



“Unimpaired for Future Generations”?

**Volume I:
A Call to Action**

Panel on
the Ecological
Integrity of Canada's
National Parks



Commission sur
l'intégrité écologique
des parcs nationaux
du Canada

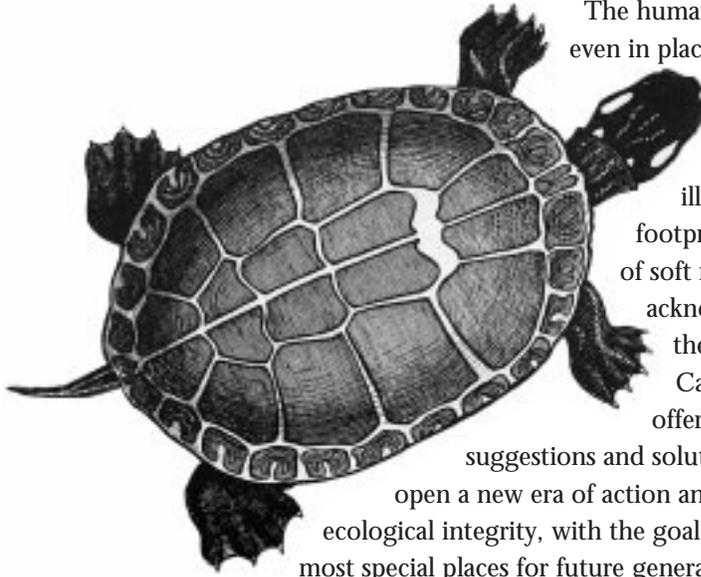
“Unimpaired for Future Generations”?

Conserving Ecological Integrity
with Canada's National Parks

Volume I: A Call to Action

Canada 

On the cover:



The human footprint is inescapable, even in places Canadians call

“wilderness.” This photo by Panel Vice-chair

Pamela Wright graphically illustrates that point — a

footprint deeply sunk into a bed of soft moss. The Panel’s report acknowledges the significance of the ecological footprint in Canada’s national parks, but offers many recommendations, suggestions and solutions to help Parks Canada

open a new era of action and responsibility for ecological integrity, with the goal of preserving Canada’s most special places for future generations.

The Turtle Image: Many Aboriginal peoples believe that long life endows the turtle with great knowledge and wisdom. According to Haudennosaunee culture, the Sky Woman created the world on the back of a turtle. North America is known as Great Turtle Island to many Aboriginal peoples. The Turtle image appears throughout this report as a symbol of wisdom, respect, and traditional connections to the land.

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TABLE of CONTENTS

Letter to the Minister	v
Acknowledgements	vi
Volume I: A Call to Action — Dedication: The Visionaries	1
About This Report	2
Canada's National Parks	3
Crisis? What Crisis?	5
National Parks at the Crossroad	8
Why Do We Need National Parks?.....	9
A Call to Action: Parks Canada.....	13
A Call to Action: All Canadians	18
The Path Before Us	19
Challenges and Highlights.....	20
Signatures.....	22

15 February, 2000

Hon. Sheila Copps, P.C., M.P.
Minister, Canadian Heritage
Ottawa

Dear Minister:

Where most people view Canada's national parks as sanctuaries, preserved from disturbance by their very designation as parks, you sensed that national parks may not be as safe as Canadians believe, and thus the need for an examination of the entire national parks system.

Building on the work of the Banff-Bow Valley Task Force, which reported to you in 1996, in November 1998 you charged the Panel on the Ecological Integrity of Canada's National Parks with a mandate to examine the issues related to ecological integrity in national parks and to advise you on the actions required.

Our findings confirm your intuition: our national parks are under threat, from stresses originating both inside and outside the parks. Unless action is taken now, deterioration across the whole system will continue.

We have come to this conclusion through learning from the people of Parks Canada, from their partners, and from community representatives whom we met in workshops held in nine national parks and eight cities from coast to coast. We learned also from people who work in parks, who visit parks, who live near parks, who live in cities. We learned from Aboriginal peoples, non-governmental organizations, from farmers and ranchers, from representatives of mining, forestry, tourism and other industries.

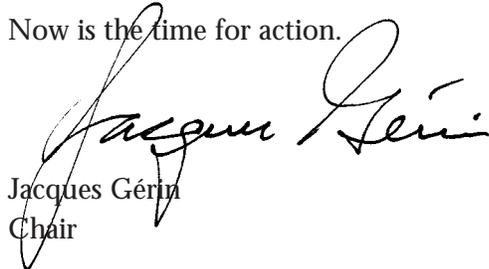
All are unanimous in asserting that the first priority of Parks Canada is to protect the ecological integrity of Canada's national parks, so as to leave the parks **unimpaired for future generations**.

In our report we outline many of the problems and challenges facing the people of Parks Canada in their pursuit of that mandate, and we celebrate their successes.

First and foremost, our report is a call to action, a challenge to you and to your colleagues, to the Parks Canada Agency, and to all Canadians, to make this priority a reality and to live up to our collective responsibility for national parks — and to future generations.

Our journey has been one of great learning. We thank you for the privilege.

Now is the time for action.



Jacques Gérin
Chair

Acknowledgements

The Panel on the Ecological Integrity of Canada's National Parks gratefully acknowledges the contributions of the many people who gave their time and energy to make verbal or written submissions to the Panel, and those who provided information on request or through contractual arrangements. We had the privilege of travelling across Canada, hearing from literally hundreds of people, including governments, non-government agencies, Aboriginal peoples, industry, farmers, foresters, academics and park staff on the future of Canada's national parks. We always received thoughtful comments. The insight and suggestions we received exceeded our expectations and are reflected in our report. In particular the Panel wishes to thank staff of the Parks Canada Agency across Canada for their forthright comments. Without such honesty and dedication, the Panel could not have accomplished its work.

The Panel also extends sincere thanks to our Secretariat, who tirelessly sought information, made meeting, workshop and travel arrangements, and provided valuable input in a myriad of ways.

Editor's Notes

Each of the Panel members, the Panel's international advisors, and the Panel Secretariat contributed their words, ideas and energy to this work. There is no single author although certain members took the lead in preparing the report's individual chapters. In editing the report it's been my intention not to homogenize the text but to allow the voices and passions of Panel members to speak directly to the reader.

Throughout this report, Panel members quote extensively from published materials, as well as from verbal and written submissions made during the Panel's many sessions in national parks and other locations across Canada. Many of these submissions were made in confidence, enabling those making submissions to treat sensitive topics openly and honestly. For that reason, the Panel has chosen not to identify the source of submissions quoted throughout this report, but to identify some sources only as a "submission to the Panel."

Throughout both volumes of the report, I have used several conventions, as follows:

- italics indicate a direct quote;
- sidebars — short pieces of text set off from the main text of the report by horizontal lines above and below — provide additional information or details to supplement the main text;
- the Panel's recommendations are clearly set apart from the main text by a black title box.

Photo Credits

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“Unimpaired for Future Generations”?
Conserving Ecological Integrity with Canada’s National Parks
Volume 1: A Call to Action

*But it’s hard to draw
the boundary
imaginary line
that cuts the watersheds
You got to know the ground
climb the crumbling mountain walls
to know which way the rivers run
headwaters, where the world begins*

Sid Marty, “Pushing the Boundary” *Headwaters*, 1973

Dedication: The Visionaries

Canada’s national parks protect, for all time, places that help Canadians know who we are.

National parks inspire our hope for the future, our understanding of the past, and a sense that Canadians are a people defined by the land and its condition. Parks are places where we protect that part of the Canadian mind that resonates with wilderness, space and beauty.

Canada has benefited from the vision and commitment of many Canadians, past and present, and their involvement with our national parks. That we have a national park system the envy of the world, where Canadians and our guests are able to celebrate, experience and learn about nature, is an enduring legacy made possible by these visionaries.

The visionaries include those who first appreciated the stunning beauty of Canada’s remarkable landscapes and chose to create our early national parks. People in governments at all levels, who have often taken bold steps in establishing and protecting national parks, can be counted among the visionaries. Also among the visionaries are Aboriginal peoples and First Nations governments, who value wild places and who have much to teach in the realm of respect and responsibility. Still

other visionaries are people who love wild places and who devote time and energy to non-governmental organizations, community groups, and other means to advocate for national parks. Leaders of these groups, working with leaders in forestry, agriculture and other sectors, have had the foresight and generosity to help protect our national parks through their influence and decisions.

Especially deserving of recognition are national parks staff. Our national parks system began in 1885 and has expanded to represent many of Canada’s unique landscapes; throughout this history, national parks staff have been dedicated to protecting our parks. Parks Canada staff are often under pressure from many sides to resolve issues concerning development and conservation, yet staff continue to seek ways to improve their stewardship of national parks. Many have achieved great success by virtue of their determination, innovation, vision and passion for Canada’s special places.

Canadians prize wild nature and hold our parks among our most significant icons of national identity. Every Canadian has a role in the national parks story. In the near future — over the next generation — our actions and decisions will determine whether or not we, too, are visionaries.





Children studying aquatic insects.

About This Report

The Panel on Ecological Integrity was struck in November 1998 by the Minister of Canadian Heritage, the

Hon. Sheila Copps, to identify issues, examine Parks Canada's approach for maintaining ecological integrity and provide recommendations for improvement. The Panel members travelled to a series of representative national parks to speak with park staff and other interested Canadians, to see first-hand the problems and stresses that threaten our national

parks, and to develop a sense of how to address these problems.

The result of that journey is a detailed report with specific recommendations addressed to the Minister and to the Parks Canada Agency. The Panel also wanted to share with a broader audience the fundamental substance of

their findings and the thrust of their recommendations. Thus, the Panel's report has two volumes:

- "Volume I: A Call to Action" is an umbrella document that describes the serious threats that beset our national parks, presents an overview of values that may be lost if the threats are not resolved and identifies roles and key actions for all Canadians, and particularly for Parks Canada, to help resolve these threats.

- "Volume II: Setting a New Direction for Canada's National Parks" identifies specific issues and problems and makes equally specific recommendations to the Minister and to Parks Canada on how these issues could be addressed.

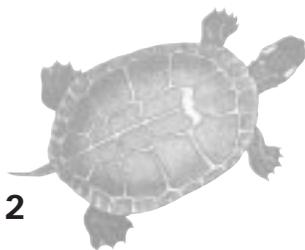
While there are branches of the Parks Canada Agency concerned with national historic canals, national historic sites, and other locations or structures, in this report the term "Parks Canada" is used specifically with reference to those branches of the Parks Canada Agency with jurisdiction over national parks.

A Definition of Ecological Integrity

The Panel proposes the following definition of ecological integrity:

"An ecosystem has integrity when it is deemed characteristic for its natural region, including the composition and abundance of native species and biological communities, rates of change and supporting processes."

In plain language, ecosystems have integrity when they have their native components (plants, animals and other organisms) and processes (such as growth and reproduction) intact.



Pacific Rim National Park Reserve appears wild and pristine but is ecologically stressed.



Canada's National Parks

Canada currently has an extensive system of national parks, 39 at the time of writing this report, representing 25 of the country's 39 terrestrial natural regions. From Terra Nova in the east to Gwaii Haanas in the west, from Quttinirpaaq near the northern reaches of Ellesmere Island to Point Pelee in the south, Canadians have a national parks system second to none. Among our

national parks are areas recognized as World Heritage Sites (such as Gros Morne, Wood Buffalo and the four Rocky Mountain national parks). Wetlands protected by some of our parks are recognized as having international importance and high biological productivity (such as the Old

Crow Flats area of Vuntut National Park). Still other parks are part of an international network of biosphere reserves (Waterton-Glacier International Biosphere Reserve and Riding Mountain Biosphere Reserve).

Banff, established as Rocky Mountain National Park in 1885, was Canada's first national park — and among the first in the world. The Dominion Parks Branch (now known as the Parks Canada Agency) was established in 1911, the world's first organization charged with the management of national parks. Over the years, Parliament continued to add parks to the system. More than 20 national parks have been created since 1970, representing over half of the total number of parks in the system.

Contained in Canada's first National Parks Act, passed in 1930, were the words, "*Parks are hereby dedicated to the people of Canada for their benefit, education, and enjoyment... Such Parks shall be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations.*" Thus was a legacy for protection born.

Canada's national park system is a mirror of the approach to nature protection in North America which evolved over the past 125 years. In the late 1800s, in the midst of the Industrial

We believe that we need an ecological template for all of Canada's national parks. The Banff-Bow Valley study was a wake-up call, a wake-up call that we intend to apply by ensuring that ecological integrity is the number one clarion call for every park in Canada.

Hon. Sheila Copps,
Minister of Canadian Heritage,
October 1999

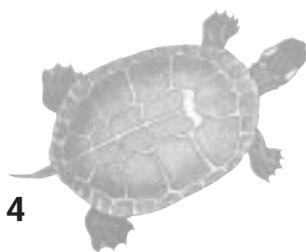


Kejimikujik National Park Wins Ecological Award

In November 1999, Kejimikujik National Park and the park's ecosystem science manager received a prestigious Gold Leaf Award from the Canadian Council on Ecological Areas. These awards are bestowed to recognize "truly outstanding efforts and achievements that have made a significant contribution to the conservation and understanding of Canada's ecological diversity." In part, the award was given to Kejimikujik to recognize the park's improved scientific approach to ecosystem conservation.

"The impact and implications of the scientific activities conducted in the park go well beyond the formal boundaries of the protected area," said the chairman of the Canadian Council on Ecological Areas. "Kejimikujik represents more than the national park. It has been the catalyst that has allowed many agencies and professionals to combine their talents and expertise to address difficult issues like acid rain and biodiversity."

from the Yarmouth
Vanguard,
November 16, 1999



4



Revolution, the national park idea was born as an antidote to unbridled industrial development. In Canada, Rocky Mountain National Park, like Yellowstone in the United States, was created to preserve some of nature's beauty for people to enjoy.

National parks quickly became seen as places to conserve wildlife as well as landscapes. The first wildlife study was done in Banff the year after the park was created. Other parks were established explicitly to protect wildlife (Wood Buffalo National Park, for example). Natural processes such as fire were thought to be ugly and destructive, and were suppressed. Predators were thought to be "bad" wildlife and exterminated. Exotic fish were introduced for recreational fishing. Large-scale visitor facilities were not understood to conflict with wildlife and were built in some parks.

In the 1960s, as our understanding of ecology grew, the first national parks policy was created to provide more guidance on protection and human use. Over time, predators were seen as important parts of an ecosystem and fires were understood to be natural

processes in forest renewal.

Meanwhile, landscapes outside of parks were subject to development of many kinds and have been radically changed through urban, agricultural and industrial growth. The science of conservation has also evolved. A better understanding of ecosystem functions and conservation strategies increasingly informs our attitudes about national parks and preservation as well as use of resources outside of protected areas. We have come to recognize that Canada's wild places are not endless and that even our protected places are not safe from undesirable change.



Western Brook Pond in Gros Morne National Park



Golfing in Waterton Lakes National Park

Crisis? What Crisis?

Without more intense effort by Parks Canada and the provinces, our mountain parks will be like the Alps — beautiful to look at but lacking any ecological integrity.

research scientist, submission to the Panel

The Earth is rapidly changing. While the Panel worked on this report, the planet's human population surpassed six billion and is projected to reach nine billion in only 50 years. Humans are now such a dominant force that most world ecosystems are greatly stressed by human activities. From effects on local soils, watersheds and aquifers to broad-scale impacts on oceans and climate, the human footprint is everywhere.

The plants and animals that share the planet with us are being dramatically affected. For example, the World Conservation Union (IUCN) estimates that one of every eight plant species in the world is threatened with extinction.

To many Canadians, national parks contain seemingly endless forests, expanses of tundra, great rivers and lakes, and protected lands that reach beyond the horizon. This bountiful majesty is often misleading, disguising

serious problems beneath a beautiful façade of soaring mountains, shimmering lakes, sparkling glaciers, and roaring surf.

It is a common fallacy among Canadians that wilderness is endless and that "wilderness" is synonymous with "pristine." In truth, national parks are threatened by numerous stresses, many of which originate beyond the boundaries of our parks — some beyond the boundaries of our country. Parks Canada's own State of the Parks 1997 Report identified significant threats to virtually all of Canada's national parks; of the 38 parks in existence at that time, all but one reported stresses and loss of ecological integrity.

Canada, and our national parks, exist amid this world full of environmental changes and stresses. Because wildlife and natural processes know no boundaries, stresses that originate outside of national parks affect ecosystems





A black bear killed on a road in Riding Mountain National Park

within the parks. Our national parks are our icons — they are also our bellwethers. Detecting ecological stresses inside national parks is a warning of larger and more serious stresses that already affect much of Canada.

A sample of the broad internal and external issues facing Canada's parks includes:

- **habitat loss** - in Canada, over 90 per cent of Carolinian forests have been converted to farmland or towns. On the prairies, 99 per cent of the native tall-grass communities and 75 per cent of mixed grass communities have disappeared. In Atlantic Canada, 65 per cent of the coastal marshes have been drained or filled. Across northern Canada, only 35 per cent of the boreal forest remains undisturbed. Largely as a result of this habitat loss, many Canadian species are currently threatened.



Roads fragment the landscape near Georgian Bay Islands National Park

- **habitat fragmentation** - fragmentation of remaining habitat is as serious a problem as habitat loss. Many species, from grizzly bears to flying squirrels and salamanders have difficulty surviving in habitats that are broken into isolated fragments.

Even within parks, fragmentation occurs as a result of developments such as communities, facilities, trails, roads and railways. Roads and railways also cause direct wildlife mortality. Hundreds of large mammals and thousands of birds, amphibians and other creatures are killed on park roads each year.

- **losses of large carnivores** - across Canada and especially in the south, large carnivores are disappearing

or are absent, spinning natural predator-prey relationships and cycles out of control. Even though large carnivores are protected within national parks, these predators are threatened by stresses such as human use and development inside parks, as well as hunting, land development, and other pressures that occur outside park boundaries.

From Ontario eastward, wolves are gone from all national parks except Pukaskwa and La Mauricie. In the west, wolves have been extirpated from Elk Island and Grasslands national parks. In several national parks — including Riding Mountain, La Mauricie, Banff and Waterton — wolf populations are low and struggling.

- **air pollution** - airborne pollutants, such as those which cause acid rain, continue to harm many parks. Atlantic Canada and southern Québec have been called the “tailpipe of North America” because this area lies downwind from the major urban and industrial regions of the continent. More than two decades of research at Kejimikujik National Park show that low pH levels in the park's waters are associated with decreased reproductive success of brook trout. Georgian Bay Islands and La Mauricie national parks continue to face the risk of acid deposition in excess of the ability of landscapes within these parks to buffer sulphate and other acidic compounds.

- **pesticides** - pesticides used outside of parks are being detected within parks. For example, the pesticide toxaphene was widely used (outside of national parks) until two decades ago. It can disrupt endocrine systems, damage lungs, livers and kidneys, and cause problems with reproductive and immune systems, developmental disorders and cancer. Research at Bow Lake in Banff National Park has found toxaphene in some zooplank-



ton, while trout in Bow Lake have toxaphene concentrations up to 20 times greater than other fish in the lake and up to 1000 times greater than fish from other lakes in the park.

A study in La Mauricie National Park showed high mercury levels in the blood and feathers of the park's loons; mercury in their feathers is

higher than any other studied site in North America. Mercury levels in loons from Kejimikujik National Park are also high, leading to reduced nesting and hatching success. The pesticide DDT has been found at significant levels in lake sediments and in fox snakes at Point Pelee National Park. High DDT levels have been correlated with reduced frog populations and species loss in several other parks and wildlife reserves along the northern edge of Lake Erie.



Great blue heron

Species Loss in Point Pelee National Park

An example of the major issues facing Canada's national parks can be seen in the changes in biodiversity in Point Pelee National Park. Located in Ontario, Point Pelee is among Canada's smallest national parks.

Since 1900, approximately 20 species of reptiles and amphibians have been lost from the park area. There are numerous reasons for this dramatic decline in species but in many cases the disappearances are not fully understood. Factors in species loss include:

- area and isolation - the park is too small to support viable populations of some species. Point Pelee is isolated by intensive agriculture,

roads and housing that surround the park. It is the only island of Carolinian forest protected within a national park.

- pollutants - DDT was used extensively in the 1960s to control mosquitoes, and high residual levels may account for the loss of some species. Groundwater and sewage system monitoring programs indicate that excessive amounts of nitrogen and phosphorus compounds have been transported by groundwater to pollute the park's marshlands. Excessive nutrients in some areas may be a direct result of past cottage development, high visitation and the associated high density of sewage facilities depositing nutrients into the groundwater via out-dated septic systems.

- over-use - with past visitation rates of over 750,000 visitors per year and current visitation rates at over 400,000, human use continues to have a significant impact on this small park. Efforts in recent years to reduce trail development and consolidate facilities and services have improved the situation — and resulted in a deliberate reduction in the number of visitors — but impacts continue due to the still high volume of people in the park.

Among the species lost from Point Pelee is the once-common bullfrog. Only a few years ago, visitors to the park could walk on the marsh boardwalk and hear a chorus of droning bullfrogs. Today that chorus is silent.

Perhaps we cannot address the global problems directly, but we can certainly take care of those stresses that we have created ourselves and that directly affect our protected areas. Until we have put our own house in order, we will have little credibility in advocating for global change.

- exotic species - invading non-native species, both plants and animals, cause problems for parks across Canada. In Point Pelee National Park, garlic mustard is invading Carolinian forests and out-competing native species. In Riding Mountain National Park the high number of exotic plant species in the native rough fescue grasslands is a cause for concern as native plants are out-competed by the invaders. In Gros Morne National Park, moose and snowshoe hares introduced to Newfoundland several decades ago are altering habitat and vegetation regimes inside the park.

- over-use - growing levels of human use within most national parks have created crowding, overuse of facilities and infrastructure such as sewage treatment systems, over-development and a myriad of other problems that in turn degrade water and air quality, cause erosion and damage wildlife habitat. In Waterton Lakes National Park, every valley has either a road or a hiking trail — or both.

Only the most northerly parks have not yet been subject to high use demands. Canada's national parks receive over 14 million visits every year. With a predicted annual growth rate of approximately 4.5 per cent, that figure will double in just 15 years. How can our parks withstand such use?



It is unlikely that protected areas will be able to conserve biodiversity if they are surrounded by degraded habitats that limit gene flow, alter nutrient and water cycles and produce regional and global climate change that may lead to the final disappearance of these “island parks.” Protected areas need to be part of broader regional approaches to land management.

Parks for Life: Report of
the IV World Congress on
National Parks and Protected
Areas, 1992

National Parks at the Crossroad

How has this situation come about? National parks, by definition, are protected places that we believe are safe from the influences of development and pollution. The concept of protecting national parks unimpaired has been enshrined in the National Parks Act since 1930; the term “ecological integrity” appeared in Parks Canada’s own guiding principles in 1979 and in the 1988 amendment to the National Parks Act.

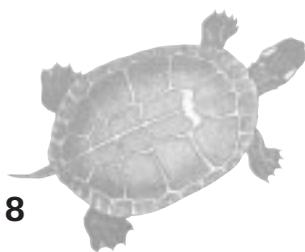
Ecological integrity is the core of Parks Canada’s mandate, but Parks Canada alone cannot discharge this mandate without broad support from Canadians. While there have always been people willing to advocate for protected areas — many of whom are acknowledged in the dedication to this report — as a whole Canadians have not understood their individual and collective roles in taking responsibility for our parks.

We cannot blame the past for the current situation. We can recognize that our understanding of natural processes and ecosystems is better now than in bygone days, and that past actions have created many of today’s pressures.

We can build upon that understanding to improve the ecological integrity of our national parks today and for the future.

Profound change is needed. It is time now to collectively write a different story for Canada’s national parks, from a story of ecological integrity in decline to a story of ecological renewal and restoration. We must learn anew how to be responsible for our parks and for the broader landscape that surrounds them. We must shift our thinking toward a basic respect for life and natural systems, for their own sake.

The concerns and problems threatening our national parks do not add up to “disaster.” Nonetheless, they indicate that Canada’s national parks are under stress, in some cases extreme stress. These stresses are real and serious although they are not necessarily apparent or immediate. Nature’s capacity to absorb injury is not infinite. Without attention and re-direction, we will lose the window of opportunity we currently have to restore the ecological integrity of our parks.



Our parks are at a crossroad.

If we continue on our current path, we risk losing, for all time, access to the experience of protected nature, the wilderness we so cherish. Canadians will be alienated from our own unique

One thing is certain: we cannot hesitate. If we continue to ignore ecological integrity — it will just go away.

submission to the panel

heritage, and future generations will not have “unimpaired” parks to use and enjoy. Protecting our national parks is a huge task, one that we cannot delegate to

Parks Canada alone. It is a national undertaking.

Canada is a wealthy country. We have an enormous land base where wildlife is present at levels no longer found in most other countries. We are resourceful and innovative, we take pride in being thoughtful and careful in our decision-making. Above all, we hold wild places in high esteem. If Canada cannot undertake the task of integrating various demands for development while protecting sacred wild places, who in the world can?



Aftermath of an oil spill in Gros Morne National Park

Why Do We Need National Parks?

In Canada, we have chosen to preserve and protect portions of that wilderness within national parks. Individuals may value the parks for many and varied

reasons, but all of these reasons are inspired from the richness of life, natural beauty, and cultural significance of parks that make these lands distinct from their surroundings. Over 70 per cent of Canadians identify national parks as icons of national identity. Should national parks become degraded to the point of being indistinguishable from the developed landscapes around them, parks will lose their significance to Canadians. These changes would threaten the very spirit of Canada.

Despite our national identification with wild places, national parks and natural ecosystems are undervalued, or more accurately, mis-valued in our market economy. We know that we need protected areas and wild places but that need is often hard to articulate. More to the point, we cannot attach a price to our parks, so we ask, “What value do these places have?”

National parks play many roles: protection of ecological and biological processes, protection of biodiversity, centres for research and education, providing economic value, and as places that provide recreation, spiritual, cultural, historic and aesthetic benefits. Parks have value in all these realms.

PROTECTING ECOLOGICAL PROCESSES

Parks and protected areas can provide significant benefits even for people living outside these protected areas. Watershed protection and absorption of carbon dioxide are among the ecological processes and services provided by national parks. Parks also support plant and animal species by acting as seed areas to revitalize populations living outside of protected areas.

If we conserve systems that support and sustain life — climate, air quality, water quality and quantity, nutrient cycling, soil creation, biological diversity — we ultimately ensure the security of our own social and economic future.



A caribou grazes by a major road in Gros Morne National Park



National Parks as Ecological Benchmarks

The most important role for national parks is to act as benchmarks against which we evaluate change. When we harvest forests, or fish, or grow crops, we need benchmarks to ensure our activities are sustainable. National parks are places where we don't harvest or grow crops. Yes, they are important as places to be in wild nature. But they are even more important as benchmark areas where we understand how our actions are changing the rest of the landscape. National parks are a crucial part of a grand strategy of sustainability.

submission to the Panel

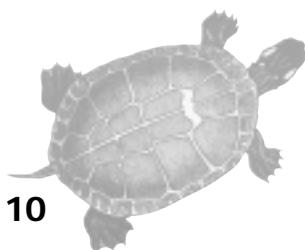
PROTECTING BIODIVERSITY

Internationally, preserving biodiversity has been recognized as an urgent mission for humanity, manifested in the United Nations Convention on Biological Diversity, signed in Rio de Janeiro in 1992. As a signatory to the Convention, Canada has a duty to conserve biodiversity — plants and animals and the habitats and processes that sustain them. Despite this commitment, plant and animal species continue to disappear, for reasons ranging from habitat loss to pollution effects.

In Canada we can reverse the trend, in part, by establishing new parks and by ensuring the viability of our parks. As core areas within a landscape of both protected and manipulated areas, national parks can contribute significantly to maintaining biodiversity. Canada, with our extensive system of national parks and other protected areas, has a unique opportunity and a responsibility to conserve and sustain biodiversity.

CENTRES FOR RESEARCH AND EDUCATION

From wildlife behaviour to natural processes, from vegetation communities to ecosystem interactions, national parks provide exceptional opportunities to learn about how nature works in the absence of broad human intervention. Armed with increased scientific understanding of natural processes, we can more fully understand our own impacts outside of protected areas and determine the limits of acceptable change — how much change we are willing to impose on a given ecosystem before we revise or halt development or resource exploitation. National parks and protected areas can become centres for ecological understanding. We have already missed some opportunities. For example, the native grassland communities of Canada's prairies were virtually gone before anyone thought to protect and study them; as a consequence, Grasslands National Park is now faced with the challenge of restoring vegetation communities without extensive knowledge about those communities.





The fundamental reason for preserving whatever wildness remains on land and in water is the symbolism of the act, the implicit recognition of values beyond humanity, something other than ourselves that ought not to be destroyed, an expression of wonder and awe before the marvellous world that created us and that, once gone, we cannot recreate.

Stan Rowe,
Home Place, 1990

Through research and understanding gained within national parks, we can help improve the management and restoration of developed or damaged landscapes outside of parks and protected areas. Parks also provide opportunities for education, through formal research, through interpretive centres and programs, through outreach programs and through our direct experience of wild places.

PLACES TO ENJOY, TO APPRECIATE, TO CELEBRATE

Wilderness is an idea deeply embedded in the Canadian mind. Even though the majority of us are urban dwellers, we embrace the idea of wilderness and have enfolded that idea into our national identity, national unity, and national pride. We nurture the belief that just beyond our cities and town exists a wild area that makes Canada a better country simply because such wilderness exists. Even our currency depicts landscapes and wildlife.

Our national parks provide opportunities for recreation, for escape from urban environments, for both physical challenge and emotional respite. The concept of human use and enjoyment

is fundamentally linked with national parks.

The emotional and spiritual value of parks cannot be expressed in monetary terms, but rather in terms of connection, fulfillment, perspective, respect. Our spiritual, cultural, historic and aesthetic needs are satisfied, at least in part, through contact with wild places. We seek wilderness to set our lives and endeavours into perspective against a larger natural backdrop. Wilderness inspires us to create music, art, stories. The spiritual aspects of special places have been fulfilling human need for thousands of years.

Some times, we simply need a place of tranquility and peace, a place where we can be quiet, watch the stars, and listen to something other than our own voices.

ECONOMIC VALUES

Parks generate income and revenue for rural communities, through park-related jobs and a host of associated services in tourism, maintenance, and development of regional infrastructure, thus helping to diversify local economies. Parks attract visitors from across Canada and around the world, who in



Monitoring wolf population movement through telemetry at La Mauricie National Park



turn contribute increasing amounts to Canada's economy. Parks may also act as seed areas for species that could have future economic value outside of parks, for subsistence or commercial harvesting for a wide range of purposes.

The economic values of parks reach well beyond direct job creation. For example, studies in Ontario have shown the significant health benefits Canadians enjoy by visiting parks, which in turn reduces health care costs. National parks contain the headwaters of many major river systems; the economic value of clean and plentiful water is immeasurable.

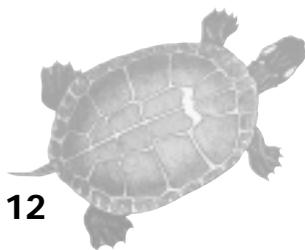
NATURE HAS ITS OWN VALUE

All of the points raised above concerning the value of national parks have a common perspective: these valuations are human-oriented. These points of view assign value to parks only insofar as parks provide benefits — even intangible benefits — to people.

Many Western cultures have divided the world into human and non-human elements, and have assumed that everything that is not human is subservient to us and exists for our exploitation and gain.

Nature has inherent value for its own sake, not for its ability to satisfy human needs. All species and systems of nature deserve respect regardless of their usefulness to humanity.

To ensure the survival of the wildlife and wild places that Canadians cherish, we must require that our institutions that have potential to affect nature show a basic respect for nature, natural processes, and a genuine commitment to coexist with all living things.





Parks Canada staff and Panel members in Riding Mountain National Park

A Call to Action: Parks Canada

Insist on the right of humanity and nature to co-exist in a healthy, supportive, diverse and sustainable condition.

Nilsen, 1993

We need not look backward with regret. We must look forward, with insight. We have before us a tremendous opportunity. Canadians can contribute to our respected place in the world by showing leadership in preserving our national parks as a heritage for ourselves and for the global community, and as special places worthy of protection for their own sake.

Resolving the situation is a matter of accepting responsibility. Together we must recognize our responsibilities, change tactics, and carry on.

Parks Canada bears particular responsibility for leading this change, because they are the people who care for our national parks. Ensuring that national parks are unimpaired — and more specifically, protecting ecological integrity — are concepts clearly stated in the National Parks Act and Parks Canada's own Guiding Principles and Operational

Policies. It is time for Parks Canada to fully embrace the protection of our national parks and to act accordingly.

The way forward presents a significant opportunity for Parks Canada to reposition itself to reflect ecological integrity as the primary objective of the organization in every facet of its operation. This evolution is not the task of just one person or level of the organization — rather it requires all employees to work together. The Panel believes that Parks Canada can build upon the personal commitment that is so evident in so many employees. Parks Canada must build and rely on the advocacy of its 3000 employees — and gain the support of 30 million Canadians.

In Volume II, the Panel makes many strategic and operational recommendations, directed to the Minister and to Parks Canada, for setting a new direction toward restoring ecological



integrity in our national parks. These recommendations fall into several broad categories:

- ensure that protecting ecological integrity is the first priority of all aspects of national parks management.
- re-orient Parks Canada to embrace a learning culture that values knowledge and embraces the natural and social sciences as a means to understand and support ecological processes, and to transmit this knowledge to all Canadians for their use and benefit.

Advocating for Conservation

It is not good enough for Parks Canada to assume a passive caretaker role. Our national parks desperately need an organization that's willing to serve as a forceful and energetic advocate for the values of Canadian heritage.

submission to the Panel

- re-establish a role for Aboriginal peoples with Canada's national parks.

- advocate for the protection of ecosystems beyond the borders of national parks, by developing strategic partnerships with non-government organizations, communities, industries, landowners and other governments to establish more sustainably managed larger landscapes, including a national network of protected areas with varying levels of protection.

communicate to all Canadians what is valuable about national parks and how Canadians everywhere can contribute to protecting our special places.

The Panel presents the following key areas where Parks Canada can begin the journey toward protecting ecological integrity:

The Panel presents the following key areas where Parks Canada can begin the journey toward protecting ecological integrity:

MAKE ECOLOGICAL INTEGRITY THE FIRST PRIORITY

Ecological integrity is the lens through which all actions and decisions affecting national parks must be focused. While the priority of protecting ecological integrity is clearly elucidated in the National Parks Act, the Parks Canada Agency Act and in Parks Canada's own

Guiding Principles and Operational Policies, in practice the primacy of ecological integrity in achieving the mandate is not widely understood or followed. In the past this primacy has not guided decision-making at Parks Canada, which in turn has led to the erosion of ecological integrity in national parks. Parks Canada must henceforth unequivocally protect ecological integrity in all actions and decisions and ensure that protecting ecological integrity is the focus of every staff member.

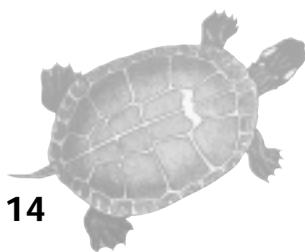
BUILD CAPACITY FOR KNOWLEDGE

Protecting ecological integrity in national parks has often failed due to a lack of data and information, a lack of natural and social science capacity, and a lack of applying science to park management. Parks Canada must become an organization with a greater natural and social science capacity that actively uses knowledge through evaluation and feedback — in short, learning while doing. Parks Canada must acknowledge uncertainty without becoming stymied by it, then move ahead by acquiring data, by building the scientific capacity to understand the data and by creating mechanisms to measure, evaluate and learn.

Knowledge is also the basis for sound education, interpretation and outreach programs and messages. Parks Canada can play a key role in educating Canadi-



A coal strip mine near the eastern boundary of Jasper National Park





A tour group in Gwaii Haanas National Park Reserve/Haida Heritage Site may be harming intertidal life by merely walking on a beach

ans about ecological integrity and about sustainability. Forming partnerships with universities, industries, provincial and territorial governments, and Aboriginal peoples will help bring knowledge into Parks Canada and provide a mechanism for Parks Canada to share its ecological knowledge.

MANAGE ACTIVELY FOR CONSERVATION

Given the scale of human influence affecting national parks, Parks Canada must increasingly engage in active management of national parks in order to maintain ecological components and processes, and to restore these components and processes where they are needed. Active management initiatives must be researched, supported and monitored to ensure their effectiveness.

BUILD GENUINE PARTNERSHIPS WITH ABORIGINAL PEOPLES

Over half the land area now protected in Canada's national parks has been set aside with the direct involvement of Aboriginal peoples. Aboriginal peoples have a clear role with all national parks although only recently has Parks Canada (and Canadians generally) started to recognize this role.

Healing, building respect and co-operation will shift Parks Canada and its Aboriginal partners away from attitudes and actions based on asserting rights and toward attitudes and actions based on accepting responsibility. Setting such an example can only inspire Canadians as a whole to make a similar shift. As Canadians' respect for Aboriginal peoples grows, so too does our understanding of the traditional ethics and uses of Aboriginal peoples within national parks. Developing true partnerships between Parks Canada and Aboriginal peoples will help ensure the protection of these sacred places and sets an example for other Canadians to follow.

Unlike other areas within the Agency's programs, the implications of under-funding of ecologically-based programs do not readily manifest themselves, making them an easy target for reduction or deferral.

Parks Canada Ontario Service Centre, submission to the Panel



ADVOCATE FOR A NETWORK OF PROTECTED AREAS

Only by sustainably managing broad regions of the land — the air, water, soils, and the processes that link them — can we protect plant and animal species, or unique individuals.

National parks alone cannot conserve

Canada's biodiversity or ecological integrity. To successfully fulfill their mandate, national parks must be nested within a larger, sustainably-managed landscape, including a network of protected areas. To create such a landscape, national parks staff must be allowed and encouraged to advocate on behalf of national parks' interests and values, forming partnerships and networks of understanding such that — like natural ecosystems themselves — the interconnected whole is greater than the sum of the individual parts. Recognizing the need for conservation of greater ecosystems implies responsibility, communication, negotiation, and

mutual respect both within Parks Canada and between national parks and surrounding jurisdictions, especially provincial and territorial governments.

Our network of protected areas must literally be larger than life.

PROVIDE FOR USE WITHOUT ABUSE

National parks must provide meaningful and responsible park experiences without compromising ecological integrity. Appropriate uses and facilities are welcome within national parks, but — perhaps a greater challenge — Parks Canada must also make the hard decisions to phase out, reduce or mitigate uses and facilities that are not found to be appropriate. Human use in national parks must be based on the principle of responsible experience: use without abuse.

BUILD PUBLIC SUPPORT FOR ECOLOGICAL INTEGRITY

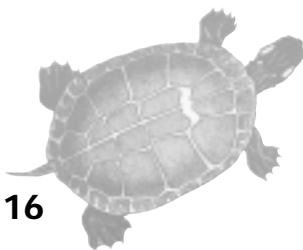
Broad public support for Parks Canada's goal — protecting ecological integrity of national parks — is crucial to the achievement of the mandate and to the long-term continuation of that protection. Urban outreach programs (including establishing a Parks Canada presence in urban parks, as will be done in Toronto's Rouge Park) and other methods of communication, such as the Internet, are critical to developing understanding and acceptance of Parks Canada's goals among Canadians at large. One way to make effective connections between urban dwellers and nature is through outreach programs centred on environmental awareness and ecologically-sustainable choices, showing how such choices support ecological integrity not only in national parks but in Canada as a whole.

Haida Gwaii Watchmen

In 1981, members of the Skidegate Band Council and the Haida Nation sent volunteers to several sites to watch over the natural and cultural heritage of these locations, in the face of increasing outside interest in and access to the sites. The Watchmen also provided visitors with insights to Haida culture, and shared songs, stories, dances and teachings with them.

The area containing these sites was declared a Haida Heritage Site in 1985 and a National Park Reserve in 1988. The unprecedented Gwaii Haanas Agreement, approved in 1993, established the terms of area co-management between the Haida Nation and the federal government through Parks Canada. The Haida Gwaii Watchmen program has continued to operate with funding made available through a contract with Parks Canada. The Haida Gwaii Watchmen have worked together with Parks Canada to create a training and development plan that is now being implemented. Parks Canada staff at Gwaii Haanas work closely with the Watchmen and support the spirit and educational aspects of the program.

One of the first
Haida Gwaii Watchmen



Farming next to the boundary of Riding Mountain National Park



Industry Leadership

Parks must become centres of learning and study of ecological processes to provide answers for those who wish to manage in the best ecological way possible. Parks must create research groups in partnership with universities and industry to build the body of knowledge necessary.

industry association,
submission to the Panel

Maintenance and restoration of ecological integrity can only be achieved when park staff, visitors, neighbours and Canadians at large understand, appreciate and take action toward protection and sustainable practices. Interpretation is the heart and soul of building national parks' core values and must be charged with the importance of communicating about ecological integrity. To achieve this end, interpretation and outreach must become core activities in Parks Canada and be professionally staffed and supported in such a way as to achieve this mandate within the parks and with the public at large.

RESOURCES FOR ECOLOGICAL INTEGRITY

Successful implementation of the various programs, initiatives and recommendations contained in Volume II of the Panel's report will require committed, long-term support from the federal government in terms of finances and resources.

Parks Canada needs to support its dedicated employees through finding and assigning the financial and human resources required to further the cause of ecological integrity. Improving and retaining a skilled and continuously-learning workforce will require upgrading and investment, enabling Parks Canada to do its job better.

Logging near Pacific Rim National Park Reserve



A Call to Action: All Canadians



La Mauricie National Park

What can Canadians do?

Each of us has a role in ensuring that our national parks continue to hold their significant places in our landscapes and in our hearts. In working collectively to ensure the viability of our national parks, we and our governments can create a future that includes access to the natural experience so integral to and distinctive in our national identity. This mission can enable Canada's natural wonders in every region of the country to be shared, explored, experienced, treasured and celebrated by all Canadians.

The Panel offers the following suggestions for action:

INDIVIDUALS

The more Canadians learn about the stresses facing our parks, the more our support for ecological integrity will grow. National parks need people who will stand up for conservation and who can make informed choices regarding park use. The Panel urges Canadians to learn about national parks and how to support ecological integrity. Use parks with respect and responsibility.

GOVERNMENTS

Approximately 95 per cent of Canada is owned or controlled by the Crown — federal, provincial and territorial governments. Intergovernmental co-operation is essential to developing a sustainable landscape that includes a mosaic of protected areas; influencing decisions and initiating sustainable actions and developments is a new role that all governments can and must play if Canadians are to continue to have access to the natural experience.

ABORIGINAL PEOPLES

First Nations governments have a large and ever-increasing role in the development of a sustainable landscape incorporating a network of protected areas. Particularly in Canada's North, and in areas where comprehensive land-claims agreements have brought the influence of Aboriginal peoples back into the national parks picture, forming partnerships with First Nations governments and with Aboriginal individuals or communities is fundamental to ensuring the successful protection of national parks. Parks Canada and several First Nations have already developed innovative partnerships for co-operative management of protected areas.

COMMUNITIES

Urban developments and infrastructure, both within and adjacent to national parks, are sources of stress to national parks due to habitat loss and fragmentation, and impacts on air and water quality. Community initiatives to overcome or avoid these stresses hold huge potential for improving the ecological integrity of national parks.



NON-GOVERNMENTAL ORGANIZATIONS

National, regional, provincial and local organizations are already working to promote partnerships and to foster accords between key players with the goal of developing a network of protected areas. Environmental non-governmental organizations have a key role to play in landscape management initiatives.

PRIVATE LANDOWNERS

Private landowners' stewardship of their lands has much to contribute to the development of a sustainable landscape and a protected areas network. Those who choose to practice sustainable living and management on their land, and who protect their lands through such means as conservation easements, have a direct and large contribution to make in the protected-areas landscape.

BUSINESS AND INDUSTRY

The successful development of a sustainable landscape depends upon co-operation and support from the many businesses and industries that provide Canadians with jobs, materials and products. Industry has much to contribute in the area of sustainable development and land use decisions outside of parks. There is tremendous potential for innovative partnerships between Parks Canada and industries such as forestry, agriculture and resource extraction.

The Path Before Us

Parks Canada can build on its culture of learning and promoting conservation values to help instill these values in all Canadians. We treasure protected areas; we must grasp that such areas are finite and endangered. The only way to protect wilderness in the long term is through sustainable actions both inside and outside of national parks. Creating partnerships to protect ecological integrity is a way for national parks to illustrate to Canadians how we

must think across borders and develop networks.

The Panel on Ecological Integrity believes that Canadians are willing to take responsibility to treat all lands with respect so that we may protect our most sacred places *"unimpaired for the enjoyment of future generations."* It is for Canadians and our governments to make a clear, far-sighted commitment to the values of national parks and protected areas. Without a firm, long-term commitment, the sound management of our parks will fall short of the goal to protect ecological integrity. The federal government must show leadership in this regard to continue the work started by the visionaries to whom this report is dedicated.

Human contact with wilderness is vital. Wilderness challenges us, alters our perspectives, helps us find our place in the world. Wilderness can and does change our lives.

The Panel advocates accepting responsibility: individuals, corporations, communities, organizations and governments must recognize that each has its own special responsibility to protect Canada's wild places. By protecting our national parks we are assisting in the broader goal of protecting natural places worldwide — literally, protecting ecological integrity with national parks.

We live in a web of interconnected ecosystems. Given that most of us live in cities, our contact with and understanding of nature's remarkable interconnectedness is tenuous at best. But if we heed the warning signals from our imperiled national parks, we can reverse the trends. We can build on successes, partnerships and initiatives already in place. We can, together, renew our union with natural environments and in so doing, work together to protect our sacred places, our national identity and our place in the world community.

Now is the time for action.



Challenges

We, the Panel on the Ecological Integrity of Canada's National Parks, in a spirit of respect, co-operation and affection, challenge Parks Canada with these tasks:

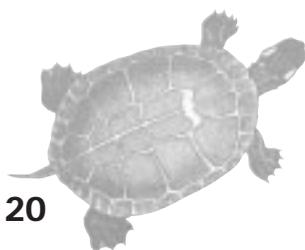
- To empower the spirit of ecological integrity within Canada's national parks.
- To create a spirit of learning and teaching for everyone in the Parks Canada family, to understand and acknowledge your responsibility for ecological integrity.
- To examine the manner in which you work and to look for new ways of keeping your responsibility to ecological integrity.
- To forge new tools to protect ecological integrity by knowing the land, questing for knowledge, and maintaining the spirit of ecological integrity.
- To integrate Aboriginal peoples into the family of Parks Canada as trusted and knowledgeable friends within the spirit of ecological integrity.
- To inspire in your neighbours an understanding of your responsibility to ecological integrity within national parks.
- To build a spirit of ecological integrity which will unite the isolated places of the land into a mosaic that protects ecological integrity.
- To bring into being a way of teaching about the land that strengthens the spirit of ecological integrity.
- To welcome responsible activities that generate a greater spirit of ecological integrity while discouraging uses that create disharmony.
- To walk softly upon the land in all actions and deeds.
- To generate the needed equity to strengthen the spirit of ecological integrity, without which your responsibility to the land cannot be fulfilled.

We, the Panel on Ecological Integrity, are willing to work with you to meet these challenges.

Highlights

The following highlights are drawn from recommendations made throughout Volume II of the Panel's report. Recommendation numbers are shown in parentheses.

The Panel on the Ecological Integrity of Canada's National Parks recommends that: Parks Canada transform itself, by confirming ecological integrity as the priority for Canada's national parks and as the explicit responsibility of every staff member through new training, staffing, decision-making and accountability structures. (2-1, 2-4)



Parks Canada revise and streamline its planning system to focus on ecological integrity as the core of strategic and operational plans. (3-3)

The Minister direct Parks Canada to take immediate action to convert existing wilderness zones in national parks into legally designated wilderness, as provided by the National Parks Act. (3-11)

Parks Canada significantly enhance capacity in natural and social sciences, planning and interpretation, to effectively manage for, and educate society about, ecological integrity in national parks. Develop partnerships with universities, industries, Aboriginal peoples, and other learning-based agencies. (4-1, 4-3, 4-4, 4-6)

Parks Canada undertake active management where there are reasonable grounds that maintenance or restoration of ecological integrity will be compromised without it. Key actions are required in the areas of site restoration, fire restoration, species management and harvest. (5-1, 5-2, 5-3, 5-4, 5-8)

Parks Canada initiate a process of healing with Aboriginal peoples. Adopt clear policies to encourage and support the development of genuine partnerships with Aboriginal peoples in Canada. (7-1, 7-2)

Parks Canada develop partnerships that encourage the conservation of parks as part of larger regional ecosystems. Seek provincial and territorial co-operation to establish a comprehensive protected areas network. Work with other jurisdictions, industry and the public to find solutions on maintaining ecological integrity. Support these solutions with a fund dedicated to conservation efforts in the greater park ecosystems. Advocate for park values and interests in the greater ecosystems. (8-1, 9-1, 9-3, 9-6, 2-9)

Parks Canada develop an interpretation strategy that presents clear and consistent messages about ecological integrity. (10-1)

Parks Canada cease product marketing to increase overall use of parks and concentrate instead on social policy marketing and demarketing when appropriate. (10-7)

Parks Canada develop a policy and implement a program for assessing allowable and appropriate activities in national parks, with ecological integrity as the determining factor. (11-1)

Parks Canada reduce the human footprint on national parks so that parks become models and showcases of environmental design and management. (12-4)

Following the taking of first steps to improve the broader management framework for ecological integrity within Parks Canada, allocate substantial new and additional resources to implement the Panel's recommendations on improving science and planning capacity, active management, monitoring, partnerships with Aboriginal peoples, stewardship initiatives in greater park ecosystems, and interpretation. Fund the establishment and operation of new parks from new resources. Enable management decisions in support of ecological integrity to be separated from revenue implications. (13-1, 13-2, 13-4, 13-9)



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