the park environment makes good ecological sense. Our research began in November 1996 and was designed to address two main functions of roads that have major impacts on wildlife: mortality and habitat connectivity. This study focuses primarily on the TCH, its permeability for wildlife and effects in terms of wildlife mortality, movements, and habitat connectivity in the Bow River Valley.

BACKGROUND INFORMATION ON HIGHWAY MITIGATION IN BANFF NATIONAL PARK

Eleven wildlife underpasses were built between the east gate and Sunshine interchange in 1984-86 (phase 1&2). In November 1997, 11 wildlife underpasses and two overpasses were installed between Sunshine and Castle junction (phase 3A). On the 45 km of mitigated highway there are a total of 24 crossing structures spaced on average every 1.9 kms.

CRITERIA FOR MITIGATION EFFECTIVENESS: MORTALITY

Criteria for determining how effective mitigation measures are at reducing wildlife road-kill is straightforward. These measures are intended to reduce wildlife-vehicle collisions. Therefore, there should be a significant difference in the number of road-kills between pre-mitigation and post-mitigation. The number of wildlife road-kills after installing fencing and crossing structures has been reduced by more than 80% in Banff¹.

Mortality of a few individuals can have dramatic effects on maintaining carnivore populations locally. Where do road-related mortalities occur with respect to highway mitigation? Since 1981, 44 large carnivores were killed on the TCH in Banff National Park. Road-kills are three times greater on the unmitigated, unfenced section of highway than mitigated, fenced sections: 13 of 17 (76%) wolves and 16 of 22 (73%) black bears died on unmitigated TCH. Overall 70% of all large carnivore road-kills occurred on unfenced, unmitigated TCH.

CRITERIA FOR MITIGATION EFFECTIVENESS: BARRIER EFFECTS

How might a land manager go about determining whether wildlife crossing structures are effective? This will depend on the managers intended purpose of the passage(s), the focal species or group of concern, the level of commitment, and post-construction funding available for monitoring and research. The criteria we have developed are clear-cut and simple in terms of how

structures function and result in the health of an ecosystem. Criteria range from low cost-short term research (maintain connectivity and genetic interchange) to increasingly high cost-long term research (allow dispersal and recolonization; maintain ecosystem functions).

Wildlife use of crossing structures - Monitoring the wildlife crossing structures provides baseline information necessary for evaluating their effectiveness. Since November 1996, every 2-3 days year-round, we have recorded data on crossing structure use by wildlife. Four years of monitoring have resulted in more than 26,000 passes by wildlife at the 24 crossing structures, including: 30 passes by grizzly bears, 502 black bear passes, 841 wolf passes, and 587 cougar passes. Cougar use has quadrupled in the last two years, from 150 passes to nearly 600 today.

Since November 1999, two new wolves moved into the Bow Valley and formed a pack (Fairholme) east of the town of Banff. Six pups were born this past spring and with the addition of another adult there are currently nine in the pack. All Fairholme wolves and the pack use the seven wildlife underpasses around and east of Banff. The Bow Valley pack consisted of two wolves last year. Four pups were born this year. Members of this pack prefer crossing the TCH at the Healy underpass compared to all others, including 5-Mile bridge. Recently, the entire pack has crossed the TCH on the two overpasses four times. Further, monitoring of crossing structures and wolf movements indicate that two new wolves appear to reside near Castle junction.

Factors affecting underpass use by wildlife – Information regarding crossing structure features that facilitate wildlife passage is critical if effective structures are to be built in the future. Many factors can influence wildlife passage. We determined which of 14 underpass features four large carnivores and three ungulates responded to most². Our results showed that each species responded to the underpass features differently. Underpass length was most important for elk, whereas the proximity of an underpass to towns affected grizzly bear crossings most. The influence of humans (whether it be the distance to town or amount of human passage at an underpass) consistently ranked high as a significant factor affecting crossings. Six of the seven species ranked human activity variables as the most or second most important variable influencing passage. Carnivores avoided underpasses close to town or with high levels of human activity, and had a tendency to use underpasses close to major drainages. Our results suggest that no matter how well designed or costly a crossing structure may be, it will not be very effective if human activity is not managed around it.

¹ Clevenger, A.P., Chruszcz, B.J., & Gunson, K.E. In Press. Highway mitigation fencing reduces wildlife-vehicle collisions. *Wildlife Society Bulletin*.

² Clevenger, A.P. & Waltho, N. 2000. Factors influencing the effectiveness of wildlife underpasses in Banff National Park, Alberta, Canada. *Conservation Biology*, 14:47-56.