2005

Report of the

Commissioner of the Environment and Sustainable Development

to the House of Commons

Chapter 2

Ecological Integrity in Canada's National Parks

Office of the Auditor General of Canada

The 2005 Report of the Commissioner of the Environment and Sustainable Development comprises eight chapters, and The Commissioner's Perspective—2005 and Main Points. The main table of contents is found at the end of this publication.

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Office of the Auditor General of Canada
240 Sparks Street, Stop 10-1
Ottawa, Ontario
K1A 0G6

Telephone: (613) 952-0213, ext. 5000, or 1-888-761-5953 (toll-free)
Fax: (613) 943-5485
E-mail: distribution@oag-bvg.gc.ca

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Chapter

2

Ecological Integrity in Canada's National Parks

The audit work reported in this chapter was conducted in accordance with the legislative mandate, policies, and practices of the Office of the Auditor General of Canada. These policies and practices embrace the standards recommended by the Canadian Institute of Chartered Accountants.

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Ecological Integrity in Canada's National Parks

Main Points

What we examined

Parks Canada is responsible for maintaining and restoring the ecological integrity of Canada's 41 national parks. It is also responsible for fostering public understanding, appreciation, and enjoyment of national parks in ways that ensure the ecological integrity of these places for present and future generations. In addition to national parks, Parks Canada manages a system of national historic sites and a system of national marine conservation areas.

This audit looked at how well Parks Canada plans and manages selected ecological monitoring and restoration activities in 12 national parks and uses these activities to enhance public education and visitor experience. Parks Canada is required to report to Parliament on the state of Canada's national parks every two years. This audit examined the quality of the reports Parks Canada produced on the state of national parks in 1997, 1999, and 2001. We did not examine the 2003 report as it had not been released at the time of undertaking our audit.

Why it's important

Canada's national parks represent significant examples of Canada's natural heritage. National parks have benefited past and current generations and represent an important legacy to future generations. A variety of factors called "stressors" affect ecosystems, and more specifically, biodiversity and related processes in national parks. These stressors from both within and outside national parks range from overuse of parks by visitors to natural resource development along their borders. These stressors jeopardize the range of benefits Canadians get from national parks and the very reasons why they are valued.

Along with public education and partnerships, monitoring and restoration are important activities that Parks Canada uses to maintain and restore ecological integrity in national parks. Good monitoring of biodiversity, ecosystem health, and stressors provides information on the state of parks that is vital to good park management and public education. Good restoration programs, such as prescribed burning and recovery of species at risk, can help restore natural ecosystem processes in national parks and help reverse the loss of species and biodiversity.

What we found

- In the 12 parks we examined, significant issues in ecological integrity, including issues related to biodiversity, ecosystem functions, and stressors, are being addressed through monitoring and restoration activities, but gaps in coverage exist. We also found gaps in how these activities are planned and managed. For example, at the park level, the central planning document is the park management plan. However, in six of the twelve parks these plans are not up-to-date, and annual reports on the implementation of these plans are not being produced on a regular basis by all parks.
- Increasing understanding through public education is fundamental to maintaining and restoring ecological integrity. In this regard, objectives for enhancing public education through monitoring and restoration are lacking at the park level, and the results of monitoring and restoration projects are not used to full advantage in park-level communications materials.
- With new funding received in 2003 ($75 million over five years and $25 million annually thereafter), Parks Canada is implementing measures to improve monitoring and restoration and their use in enhancing public education and visitor experience. It is important that these measures be successful and consistently applied across individual parks. Good monitoring, restoration, and public education programs are essential for Parks Canada to meet its mandate of maintaining or restoring ecological integrity and fostering public awareness and enjoyment of national parks.
- The 1997 state of the parks report was relatively good in terms of setting baselines on the state of parks. However, the subsequent two reports did not make use of the potential offered by the 1997 report, making it difficult to determine how the state of parks has changed. Overall, these reports need to report more consistently on changes and trends in the state of parks over time. More information on the results of Parks Canada's actions is also needed.

Parks Canada has responded. Parks Canada has accepted our recommendations. Its responses, which follow the recommendations in the chapter, indicate the actions it intends to take.

Introduction

Significant examples of Canada's natural heritage

The Marsh Boardwalk winds through the wetlands of Point Pelee National Park. Renowned for its concentrations of migrating birds and monarch butterflies, Point Pelee has been designated as a nationally important bird area, an international monarch butterfly reserve, and an internationally important wetland.

2.1 Temperate rainforests, jagged mountain peaks, habitats rich in biodiversity, sand dunes and sandstone cliffs—this describes just some of the diverse natural heritage represented by Canada's national parks. However, national parks are not just protected because of their beautiful landscapes and seascapes. National parks play an important role in conserving biodiversity in Canada; they help sustain wildlife populations and protect critical habitats, watersheds, wetlands, and rivers. Home to a diverse number of species such as caribou, grizzly bears, and many species of plants and animals considered to be at risk, national parks are important sources of natural heritage in Canada. These parks have benefited past and current generations and represent an important legacy to future generations.

2.2 National parks provide economic benefits and are important to Canada's tourism sector. The national park system draws millions of visitors from across Canada and across the world. Several national parks are icons for the regions they are located in. There are 41 national parks and national park reserves in Canada (exhibits 2.1 and 2.2).

Did you know?

- There were an estimated 11.2 million person-visits to Canada's national parks in 2003–2004.
- Two Canadian national parks (Point Pelee and Wood Buffalo) contain wetlands of international importance.
- Nine national parks have been designated as world heritage sites as part of the United Nations Educational, Scientific and Cultural Organization's (UNESCO) World Heritage List.
- As of January 2005, of the species considered to be at risk in Canada, 135 may be found in national parks.

Source: Parks Canada Agency

Stressors threaten the ecological integrity of national parks

2.3 A variety of factors called "stressors" affect ecosystems, and more specifically biodiversity and related processes in national parks. They originate from both within and outside national parks and threaten their ecological integrity (Exhibit 2.3).

2.4 In 1998, based on concerns expressed about the ecological integrity of national parks, the Minister of Canadian Heritage created an independent Panel on the Ecological Integrity of Canada's National Parks. The Panel was asked to assess the strengths and weaknesses of Parks Canada's approach to maintaining ecological integrity and to provide advice and recommendations on how best to ensure that ecological integrity is maintained across the system of Canadian national parks. In 2000 the Panel released its report, *Unimpaired for Future Generations? Protecting Ecological Integrity with Canada's National Parks*. In its report, the Panel concluded that national parks were under threat from stressors and that unless action is taken, deterioration across the whole system will continue.

Exhibit 2.1 **National parks and national park reserves of Canada**

There are 41 national parks and national park reserves in Canada that have been grouped into six bioregions for monitoring and reporting purposes.

Atlantic/Quebec

1. Cape Breton Highlands
2. Forillon
3. Fundy
4. Gros Morne (WHS)
5. Kejimkujik
6. Kouchibouguac
7. La Mauricie
8. Mingan Archipelago*
9. Prince Edward Island
10. Terra Nova

Great Lakes

11. Bruce Peninsula
12. Georgian Bay Islands
13. Point Pelee
14. Pukaskwa
15. St. Lawrence Islands

Interior Plains

16. Elk Island
17. Grasslands
18. Prince Albert
19. Riding Mountain
20. Wood Buffalo (WHS)

Mountain

21. Banff (WHS)
22. Glacier
23. Jasper (WHS)
24. Kootenay (WHS)
25. Mount Revelstoke
26. Waterton Lakes (WHS)
27. Yoho (WHS)

Pacific

28. Gulf Islands*
29. Gwaii Haanas*
30. Pacific Rim*

Northern

31. Aulavik
32. Auyuittuq
33. Ivvavik
34. Kluane* (WHS)
35. Nahanni* (WHS)
36. Quttinirpaaq
37. Sirmilik
38. Tuktut Nogait
39. Ukkusiksalik
40. Vuntut
41. Wapusk

WHS World Heritage Site
* Reserve

Source: Parks Canada Agency

Exhibit 2.2 **National parks and national park reserves of Canada: Person-visits and size**

Monitoring and reporting bioregions	Parks	Person-visits[1] 2003–04 (thousands)	Size[2] (square km)
Atlantic/Quebec	1. Cape Breton Highlands	396	948
	2. Forillon	155	240
	3. Fundy	316	206
	4. Gros Morne	118	1,805
	5. Kejimkujik	57	404
	6. Kouchibouguac	221	239
	7. La Mauricie	173	536
	8. Mingan Archipelago (Reserve)	34	151
	9. Prince Edward Island	873	27
	10. Terra Nova	263	397
Great Lakes	11. Bruce Peninsula	209	154[3]
	12. Georgian Bay Islands	34	26
	13. Point Pelee (including Middle Island)	286	15
	14. Pukaskwa	8	1,878
	15. St. Lawrence Islands	56	8
Interior Plains	16. Elk Island	189	194
	17. Grasslands	5	906[3]
	18. Prince Albert	240	3,874
	19. Riding Mountain	248	2,969
	20. Wood Buffalo	1	44,802
Mountain	21. Banff	2,935	6,641
	22. Glacier	599	1,349
	23. Jasper	1,687	10,878
	24. Kootenay	391	1,406
	25. Mount Revelstoke	data included with Glacier Park	260
	26. Waterton Lakes	371	505
	27 Yoho	501	1,313
Pacific	28. Gulf Islands (Reserve)	no data	34
	29. Gwaii Haanas (Reserve)	2	1,495
	30. Pacific Rim (Reserve)	764	511
Northern	31. Aulavik	0.09	12,200
	32. Auyuittuq	0.5	19,089
	33. Ivvavik	0.1	9,750
	34. Kluane (Reserve)	39	22,061
	35. Nahanni (Reserve)	1	4,766
	36. Quttinirpaaq	0.3	37,775
	37. Sirmilik	0.6	22,200
	38. Tuktut Nogait	no data	16,340
	39. Ukkusiksalik	no data	20,558
	40. Vuntut	no data	4,345
	41. Wapusk	1	11,475
Total		**11,175 person-visits**	**264,730 square km**

[1]Person-visits are defined as persons entering a park for recreational, educational, or cultural purposes during operating hours. Through traffic, commercial traffic, persons residing within a park, and staff are excluded. In addition, persons re-entering on the same day and persons staying overnight in a park do not constitute new person-visits. For some parks, person-visit data are estimated or preliminary.

[2]Size refers to the official size of a park in the Surveyor Generals' legal description in the *Canada National Parks Act*, or land committed by federal-provincial agreement. Changes to park boundaries may be made over time, for example, in the case of settling a land claim.

[3]Grasslands and Bruce Pennisula National Parks are not yet completed. Once completed, the parks will have the size indicated in the table.

Source: Parks Canada Agency

An unauthorized trail cuts through a sand dune in Prince Edward Island National Park. The ecological integrity of national parks is jeopardized by a variety of stressors, including those that result from visitors' actions.

Exhibit 2.3 Examples of stressors affecting the ecological integrity of national parks

- When people use unauthorized trails over sensitive sand dunes in Prince Edward Island National Park, it can affect unique dune systems, dune vegetation, and the habitat of the endangered piping plover.
- Forestry operations in the vicinity of Forillon National Park can affect wildlife habitat in the greater park ecosystem.
- The presence of wildlife disease in the Riding Mountain National Park region poses a risk to wildlife in the park.
- Natural-resource development activities that occur in the greater park ecosystem of Jasper National Park can lead to habitat fragmentation and can put pressure on the ecological integrity of the park.
- Natural-resource development activities in the vicinity of Pacific Rim National Park Reserve can affect its biodiversity and ecosystems.
- Climate change and long-range transport of pollution pose a threat to northern parks, such as Quttinirpaaq.

2.5 The Panel made a total of 127 recommendations including that the federal government allocate substantial new funding and additional resources to implement the recommendations contained in its report. The Panel recommended that $328 million be allocated to address its recommendations over five years, with $85.5 million in annual funding thereafter.

The Parks Canada Agency

2.6 The Parks Canada Agency (Parks Canada) is responsible for the management of national parks. Parks Canada's mandate is to protect and present nationally significant examples of Canada's natural heritage and foster public understanding, appreciation, and enjoyment in ways that ensure the ecological integrity of these places.

2.7 Parks Canada undertakes a variety of activities in regards to ecological integrity, including monitoring and researching ecological issues, actively managing and restoring aspects of ecological integrity, and delivering public education activities. Many of Parks Canada's activities involve a diverse range of partners, such as universities, industry, local environmental groups, and volunteers.

2.8 Parks Canada's planning and reporting framework is presented in Exhibit 2.4. At the national level, Parks Canada's corporate plan, report on plans and priorities, and sustainable development strategy are the key planning documents that set out a five-year plan for the Agency. Parks Canada's annual report, departmental performance report, and state of protected heritage areas report are the key

Did you know?

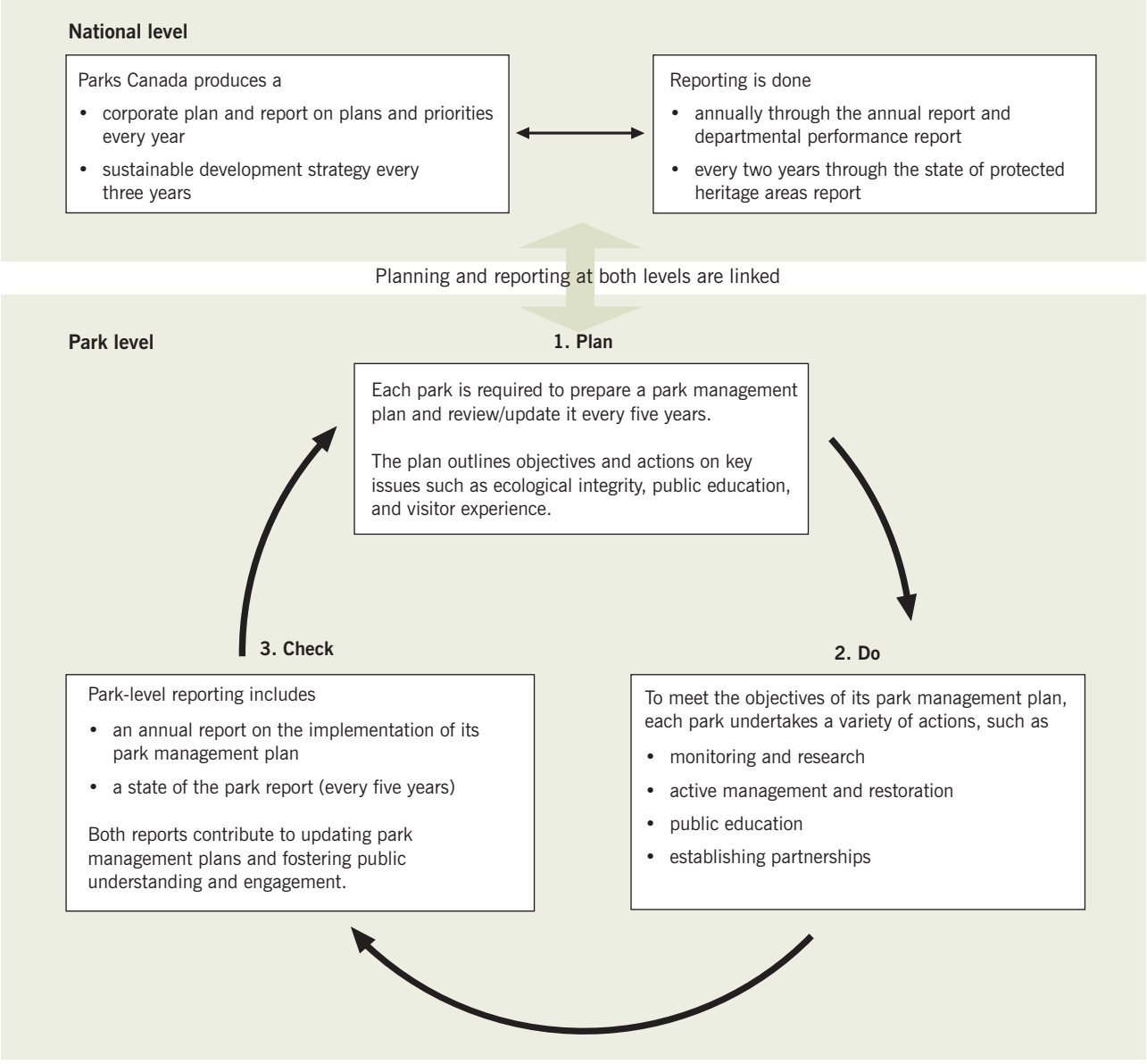
- When the Canadian government created the Dominion Parks Branch (now known as Parks Canada Agency) in 1911, it was the first national park service in the world.
- In 1885, 120 years ago, Banff National Park (Canada's first national park) was created.
- In addition to national parks, Parks Canada also manages a system of national historic sites and a system of national marine conservation areas.

Source: Parks Canada Agency

reporting documents at the national level. These planning and reporting documents are required by statute, including the *Canada National Parks Act* (2000) and the *Parks Canada Agency Act* (1998).

2.9 At the park level the key planning document is the park management plan, which is required by the *Canada National Parks Act*. Parks are legally required to review (with public consultations), update their park management plans, and table any amendments in Parliament every five years. As a result of changes to Parks Canada's guide to

Exhibit 2.4 Planning and reporting at the national and park levels



Visitors attend the marine life interpretation program at Grande-Grève, Forillon National Park. National parks provide many opportunities for learning about Canada's natural heritage.

Photo: Parks Canada Agency

management planning in 2001, each park is also required to prepare an annual report on the implementation of its park management plan, and every five years, prepare a state of the park report. The state of the park report is to provide an assessment of the state of, and trends in, a park's ecological integrity and an evaluation of management actions affecting the maintenance or restoration of ecological integrity.

2.10 The majority of national parks are expected to produce their first state of the park reports between April 2006 and March 2008. Both the annual report and state of the park report are meant to be major contributors to updating the management plan. By providing an assessment of the state of parks, both the national-level state of protected heritage areas report and the park-level state of the park report contribute to fostering public understanding and can inform park management and others on actions that may need to be taken to maintain or restore ecological integrity.

Ecological integrity—"Ecological integrity" means, with respect to a park, a condition that is determined to be characteristic of its natural region and likely to persist, including abiotic [non-living] components and the composition and abundance of native species and biological communities, rates of change, and supporting processes.

Source: *Canada National Parks Act*

2.11 **Ecological integrity "shall be the first priority."** The *Canada National Parks Act* requires that the maintenance or restoration of ecological integrity "shall be the first priority of the Minister when considering all aspects of the management of parks." The *Canada National Parks Act* also states that national parks are "dedicated to the people of Canada for their benefit, education, and enjoyment . . . and the parks shall be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations." Additional parts of Parks Canada's mandate are also set out in the *Parks Canada Agency Act*.

2.12 In 2003, Parks Canada received new funding aimed at enhancing the Agency's ability to monitor and restore the ecological integrity of Canada's national parks. The funding amounted to $75 million over five years (23 percent of what the Panel recommended) and $25 million in annual funding thereafter (29 percent of what the Panel recommended). The federal government announced as part of its 2005 budget that Parks Canada would receive an additional $60 million over the next five years and $15 million in annual funding thereafter to enhance and expand existing ecological integrity measures.

2.13 Parks Canada has established long-term objectives related to maintaining and improving the ecological integrity of national parks. These long-term objectives include the following:

- Having monitoring and reporting systems for ecological integrity that are fully functioning in all national parks by March 2009
- Having park management plans that are up-to-date and consistent with Parks Canada's latest management plan guidelines by March 2010
- Improving aspects of the state of ecological integrity in each of Canada's national parks by March 2014

The new funding received by Parks Canada in 2003 is playing an important role in enabling it to make progress toward its objectives through investments in improved ecological-integrity monitoring and restoration activities.

Focus of the audit

2.14 Our audit examined three areas:

- Whether the Agency could demonstrate that progress had been made on certain commitments made in response to the Panel (as contained in Part 1 of *First Priority*);
- Whether the information contained in the State of the Parks 1997 Report and the 1999 and 2001 state of protected heritage areas reports was relevant, meaningful, and balanced; and whether the reports contained examples of how Parks Canada's actions have made a difference; and
- Whether monitoring and restoration activities were planned and managed effectively, and used for park management purposes, such as enhancing public education and visitor experience.

More information on our audit objectives, scope, approach, and criteria is provided in the **About the Audit** section at the end of the chapter.

Observations and Recommendations

Responding to the Panel on Ecological Integrity

2.15 Parks Canada's action plan. In 2000, Parks Canada issued an action plan in response to the report of the Panel on Ecological Integrity. The action plan included immediate and longer-term commitments related to the four following areas:

- **Making ecological integrity central in legislation and policy.** Commitments included creating new national park legislation that would reconfirm that maintaining ecological integrity is the first priority of Parks Canada; developing a charter for Parks Canada that would highlight the importance of ecological integrity; and accelerating the legal designation of wilderness areas in national parks.
- **Building partnerships for ecological integrity.** Commitments included working to improve relationships and co-operative activities with aboriginal peoples, working with others to advance park values within greater park ecosystems, and working with others to expand the national park system.
- **Planning for ecological integrity.** Commitments included revising the Parks Canada guide to management planning, and ensuring that the maintenance of ecological integrity is the primary consideration in capital redevelopment projects within parks.
- **Renewing Parks Canada in support of its ecological-integrity mandate.** Commitments included establishing the position of Executive Director, Ecological Integrity, within Parks Canada, and developing and implementing a training and orientation program in ecological integrity for Parks Canada staff.

2.16 In 2001 Parks Canada released *First Priority.* Part 1 of *First Priority* provided an initial update on the progress Parks Canada was making on the commitments contained in its 2000 action plan. We examined whether Parks Canada could demonstrate that it was making progress since the release of *First Priority* on selected commitments related to legislation and policy, partnerships, and planning for ecological integrity. We expected that Parks Canada was acting on its commitments and had procedures in place to monitor and report on the progress of these commitments.

Parks Canada is acting on its commitments and expects to provide an update on progress

2.17 Actions have been taken. Since the release of *First Priority* in 2001, Parks Canada has been taking actions related to its commitments. For example, the Agency produced a *Parks Canada Charter* in 2002 which underscores Parks Canada's ecological integrity mandate, and work is being done to legally declare wilderness areas (Exhibit 2.5). The Agency has established partnerships in support of ecological integrity, which have resulted in (among other things) the establishment of the Gros Morne Institute for Sustainable Tourism, and the protection of habitat on more than 100 square kilometres of private ranch lands adjacent to Waterton Lakes National Park.

This view is taken from the top of Gros Morne Mountain. National parks, such as Gros Morne in Newfoundland, are icons for the regions they are located in.

2.18 Monitoring of commitments is a work in progress. In 2004 Parks Canada began to systematically monitor the status of its commitments to determine progress since the release of *First Priority* in 2001. Parks Canada was unable to provide us with a summary of its assessment during the examination phase of our audit as the results were still being analyzed.

2.19 An update is expected. There has been no consolidated reporting by Parks Canada on the status of its commitments since the release of *First Priority*. However, officials from Parks Canada informed us that an update on *First Priority* is expected to be produced by the end of 2005.

Exhibit 2.5 Legal designation of wilderness areas

The *Canada National Parks Act* permits the Governor in Council, by regulation, to declare any area of a national park that exists in a natural state or that is capable of returning to a natural state, to be a "wilderness" area. The result of an area being designated as wilderness means the minister cannot permit any activities in that area that would negatively impact the wilderness character of the area.

In response to the Panel on Ecological Integrity, Parks Canada committed to accelerate the legal designation of wilderness areas in national parks across the national park system. In its report the Panel noted that the formal designation of sensitive or undeveloped areas within parks as wilderness areas was an excellent way to maintain ecological integrity within national parks.

In *First Priority*, Parks Canada reported that wilderness areas had been declared in four parks (Banff, Jasper, Yoho, and Kootenay). According to Parks Canada, as of April 2005, no other wilderness areas had been declared, although five parks (Fundy, Waterton Lakes, Nahanni, Kluane, and Vuntut) were in various stages of finishing the preparation work necessary to have land declared as wilderness areas. There are several factors, such as public consultations and mapping of boundaries, that have to be considered when legally declaring wilderness areas.

2.20 It is important that Parks Canada follow through on its commitments and periodically report to Parliament and the Canadian public on the progress it is making. Not only is good reporting a key tool for ensuring effective accountability, it also shows that steps are being taken to maintain and restore the ecological integrity of national parks.

2.21 **Recommendation.** In addition to the update it expects to release later this year, Parks Canada should periodically report to the public on the progress it is making on any outstanding commitments from its 2000 action plan, as contained in Part 1 of *First Priority*. For these commitments, Parks Canada should clearly indicate what it expects to achieve in terms of results, who will be responsible for contributing to these results, and what the related timelines are.

Agency's response. Agreed. Parks Canada will release an update to the *First Priority* report in the fall of 2005, which will provide a status report on progress concerning the Parks Canada EI Action Plan, as well as the 127 recommendations of the Panel on the Ecological Integrity of Canada's National Parks. Future reports on the Parks Canada EI Action Plan will occur through the Parks Canada Agency annual report, the biennial state of protected heritage areas reports, and the Minister's Round Table, as well as periodic public interest reports (for example, *Action on the Ground—Ecological Integrity in Canada's National Parks, Parks Canada 2005*).

Reporting to Parliament on the state of protected areas

2.22 **An important vehicle for increasing awareness about the state of national parks.** The *Canada National Parks Act* requires that Parks Canada report to Parliament on the state of all national parks at least every two years.

2.23 We examined the State of the Parks 1997 Report, as well as the 1999 and 2001 state of protected heritage areas reports (Exhibit 2.6). The reports were originally called the "state of the parks report" but were changed to the "state of protected heritage areas report" in 1998. As the report for 2003 had not been released at the time of undertaking our audit, it was not included in our examination. Our objective was to determine the extent to which reporting on monitoring and restoration in the reports is fair; we expected that a fair report would have the following qualities:

- **Be relevant.** The information contained in the reports would present in context, tangible and important accomplishments against the objectives and costs.

Exhibit 2.6 **Key aspects of the state of the parks and state of protected heritage areas reports**[1]

State of the Parks 1997 Report	*State of Protected Heritage Areas 1999 Report*	*State of Protected Heritage Areas 2001 Report*
Overall ecological integrity ranking of individual parks presented. Limited financial information.[2]	No reference to ecological integrity ranking of individual parks. No financial information reported.[2]	No reference to ecological integrity ranking of individual parks. No financial information reported.[2]
Biodiversity		
Baseline information reported on the number of plants and animals, species at risk, locally extinct animal species, and exotic plants and animals in national parks; no trend information reported.	Baseline information reported on plant and animal species. Names of endangered and threatened species in national parks listed.	Same baseline information on plants and animal species as 1999. Baseline information on the number of species in national parks.
Discussions on the recovery of the Blanding's turtle in Kejimkujik National Park, sport fishing in La Mauricie National Park, the impacts of landscape fragmentation on biodiversity, the status of woodland caribou, grizzly bear habitat research, the recovery of the piping plover in east coast national parks, and trends in clam stocks in Kouchibouguac National Park.	Discussions on elk restoration activities in Ontario, wood turtle conservation concerns in La Mauricie National Park, restoration of fish populations (fish weir construction at the Saint-Ours Canal), and the protection of bat colonies at Grosse-Ile and the Irish Memorial National Historic Site.	Discussions on trophic structure, the Parks Canada species at risk program, the Vianney-Legendre Fishway at the Saint-Ours Canal, preservation actions related to the wolf in La Mauricie National Park, activities aimed at controlling non-native species in Gwaii Haanas National Park Reserve, and the recovery of the piping plover.
Ecosystem functions		
Discussions on fire restoration in national parks and savanna restoration in Point Pelee National Park.	Discussions on primary productivity with baseline figures on vegetation index values for selected parks, the use of prescribed burns with comparison between actual performance and what is needed to maintain fire-dependent ecosystems, and the effects of lesser snow goose populations on the ecosystems of Wapusk National Park.	Discussions on primary productivity with baseline figures and some limited trend information for selected parks; some links to data reported in 1999. Profile of fire restoration activities. Discussions on prescribed burning in Elk Island National Park, restoration of Grafton Lake in Kejimkujik National Park, and species extirpation, including the link between body size and locally extinct species.
Stressors		
Baseline information on the presence of stressors and related trends. Discussion on the state, and loss of, amphibian species in Point Pelee National Park.	Follow-up on the status of top five stressors reported on in the 1997 report, including state of top five stressors and types of actions being taken in response to them. Discussion on climate and air quality and national parks with baseline information on selected parks. Discussions on environmental risks as well as softshell clam harvesting at Kouchibouguac National Park, non-native plant control in Jasper National Park, carbon budgets and air toxins at Prince Albert National Park, pesticide accumulation in amphibians at Point Pelee National Park, and reducing wildlife mortality in Banff National Park.	Discussions on land use and habitat fragmentation, climate change and national parks, stressors on northern caribou, restoration at Point Pelee National Park, and wildlife corridor restoration in Banff National Park.

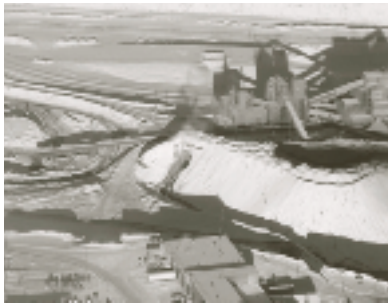
[1]State of the park reports became state of protected heritage areas reports as a result of the 1998 *Parks Canada Agency Act*.

[2]Limited financial information specific to ecological integrity can be found in Parks Canada's corporate plans and annual reports.

- **Be meaningful.** The information contained in the reports would tell a clear performance story, describing expectations and benchmarks against which comparisons are made.
- **Be attributable.** The information in the reports would demonstrate, in a reasonable fashion, how Parks Canada's actions have made a difference.
- **Be balanced.** The information in the reports would present a representative yet clear picture of the full range of activities and results (both positive and negative), which would not mislead the reader.

Improvements to the state of protected heritage areas reports are needed

2.24 The 1997, 1999, and 2001 reports provide good descriptions of the types of activities being undertaken in national parks and the types of stressors that are putting the ecological integrity of national parks at risk. Information contained in the State of the Parks 1997 Report was relevant and meaningful, especially in terms of the baseline information contained in the report; however, the 1999 and 2001 reports did not make use of the potential offered by the 1997 report, making it difficult to determine how the state of parks has changed over time. From this perspective, the quality of reporting declined. Overall, Parks Canada needs to improve the meaningfulness and relevance of its state of protected heritage areas reports in the following ways:



This coal-processing plant is located near a national park. This is an example of one of the types of natural-resource development activities occurring in close proximity to national parks.

- Use baselines and benchmarks more consistently as a means of reporting on changes and trends in the state of ecological integrity over time. For example, the State of the Parks 1997 Report contained baseline information, such as an overall ecological-integrity ranking for national parks and the presence of, and trends in, stressors. While the state of some stressors was followed up in the 1999 report, the state of the stressors was only generally discussed in 2001. Neither the 1999, nor the 2001 reports provided an update on the overall ecological-integrity ranking of national parks presented in the 1997 report.
- Better explain its long-term reporting strategy and consistently apply its ecological-integrity reporting framework. Consistent reporting would allow for the comparison of trends to be made over time and provide more continuity between reports.
- Report more on outcomes. In the three reports we examined, case studies were used to illustrate important accomplishments. Although generally balanced and representative of the range of

issues facing national parks, most case studies contained too much descriptive text and focussed too much on activities rather than outcomes. The case studies would have been more relevant and meaningful if they included more information on results and outcomes being achieved. Several case studies did a good job of reporting on the outcomes associated with Parks Canada's actions and provided comparisons to benchmarks, but these were limited in number. Including more information on outcomes would also better demonstrate how Parks Canada's actions are making a difference.

- Provide more financial information, such as summary-level information of expenditures on maintaining and restoring ecological integrity. This would give readers a more complete picture of Parks Canada's efforts to maintain and restore ecological integrity and the cost of these efforts.
- Better describe the role and impact that external factors play and the contribution of other parties, such as industry or other levels of government, in maintaining and restoring ecological integrity. For example, the reports could include more concrete examples of the contributions other parties are making to address the impact of stressors.

2.25 Recommendation. Based on the strengths and weaknesses of prior reports, Parks Canada should improve future state of protected heritage areas reports in the following ways:

- Provide more continuity between reports by using baselines and benchmarks more consistently.
- Better explain its long-term reporting strategy.
- Include more information on results and outcomes being achieved, especially with respect to case studies.
- Provide more financial information.
- Include more concrete examples of the contributions of other parties to maintaining and restoring ecological integrity.

Agency's response. Agreed. Parks Canada will improve future state of protected heritage areas (SOPHA) reports using the results of this audit and a recently completed internal review. With new funding received in budgets 2003 and 2005, Parks Canada is implementing a system-wide ecological integrity monitoring and reporting program focussed on six to eight key indicators that will be monitored consistently in each national park over time. This program will be fully

functional by March 2009. This will improve the ability of Parks Canada to report on a consistent basis, building on site-specific state of parks reports and the experience of previous reports.

Based on a review of internal and external stakeholders' information needs and communications priorities, Parks Canada will focus on producing significantly shorter, more concise, and consistent SOPHA reports in the future with an emphasis on high-level scientifically credible indicators of the state of heritage resources and results of efforts to maintain or improve those resources. Case studies will not be used to the same extent as previous SOPHA reports, and contributions of partners will be highlighted in other documents including the annual report and specialized publications, such as the recent *Action on the Ground—Ecological Integrity in Canada's National Parks* (Parks Canada, 2005). While some summary financial information may appear in the state of protected heritage areas report, the Agency will continue to report on planned and actual expenditures through the corporate plan and annual report, as required by the *Parks Canada Agency Act*.

Monitoring and restoration

2.26 Important activities for maintaining and restoring ecological integrity. Monitoring and research (monitoring) and active management and restoration (restoration) are important activities, along with activities such as public education and partnerships. Parks Canada uses these activities to maintain and restore ecological integrity in national parks. They can also be used to foster public understanding, appreciation, and enjoyment of national parks.

Although the East Road was restored in Point Pelee National Park, part of the road was left intact; it forms part of a self-guided interpretive trail, so visitors can see how things looked before restoration took place.

2.27 Monitoring biodiversity, ecosystem functions, and stressors can inform park officials (and other stakeholders) on the state of, and trends in, ecological integrity. This information can allow park officials to make informed decisions regarding the need for, and effectiveness of, restoration, and it forms the basis for park planning, reporting, and public education efforts.

2.28 Active management and restoration involves activities such as using prescribed burns to maintain biodiversity, controlling the populations of certain species (such as overabundant species and invasive, exotic or non-local species), managing harvesting activities such as fishing, recovering species at risk, reintroducing species, restoring degraded sites, and remediation of contaminated sites. These activities can help maintain and restore ecological integrity, and in some cases can involve significant investment.

2.29 **What we examined.** We examined monitoring and restoration activities to determine the following:

- if significant ecological-integrity issues facing parks were being addressed through monitoring and restoration,
- whether selected monitoring and restoration projects were being well managed, and
- whether activities and results associated with monitoring and restoration were being used for park management purposes, as well as for enhancing public education and visitor experience.

Did you know?

- Fire, as a natural event, plays a role in the evolution and maintenance of many park ecosystems.
- Until recently, fire was suppressed in national parks, which negatively affected a number of ecological processes.
- Fire suppression has changed many ecosystems, including vegetative structures and species, increasing the risk of catastrophic fires in significant areas.
- Parks Canada has reintroduced fire in the form of prescribed burns to restore and maintain ecosystems, as well as to reduce the risk around critical areas, such as endangered-species habitats and town sites.

Source: Parks Canada Agency

2.30 We focussed our examination on 12 parks to appreciate and understand what was going on at the field level. Parks were chosen to reflect a diversity of Parks Canada's activities and management conditions. Factors that we took into consideration when selecting the parks to be examined included size, location, number of visitors, and types and impacts of stressors. The 12 parks we examined are listed in the **About the Audit** section of this chapter. Because of the diversity in the park system, readers should not use our findings from this section of the audit to draw conclusions about the park system as a whole.

Significant issues in ecological integrity are being addressed, but improvements are needed

2.31 As a result of our examination, we identified projects that are under way, which address important issues in the ecological integrity of individual parks. For example, monitoring activities address different aspects of ecological integrity; efforts have been ongoing to recover species at risk. Attempts are being made to reintroduce fire as a natural ecosystem function using prescribed burns, and issues such as wildlife disease are being actively managed. However, as discussed below, we noted areas where improvements are needed in terms of how planning for these activities is undertaken and how individual monitoring and restoration projects are managed. We also identified opportunities where Parks Canada could improve how it uses monitoring and restoration to enhance public education and visitor experience.

A priority needs to be put on updating park management plans

2.32 To determine if significant issues in ecological integrity were being addressed through monitoring and restoration we examined plans for these activities. We expected that these plans had been reviewed, that planned and actual activities address ecological

integrity priorities, and that gaps in monitoring and restoration had been identified.

2.33 New standards for park management plans. Both the *Canada National Parks Act* and Parks Canada's revised guide to management planning have set new standards for park management plans regarding ecological integrity. The guide to management planning indicates that ecological considerations are to be the foundation for the entire park management plan, and that the plan describe the current state of the park and contain specific objectives and actions a park will undertake to maintain or restore ecological integrity. Having up-to-date park management plans demonstrates that park staff have identified significant issues in ecological integrity and that they have determined the necessary monitoring and restoration activities to address these issues.

Long Beach Unit is located in Pacific Rim National Park Reserve. In part because of their landscapes and seascapes, national parks are important tourist destinations.

2.34 Updated park management plans are effective, but not all are up-to-date. Of the twelve parks we examined, four have park management plans that have been updated and/or tabled in Parliament within the last five years. In these parks, the park management plans did a reasonable job of explaining the issues facing these parks and outlining actions to address these issues. In the remaining parks, six have park management plans that are more than five years old and are in various stages of being reviewed and updated. Two parks do not have park management plans and are operating under interim management guidelines; these are prepared when guidelines are needed to direct essential park operations until an initial management plan is approved.

2.35 A wide variety of plans and strategies exist at the park level, which cover monitoring and restoration activities. For example, all 12 parks that we examined have work plans for ecological monitoring and reporting. Prepared in 2004, these plans include the following:

- a list of existing monitoring projects,
- a proposed suite of monitoring projects that would be used to provide information on the state of a park's ecological integrity, and
- a discussion on how this suite of projects lines up with the ecological integrity issues facing the park.

As for restoration, no similar overall work plan exists, but a variety of plans related to restoration issues (such as species at risk) exists at the park level.

2.36 Regional science advisory mechanisms being considered. Subjecting monitoring and restoration plans to review can help improve the quality and credibility of these plans, and it provides an opportunity to involve and engage external stakeholders, such as local residents, academic experts, as well as representatives from other levels of government and Aboriginal communities. The 12 parks we examined use a variety of means to review and consult on their monitoring and restoration plans. Although there are no standardized science advisory mechanisms in these 12 parks, we note that certain parks are considering putting in place science advisory mechanisms at the regional level. We encourage Parks Canada to follow these efforts and determine if similar mechanisms would be beneficial for other regions.

2.37 Some gaps in monitoring and restoration have been identified by Parks Canada. Staff at all of the 12 parks we examined have documented aspects of ecological integrity that are not being adequately monitored at the park level; staff at individual parks are considering these gaps as they develop their ecological monitoring and reporting work plans. The gaps relate to all aspects of Parks Canada's monitoring and reporting framework, including biodiversity, ecosystem functions, and stressors. Gaps in social science information, including information on visitors, were a commonly identified gap (Exhibit 2.7). The impacts of gaps in monitoring are generally known; however, the full costs of addressing these gaps and implementing the monitoring and reporting work plans have not yet been determined.

Exhibit 2.7 Information on visitors—a commonly identified need

Visitor use and impacts are important aspects in terms of maintaining and restoring ecological integrity in national parks. Parks Canada officials commonly raised social science research, including information on visitor use and impacts, as one such area that requires more information. This includes research on topics such as what visitors are doing in parks; where, when, and why they are doing it; and the physical, biological, and social impacts of visitor use.

2.38 Officials from individual parks identified examples of gaps in active management and restoration. Concerns have been expressed that even with the new funding it received in 2003, Parks Canada may not have the resources necessary to adequately address all of its active management and restoration needs. However, when compared to the gaps in monitoring, the gaps in these activities have not been as systematically identified or documented. It is important that these gaps are systematically documented and (along with monitoring needs) considered in the park-planning process.

2.39 **Recommendation.** Given that new standards are in place for park management plans, Parks Canada needs to ensure that updating these plans is a priority. To ensure that potential gaps in active management and restoration are understood, individual parks should assess their active management and restoration needs, establish clear objectives and key actions based on these needs, and identify gaps. This information, along with similar information for monitoring, should be included in future park management plans.

Agency's response. Agreed. The Parks Canada Corporate Plan 2005-06–2009-10 confirms that updating park management plans is an agency priority and identifies March 2010 as the target to have national park management plans up-to-date and consistent with the latest management guidelines. Parks Canada is currently revising its Guide to Management Planning to reflect new legislative and policy directions. The revised guidelines will include greater emphasis on managing for results and will require that national park management plans clearly define objectives and key actions for both monitoring and restoration.

Management of projects needs to be strengthened in certain areas

2.40 We examined selected monitoring and restoration projects to determine if they were being managed for results. We examined 69 projects, including 30 monitoring projects and 39 restoration projects. We expected that intended results were clearly stated for these projects, that project plans were in place, and that the status and results of projects were being measured and reported. Regarding monitoring projects, we also expected that data management protocols were documented, that data collection was being done consistently, and that information was accessible and was being analyzed to assist in decision making.

2.41 Of the monitoring projects we examined, 33 percent met all of the criteria we had set; an additional 57 percent met more than half of the criteria; and 10 percent met fewer than half of our criteria. The areas that required the most improvement included documentation of project methodology and data management protocols. Examples of projects that met our criteria include the monitoring of forest birds in Point Pelee National Park, caribou populations in Pukaskwa National Park, and groundfish in Pacific Rim National Park Reserve.

2.42 Of the 39 restoration projects that we examined, 51 percent met all of the criteria we had set; an additional 34 percent met more than half of the criteria; and 15 percent met less than half of our criteria.

The areas that required the most improvement related to the evaluation and reporting of projects. Examples of projects that met our criteria include the recovery of the piping plover in Prince Edward Island National Park, the management of white tailed deer in Point Pelee National Park, the management of bovine tuberculosis in Riding Mountain National Park, and the reintroduction of the swift fox in Grasslands National Park.

2.43 As a result of our examination, we identified projects that are under way, which address important aspects of ecological integrity. However, our findings demonstrate a need for more consistency in terms of how projects are managed and documented. We believe that a more consistent approach to managing, documenting, and reporting on monitoring and restoration projects would help address the areas in need of improvement noted above. This would also make it easier to compare results between parks and combine information from all parks for reporting in the national state of protected heritage areas reports.

Using monitoring and restoration for park management purposes

A prescribed burn taking place in Jasper National Park

Photo: Parks Canada Agency

2.44 We expected that monitoring and restoration activities and the related results were being used for park management purposes, as well as for enhancing public education and visitor experience.

2.45 Using monitoring information. There are good examples of monitoring being used for park management purposes (Exhibit 2.8). Parks Canada expects that monitoring information will also be used to form the basis of state of the park reports, specific to each park. These reports will be useful for enhancing public education and are expected to be used in updating park management plans. Of the 12 parks we examined, Jasper recently finalized its state of the park report.

2.46 Using restoration projects. There are also good examples of restoration projects being used to achieve park management objectives. The use of prescribed burns is one example of how parks use a restoration activity to restore ecological integrity. As mentioned in paragraph 2.42, one area that requires improvement is the evaluation and reporting of restoration projects. Reporting on results through the annual park management plan implementation report and the state of the park report are two means of addressing this issue and would provide opportunities for park staff to learn from, and use the results of, restoration activities as a means of implementing active, adaptive management techniques.

Exhibit 2.8 Using monitoring for park management purposes

The following are examples of how the results of monitoring are being used for park management purposes:

- In Pacific Rim National Park Reserve, the monitoring of groundfish was used for identifying rockfish conservation areas in the Park. Also in Pacific Rim, the monitoring of human-carnivore interactions has led to the introduction of the Bare Campsite Program aimed at reducing wildlife incidents (primarily involving bears).
- The monitoring of human activity in critical wildlife areas within Jasper National Park has led to a new active management project aimed at reducing informal trail use.
- Research on, and monitoring of, wildlife disease is being used to manage bovine tuberculosis in the Riding Mountain National Park region. This has involved fencing, field studies, population reductions, advisory committees, and partnerships.
- The monitoring of the southern flying squirrel in Point Pelee National Park is being used to assess the long-term effectiveness of the early 1990s program that reintroduced the squirrel into the park.
- The monitoring of the endangered piping plover in Prince Edward Island National Park is used by park officials to determine recovery actions such as beach closures and public education campaigns.

Enhancing public education and visitor experience

2.47 Fundamental to maintaining and restoring ecological integrity. Increasing understanding through public education is fundamental to maintaining and restoring ecological integrity. In this regard, we expected that park staff would communicate the results of monitoring projects and engage visitors and others in restoration activities to enhance public education and visitor experience.

Kennedy Flats salmon habitat restoration exhibit near Pacific Rim National Park Reserve

2.48 Based on information individual parks provided, we identified several examples of monitoring and restoration projects that park staff used to enhance public education or visitor experience. Examples included the recovery of the piping plover in Prince Edward Island National Park, the East Road restoration project in Point Pelee National Park, the Firesmart/ForestWise Program in Jasper National Park, the recovery of the woodland caribou in Jasper National Park, integration of the Kennedy Flats Salmon Habitat Restoration Project into the "Salmon People" interpretation program at Pacific Rim National Park Reserve, and the dissemination of research findings on the Kokanee salmon in Kluane National Park Reserve.

2.49 **Opportunities are being missed.** Despite these efforts Parks Canada is missing opportunities to enhance public education and visitor experience. The following are examples of what we found.

- Of the 10 parks with park management plans, annual reports on the implementation of these plans are not being produced on a regular basis by all parks. We believe that regular reporting would provide more opportunities for parks to inform the public and other stakeholders about their monitoring and restoration activities.
- Communications strategies that outline objectives for enhancing public education and visitor experience through monitoring and restoration are not consistently produced at the park level. Clear objectives are important not only for setting direction, but also for reinforcing the importance of considering public education and visitor experience when designing and implementing monitoring and restoration activities.
- While communications materials, such as visitor guides and park Web sites, often include messages related to the broader theme of ecological integrity, opportunities exist to better incorporate actual results of monitoring and restoration projects and what they mean for individual parks. Using more concrete and real-time data could help increase awareness and understanding of ecological integrity and how it is being addressed by park staff.

Parks Canada is implementing measures to improve monitoring and restoration

2.50 **Important that new initiatives stay on track.** With the new funding it received in 2003, Parks Canada is implementing measures aimed at improving monitoring and restoration. If these measures are implemented as expected, Parks Canada will improve its ability to monitor and restore ecological integrity and address areas for improvement that we have identified for managing monitoring and restoration projects.

2.51 The following are some examples of the measures being taken.

- All national parks are working to have scientifically credible monitoring programs in place that address their ecological integrity goals. This includes programs that have improved data access and increased stakeholder involvement.
- Bioregional monitoring co-ordinators are being put in place to help parks review and improve their monitoring programs.

- A data management system is being developed that would improve access to monitoring information.
- Guidelines for monitoring are being developed to (among other things) improve the consistency of monitoring activities.
- To address needs surrounding social science research, a chief social scientist is being hired. In addition, information on topics such as visitors and their impacts on ecological integrity are being integrated into the monitoring programs of individual parks.

2.52 With respect to restoration, Parks Canada is putting in place guidelines to improve how restoration activities are managed. The guidelines for monitoring that are being developed also include guidance on monitoring the effectiveness of restoration activities and the importance of integrating effectiveness monitoring into project plans. Parks Canada is taking steps to improve how monitoring and restoration are used to enhance public education and visitor experience activities. This is done, for example, by developing a national communications strategy for ecological integrity and by preparing case studies of best practices that highlight examples of how Parks Canada is maintaining or restoring ecological integrity.

2.53 It is important that the measures Parks Canada is implementing be successful and consistently applied across individual parks. Good monitoring and restoration programs, and their integration with public education and visitor experience initiatives, are essential for Parks Canada to meet its mandate of maintaining or restoring ecological integrity and fostering public awareness and enjoyment of national parks. Without them, national parks are at risk of losing species and biodiversity, and Parks Canada will be limited in its ability to restore ecosystems and protect the natural heritage of national parks. For these reasons, it is important that Parks Canada closely monitor the progress it is making on these initiatives and take actions as necessary to make sure improvements stay on track.

2.54 **Recommendation.** Given the importance of monitoring, restoration, and enhancing public education and visitor experience; and in order to maximize its ability to successfully implement its initiatives in a consistent and sustainable manner, Parks Canada should do the following:

- Ensure that the measures it is taking to improve monitoring and restoration are completed and consistently implemented at the park level. This includes improvements to monitoring programs, and implementation of its data management system, and guidelines for monitoring and restoration.

- Ensure individual parks establish clear and concrete objectives and key actions for integrating public education and visitor experience with monitoring and restoration activities.
- Take necessary, corrective actions on a timely basis to ensure that the measures it is implementing are successful and consistently applied across individual parks.
- Publicly report on an annual basis, both at the national and individual park level, on the measures being taken to improve monitoring and restoration and on any issues that may affect the successful implementation and sustainability of its initiatives. Reporting at the individual park level should be part of an annual park management plan implementation report.

Agency's response. Agreed. As stated in the Parks Canada Corporate Plan 2005-06–2009-10, the Agency is committed to improving its ecological integrity monitoring and reporting, restoration, and public education programs, as well as the provision of opportunities for quality visitor experiences. With new funding received in budgets 2003 and 2005, Parks Canada is implementing a system-wide ecological integrity monitoring and reporting program focussed on six to eight key indicators that will be monitored consistently in each national park over time. This program will be fully functional by March 2009. Improved data management will be a key component of this program initiative. Parks Canada is developing an Intranet-based information management system that will document all monitoring protocols, standards and baselines, and will archive monitoring data under agreed metadata standards. Parks Canada has also hired seven bioregional monitoring specialists to support the implementation of the monitoring and reporting program in each part of the country. This will greatly improve the ability of Parks Canada to report on a consistent basis.

Parks Canada recognizes the ecological restoration of ecosystem structure and function is an ongoing challenge. The full need for restoration will only be known when EI monitoring programs are completed in 2009. The restoration need will also be a moving target as conditions change. Parks may be impacted by regional land-use changes or climate change. Guidelines for restoration activities are under development and will be finalized in 2006.

The revised guidelines for management planning will include greater emphasis on managing for results, will require that national park management plans clearly define objectives and key actions for both monitoring and restoration, and will promote the integration of

monitoring and restoration activities with public education and visitor experience objectives and actions.

Recognizing that increased understanding through public education is fundamental to maintaining and restoring ecological integrity, Parks Canada will develop, over the next few years, learning strategies for each national park that will outline objectives for enhancing public education, including the integration of monitoring and restoration activities.

As required by legislation, Parks Canada will continue to report publicly through the Parks Canada Agency Corporate Plan, the annual report, as well as the biennial state of parks reports, and the Minister's Round Table. As required by the revised guide to management planning, field unit superintendents are accountable for ensuring that park management plan implementation reports are completed on an annual basis, as well as state of parks reports every five years, as a prelude to revising the park management plan.

Conclusion

2.55 National parks represent important parts of Canada's natural heritage, providing a variety of environmental, social, and economic benefits to Canadians and Canadian communities. Various stressors affect the ecological integrity of national parks, jeopardizing the range of benefits Canadians get from these parks and the very reasons why they are valued.

2.56 Parks Canada made commitments in response to the Panel on Ecological Integrity, which concluded in 2000 that national parks were under serious pressure and that, without immediate and long-term action, the ecological integrity of parks was at risk. Parks Canada has been acting on its commitments and expects to release an update on the status of these commitments by the end of 2005.

2.57 Parks Canada's reports on the state of protected heritage areas are important vehicles for increasing awareness about the state of Canada's national parks. The reports we examined provide good descriptions of the types of activities being undertaken in national parks and the types of stressors that are putting the ecological integrity of national parks at risk. However, Parks Canada needs to improve these reports, for example, by using baselines and benchmarks more consistently to report on changes and trends in the state of parks over time.

2.58 In the 12 parks we examined, significant issues in ecological integrity are being addressed through monitoring and restoration activities, but gaps exist. Improvements are needed in how these activities are planned and managed. For example, park management plans in six of the twelve parks need to be updated; annual reporting on the implementation of these plans needs to be more regular; and the identification of restoration gaps needs to be more systematic. Opportunities also exist to better use monitoring and restoration as a means of enhancing public education and visitor experience.

2.59 Parks Canada is implementing measures aimed at improving monitoring and restoration. If these measures are implemented as expected, Parks Canada will improve its ability to monitor and manage ecological integrity and address areas for improvement we have identified with respect to managing monitoring and restoration projects. It is important that the measures Parks Canada is implementing be successful and consistently applied across individual parks. Good monitoring, restoration, and public education programs are essential for Parks Canada to meet its mandate of maintaining or restoring ecological integrity and fostering public awareness and enjoyment of national parks. Without them, national parks are at risk of losing species and biodiversity, and Parks Canada will be limited in its ability to restore ecosystems and protect the natural heritage of national parks.

About the Audit

Objectives

Our audit had the following objectives:

- Determine the extent to which Parks Canada can demonstrate progress on selected commitments in Part 1 of *First Priority*.
- Determine the extent to which the reporting on monitoring, research, active management, and restoration in the reports on the state of protected heritage areas and the state of the parks is fair.
- Determine if monitoring and research on ecological integrity address significant issues about ecological integrity that parks face; whether selected monitoring and research activities are being managed to achieve results; and whether activities and results related to monitoring and research activities are being used for maintaining or restoring ecological integrity, as well as enhancing public education and visitor experiences.
- Determine if active management and restoration activities reflect significant issues about ecological integrity that parks face; whether selected active management and restoration projects are being managed according to generally accepted active management and restoration practices; and whether these projects and related results are being used for maintaining or restoring ecological integrity, as well as enhancing public education and visitor experiences.

Scope and approach

Our examination of progress made on selected commitments contained in *First Priority*, and of the state of protected heritage areas reporting was at the level of Parks Canada as a whole. We examined monitoring, research, active management, and restoration activities by focussing on 12 parks (Gros Morne National Park, Prince Edward Island National Park, Forillon National Park, Point Pelee National Park, Pukaskwa National Park, Riding Mountain National Park, Grasslands National Park, Waterton Lakes National Park, Jasper National Park, Pacific Rim National Park Reserve, Kluane National Park Reserve, and Quttinirpaaq National Park).

In carrying out our audit, we interviewed park officials and other selected stakeholders and reviewed park files, reports, and other documentation. We also undertook field visits in six of the parks we examined. We examined selected monitoring and restoration projects at the park level to determine how they were being managed. These projects were selected to reflect a variety of topics related to biodiversity, ecosystem functions, and stressors.

Criteria

Our audit criteria, by audit objective, are presented below.

To determine the extent to which Parks Canada can demonstrate progress on selected commitments in Part 1 of *First Priority*, we expected that Parks Canada was acting on commitments it made and that Parks Canada had satisfactory procedures in place to monitor progress on its commitments and to report on the status of its commitments.

To determine the extent to which reporting on monitoring and research (monitoring) and active management and restoration (restoration) in the reports on the state of protected heritage areas and the report on the state of the parks is fair, we expected that the information contained in Agency reports would do the following:

- present, in context, tangible and important accomplishments against objectives and costs;
- tell a clear performance story, describing expectations and benchmarks against which comparisons are made;
- demonstrate in a reasonable fashion how the Agency's actions have made a difference; and
- present a representative yet clear picture of the full range of activities and results (both positive and negative), which would not mislead the reader.

Our criteria regarding our objectives related to monitoring and research (monitoring) and active management and restoration (restoration) were similar. In particular, to determine if monitoring and restoration actions addressed significant issues in ecological integrity that parks faced, and whether activities and results associated with these measures were being used for park management purposes, we expected to find the following:

- at the park level, there would be plans for monitoring and restoration activities;
- parks management would have reviewed monitoring and restoration plans and would have subjected them to independent review (for example, by internal management committees, steering committees, scientific advisory committees);
- planned and actual monitoring and restoration activities would be related to the ecological integrity priorities and needs within parks;
- at the park level, gaps in monitoring and restoration would have been identified and that the impacts/consequences of these gaps would be considered when developing monitoring and restoration plans; and
- monitoring and restoration were being used by park management for maintaining or restoring ecological integrity and for enhancing public education and visitor experiences.

With respect to how monitoring projects were being managed, we expected that the following conditions would be met:

- the expected results of the projects would be clearly stated;
- the monitoring activities would follow a project plan;
- the methodology and data management protocols would be documented;
- data collection would be consistent in terms of spatial and temporal scales;
- monitoring information would be analyzed and would be accessible; and
- the status and results of monitoring projects would be tracked and reported to park management.

With respect to how selected restoration activities were being managed, we expected the following:

- the expected results of restoration projects would be clearly stated;
- restoration projects would follow a project plan; and

- the status and results of restoration projects would be tracked, measured, evaluated, and reported to park management.

Some quantitative information in this chapter is based on data drawn from sources indicated in the text. We are satisfied with the reasonableness of the data, given their use in our chapter. However, the data have not been audited, unless otherwise indicated in the chapter.

Audit team

Principals: Sylvain Ricard, John Affleck
Director: Jim McKenzie

Suzanne Beaudry
Marie Duchaîne
Véronique Duguay
Véronique Dupuis
Patrick Polan
Michelle St-Jean

For information, please contact Communications at (613) 995-3708 or 1-888-761-5953 (toll-free).

Appendix List of recommendations

The following is a list of recommendations found in Chapter 2. The number in front of the recommendation indicates the paragraph where it appears in the chapter. The numbers in parentheses indicate the paragraphs where the topic is discussed.

Recommendation	Department's response
Responding to the Panel on Ecological Integrity	
2.21 In addition to the update it expects to release later this year, Parks Canada should periodically report to the public on the progress it is making on any outstanding commitments from its 2000 action plan, as contained in Part 1 of *First Priority*. For these commitments, Parks Canada should clearly indicate what it expects to achieve in terms of results, who will be responsible for contributing to these results, and what the related timelines are. **(2.18-2.20)**	Agreed. Parks Canada will release an update to the *First Priority* report in the fall of 2005, which will provide a status report on progress concerning the Parks Canada EI Action Plan, as well as the 127 recommendations of the Panel on the Ecological Integrity of Canada's National Parks. Future reports on the Parks Canada EI Action Plan will occur through the Parks Canada Agency annual report, the biennial state of protected heritage areas reports, and the Minister's Round Table, as well as periodic public interest reports (for example, *Action on the Ground—Ecological Integrity in Canada's National Parks, Parks Canada 2005*).
Reporting to Parliament on the state of protected areas	
2.25 Based on the strengths and weaknesses of prior reports, Parks Canada should improve future state of protected heritage areas reports in the following ways: • Provide more continuity between reports by using baselines and benchmarks more consistently. • Better explain its long-term reporting strategy. • Include more information on results and outcomes being achieved, especially with respect to case studies.	Agreed. Parks Canada will improve future state of protected heritage areas (SOPHA) reports using the results of this audit and a recently completed internal review. With new funding received in budgets 2003 and 2005, Parks Canada is implementing a system-wide ecological integrity monitoring and reporting program focussed on six to eight key indicators that will be monitored consistently in each national park over time. This program will be fully functional by March 2009. This will improve the ability of Parks Canada to report on a consistent basis, building on site-specific state of parks reports and the experience of previous reports. Based on a review of internal and external stakeholders' information needs and communications priorities, Parks Canada will focus on producing significantly shorter, more concise, and consistent SOPHA reports in the future with an emphasis on high-level scientifically credible indicators of the state of heritage

Recommendation	Department's response
• Provide more financial information. • Include more concrete examples of the contributions of other parties to maintaining and restoring ecological integrity. **(2.24)**	resources and results of efforts to maintain or improve those resources. Case studies will not be used to the same extent as previous SOPHA reports, and contributions of partners will be highlighted in other documents including the annual report and specialized publications, such as the recent *Action on the Ground—Ecological Integrity in Canada's National Parks* (Parks Canada, 2005). While some summary financial information may appear in the state of protected heritage areas report, the Agency will continue to report on planned and actual expenditures through the corporate plan and annual report, as required by the *Parks Canada Agency Act*.
Monitoring and restoration	
2.39 Given that new standards are in place for park management plans, Parks Canada needs to ensure that updating these plans is a priority. To ensure that potential gaps in active management and restoration are understood, individual parks should assess their active management and restoration needs, establish clear objectives and key actions based on these needs, and identify gaps. This information, along with similar information for monitoring, should be included in future park management plans. **(2.33-2.38)**	Agreed. The Parks Canada Corporate Plan 2005-06–2009-10 confirms that updating park management plans is an Agency priority and identifies March 2010 as the target to have national park management plans up-to-date and consistent with the latest management guidelines. Parks Canada is currently revising its Guide to Management Planning to reflect new legislative and policy directions. The revised guidelines will include greater emphasis on managing for results and will require that national park management plans clearly define objectives and key actions for both monitoring and restoration.
2.54 Given the importance of monitoring, restoration, and enhancing public education and visitor experience; and in order to maximize its ability to successfully implement its initiatives in a consistent and sustainable manner,Parks Canada should do the following: • Ensure that the measures it is taking to improve monitoring and	Agreed. As stated in the Parks Canada Corporate Plan 2005-06–2009-10, the Agency is committed to improving its ecological integrity monitoring and reporting, restoration, and public education programs, as well as the provision of opportunities for quality visitor experiences. With new funding received in budgets 2003 and 2005, Parks Canada is implementing a system-wide ecological integrity monitoring and reporting program focussed on six to eight key indicators that will be monitored consistently in each national park over time. This program will be fully functional by March 2009. Improved data management will be a key component of this program initiative. Parks Canada is developing

Recommendation	Department's response
restoration are completed and consistently implemented at the park level. This includes improvements to monitoring programs, and implementation of its data management system, and guidelines for monitoring and restoration. • Ensure individual parks establish clear and concrete objectives and key actions for integrating public education and visitor experience with monitoring and restoration activities. • Take necessary, corrective actions on a timely basis to ensure that the measures it is implementing are successful and consistently applied across individual parks. • Publicly report on an annual basis, both at the national and individual park level, on the measures being taken to improve monitoring and restoration and on any issues that may affect the successful implementation and sustainability of its initiatives. Reporting at the individual park level should be part of an annual park management plan implementation report. **(2.50-2.53)**	an Intranet-based information management system that will document all monitoring protocols, standards and baselines, and will archive monitoring data under agreed metadata standards. Parks Canada has also hired seven bioregional monitoring specialists to support the implementation of the monitoring and reporting program in each part of the country. This will greatly improve the ability of Parks Canada to report on a consistent basis. Parks Canada recognizes the ecological restoration of ecosystem structure and function is an ongoing challenge. The full need for restoration will only be known when EI monitoring programs are completed in 2009. The restoration need will also be a moving target as conditions change. Parks may be impacted by regional land-use changes or climate change. Guidelines for restoration activities are under development and will be finalized in 2006. The revised guidelines for management planning will include greater emphasis on managing for results, will require that national park management plans clearly define objectives and key actions for both monitoring and restoration, and will promote the integration of monitoring and restoration activities with public education and visitor experience objectives and actions. Recognizing that increased understanding through public education is fundamental to maintaining and restoring ecological integrity, Parks Canada will develop, over the next few years, learning strategies for each national park that will outline objectives for enhancing public education, including the integration of monitoring and restoration activities. As required by legislation, Parks Canada will continue to report publicly through the Parks Canada Agency Corporate Plan, the annual report, as well as the biennial state of parks reports, and the Minister's Round Table. As required by the revised guide to management planning, field unit superintendents are accountable for ensuring that park management plan implementation reports are completed on an annual basis, as well as state of parks reports every five years, as a prelude to revising the park management plan.

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