

2008

# Progress and Problems in Canada's Protected Areas: Overview of Progress, Chronic Issues and Emerging Challenges in the Early 21st Century

Dearden, Philip

---

Dearden, P. "Progress and Problems in Canada's Protected Areas: Overview of Progress, Chronic Issues and Emerging Challenges in the Early 21st Century". Paper Commissioned for Canadian Parks for Tomorrow: 40th Anniversary Conference, May 8 to 11, 2008, University of Calgary, Calgary, AB.

<http://hdl.handle.net/1880/46957>

*Downloaded from PRISM Repository, University of Calgary*

Progress and Problems in Canada's Protected Areas: Overview of Progress, Chronic Issues  
and Emerging Challenges in the Early 21<sup>st</sup> Century

Philip Dearden

Department of Geography  
University of Victoria  
Victoria V8W 3P5  
250 721 7335  
pdearden@office.geog.uvic.ca

ABSTRACT

Society establishes protected areas with the expectation that they will deliver certain values to society that would not be forthcoming without these areas. The essential indicators of progress would be whether protected areas are delivering those values in an effective and timely manner. Hence plotting the progress of protected areas is really a proxy for the achievement of certain values. This paper first explores these values and criteria for their assessment before evaluating some indicators of the protected area system in providing these values including ecological integrity, amount of area protected, visitor satisfaction, visitor learning and governance.

It is also necessary to identify the potential barriers to achieving success. Some of these barriers could be easily identified 40 years ago, others are much more recent. Key ongoing issues include the lack of a national protected area plan, the slow speed of establishment of new PAs, lack of monitoring for effectiveness, failure to establish research partnerships, and questions of accountability. Challenges that are emerging as key issues include external threats to PA integrity, challenges of ecosystem-based management, and declining visitation levels.

Tremendous progress has been made overall in the growth and management of the PA system over the last 40 years. Nonetheless, overall environmental degradation continues apace and the number of endangered species in Canada continues to grow rapidly. Parks play a main role in protecting PA values but they are being swamped by the pace and scale of degradation outside the parks. Greater attention needs to be given to the roles of parks in mitigating wider landscape level changes in the future.

INTRODUCTION

The World Conservation Union (IUCN) currently lists 16,300 species on the global endangered list. This compares with 10,533 in 1998. In Canada the pattern is repeated with 556 species currently listed, compared with 431 in 2003 and 194 in 1990. Protected areas (PAs) are one of the chief means, if not *the* chief means that society has devised to protect other species from human activities and, like the rise in number of endangered species, their growth has been prodigious. One could conclude from this that there is a direct positive relationship between the two. The more PAs we have the more endangered species we have or vice versa. But, as every graduate student knows this is akin to correlating the number of firemen with the number of fires. Reducing the number of firemen as a way to reduce fires makes as much sense as reducing the number of PAs to address increasing rates of endangerment. But how do we measure progress over the years in terms of PAs? How can we judge whether they are being successful? What is success? What are some of the chronic issues and emerging challenges that

influence success? These are the questions I was asked to reflect on in this paper.

### PROGRESS

Determining progress depends upon knowing what you want to achieve and why. I have argued elsewhere (Dearden and Rollins 2002) that PAs are a means towards an end. Ultimately we are not really interested in creating fenced off areas guarded by people in uniforms. What we are interested in is preserving certain values in society that tend to not fare well in the face of the market system and human pressures. PAs are one of the means that we have found that help preserve these values, so we, as a society have decided to protect a certain percentage of the landscape in order that these values still be enjoyed by future generations (Figure 1).

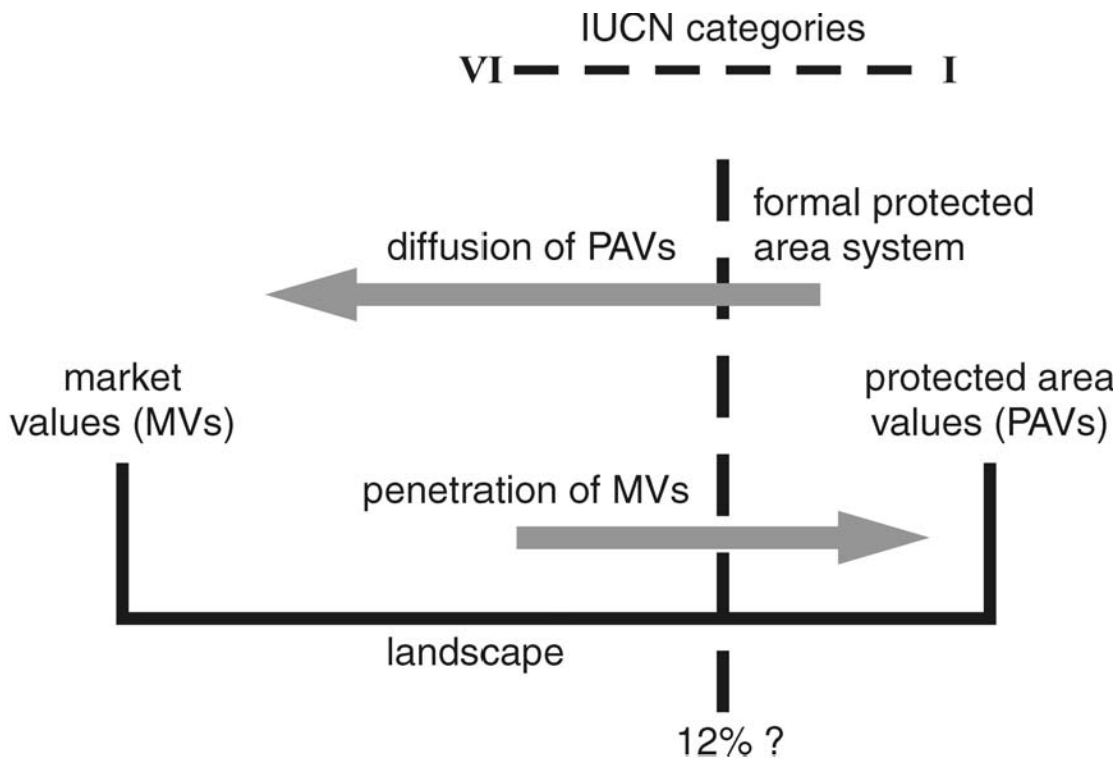


Figure 1: The landscape as a “valuescape” showing a proportion formally protected to preserve protected area values (PAVs). However there is also penetration of market values (MVs) into protected areas and a need to export protected area values into the rest of the landscape (Dearden and Rollins 2002).

There are many articulations of these values. Table 1 summarises these in a table that compares PA values with building sites in the vernacular landscape in order to emphasise that PAs protect many different types of values, just as the buildings fulfill a wide variety of uses.

<i>Value</i>	<i>Allegory</i>
aesthetic-----	art gallery
wildlife viewing-----	zoo
historical museum	
spiritual cathedral	

recreation playground  
tourism factory  
education schoolroom  
science laboratory  
the 'extra'ordinary movie house  
ecological capital bank  
ecological processes hospital  
ecological benchmarks museum

Table 1: Protected area values with suggested allegories. (Dearden 1995)

There is increasing interest in tracking park progress in protecting these values, often referred to as Management Effectiveness Evaluation (MEE). Parties to the *Convention for Biological Diversity* are required to have frameworks for monitoring MEE in place by 2010. There are many suggested systems of evaluation. Hockings et al (2006) organised these around the management cycle and Leverington et al (2008) identify 29 “Headline indicators” related to the cycle that they suggest for a comprehensive evaluation of MEE. In order to address this need, UNEP-WCMC and IUCN-WCPA have developed an online system (<http://www.unep-wcmc.org/wdpa/me>) providing information on site level evaluations, assessment methodologies and examples.

Ideally the task of assessing progress since the First *Canadian National Parks: Today and Tomorrow Conference* would be a matter of pulling the data for 1968 and 2008 and making a direct comparison. Unfortunately not only does the data for 1968 not exist but even that for 2008 is scarce overall.

However Canada has been a leader in this regard. Leverington et al (2008) in their work for IUCN claim that the earliest known published material on PA MEE is an assessment in Venezuela in 1992. However, concerns over the effectiveness of national parks had been alive for sometime before that in Canada. In particular CPAWS had pressed since 1986 for inclusion of a *State of the Parks* assessment to be enshrined in legislation and undertaken on a regular basis. This came to fruition in the 1988 amendments to the National Parks Act (NPA) when the *State of the Parks* reports were required to be tabled by the responsible Minister every 2 years. These reports were seen as an essential reporting mechanism by CPAWS that would allow the Canadian public to assess the state of the national parks and these reports and other Parks Canada documents will be used in the next section to help assess progress. Unfortunately, most of the following assessment is based upon national parks, simply because there is so little information available for other PAs in Canada.

## HAS PROGRESS BEEN MADE?

Although Leverington et al. (2008) identify 29 indicators not all these are of equal importance. As discussed above, PAs are a means to an ends, and it is better to examine the ends as higher priority rather than the means of achieving those ends. This suggests that we start with the outcome variables. The fundamental role of PAs is to protect ecological integrity and this will be the first point of discussion.

### **Has Ecological Integrity Improved?**

Although protection of park resources has been a mainstay of park legislation this was always tempered with the dedication clause for the “benefit, education and enjoyment” of Canadians (National Parks Act

1930). However an important milestone that has occurred since the earlier *Parks for Tomorrow* Conferences is that protection of ecological integrity (EI) has been formally recognised as the pre-eminent goal of the national park system in Canada. Although it was mentioned in the 1979 policy statement, it was CPAWS that pushed successfully to have EI included as a legislative requirement in the 1988 amendments to the NPA.

Perhaps the strongest test of this new emphasis would be in Banff where conservation groups felt that park EI was being sacrificed for tourist dollars. As a result, in 1994 the Minister of Canadian Heritage created the Banff-Bow Valley Task Force to advise on the management of Banff and the surrounding areas of the Bow Valley. The Task Force found that grizzly bear populations were declining rapidly and that aquatic ecosystems were compromised due to exotic introductions and dams. The Task Force predicted that current rates of growth would cause ‘serious, and irreversible, harm to Banff National Park’s ecological integrity’ (Banff-Bow Valley Study, 1996: 4).

The federal minister committed to implement the recommendations of the Task Force and in 1998 created another inquiry—the Ecological Integrity Panel—to look at similar issues in all of Canada’s national parks. Their report concurred with the Banff study and prepared 127 recommendations that delivered one central message: “Ecological integrity in Canada’s national parks is under threat from many sources and for many reasons. These threats to Canada’s sacred places present a crisis of national importance” (Parks Canada Agency 2000, 1-9). The Minister accepted the Panel’s findings and started to implement the recommendations. The proclamation of a new National Parks Act in 2000, which further strengthened the ecological mandate of the parks, was one response to the Panel’s recommendations. The Agency also received significant funding to devote to EI.

The adequacy of current legislation is one of the headline indicators for effectiveness identified by Leverington et al (2008) and certainly Canada has made significant headway, particularly in strengthening the protection of EI. Parks Canada is not alone in that regard with considerable strengthening of PA legislation also at the provincial level (Malcolm 2008). The need was great however. In 2002 Boyd undertook an analysis of PA legislation in Canada against 10 criteria and found that, at that time, only the federal legislation, Nova Scotia’s *Wilderness Areas Protection Act* and Newfoundland’s *Wilderness and Ecological Reserves Act* achieved passing grades. The worst grade was accorded to Alberta where the Act fails to protect the parks from multiple industrial and recreation activities and, with the exception of Ecological Reserves, permits the Alberta government to eliminate or reduce the size of a park without any public notice.

Progress on EI is measured in the *State of the Parks* reports for individual parks with a national summary contained in the *State of the Protected Areas Heritage* (SOPHA) Report that the Minister has to table every two years. The first report in 1990 identified outside threats as being a main challenge to park integrity, an aspect that up to that time had received little attention. By 1997 external threats had been identified as a main issue and 13 of 36 parks reported that the impact of human activities on park ecosystems was increasing relative to the 1992 report, and only one park, Vutnut, could respond that its ecosystems were in a pristine state. These reports led to the far-reaching investigations mentioned above. However the Auditor-General in an audit of EI in the national parks was critical of the State of the Protected Heritage reports subsequent to 1997 in that they were inconsistent and did not facilitate comparisons over time (Auditor General of Canada 2005).

The most recent SOPHA report was published in March 2005 with the one for 2007 still unavailable. However more recent information is contained in Parks Canada’s Performance Report (Parks Canada 2007) and the performance targets and progress reported for EI are shown in Table 2. Given that the reporting date is March 2007 additional progress will also have been made in these areas by now.

Performance expectation	Status
National park and NMCA management plans will be on schedule and consistent with management plan guidelines by March 2010.	As of March 2007, 33 of 42 national parks had approved management plans consistent with the 2000 Guidelines for Management Planning. Three national parks operate under interim management guidelines and the remaining six are engaged in the planning process.
Develop fully functioning EI monitoring and reporting systems for all national parks by March 2008.	Two national parks currently meet initial conditions for a fully functioning ecological integrity monitoring and reporting system with the expectation that 2/3 of the parks will do so by March 2008.† The remaining 1/3 of parks will have most of the elements of an ecological monitoring and reporting system in place by March 2008.
Develop selected indicators and protocols for measuring NMCA ecological sustainability use by March 2009.	Minimal progress was made in 2006/2007
Improve aspects of the state of EI in each of Canada's 42 national parks by March 2014	

† By March 2008 about 32 of 42 national parks will have functioning monitoring systems (Woodley, pers com 2008).

Table 2 Performance expectations and status related to ecological integrity (Parks Canada 2007)

Whether this is “reasonable progress” as judged by Parks Canada or not is open to interpretation and awaits development of the full monitoring system.

At the provincial level all jurisdictions have recognised the importance of protecting EI either in legislation or policy (Environment Canada 2006). However, only 4 jurisdictions have specified objectives or indicators. Systematic measures to assess and report on the state of their protected area systems only exist in Ontario.

From the foregoing it can be seen that judging whether the main mandate of parks, protecting EI has improved over the last forty years is not easy. However the following seem to be true:

- EI is now recognised as the pre-eminent legislative priority for all park jurisdictions in Canada;
- EI has received considerable investment, especially over the last decade, but only at the federal level. Management and monitoring of EI are garnering much more attention now than they did a decade ago, and certainly more than they did 40 years ago;
- EI monitoring and reporting systems have been initiated and improved considerably but are still incomplete, so no firm statement is possible on the overall state of EI in the national parks;

however

- Due to the influence of factors external to park environments, EI is probably not as high now as it was at the time of the First *Parks for Tomorrow* Conference; and
- These external factors will become increasingly difficult to manage, despite the vastly improved attention to EI in the parks; and furthermore
- If this reflects the state of our relatively well-funded national parks system, then the provincial park systems and other protected areas, with comparatively modest management capability, are likely suffering even greater impacts.
- Since the provinces administer about half of the protected area lands in Canada and significantly more in potentially higher impact areas in southern Canada (for example around 98% in both Quebec and Ontario), the need to invest more in EI monitoring and management in these areas is a main priority.

### **Is more land under protected designation now than in 1968?**

“ ... ideally we should be acquiring two to three new parks per year to complete the basic system by 1985.....the very principle of conservation demands that we have the foresight and determination to take the action needed today so that tomorrow will not be a time for regretting lost opportunities but will be a time for pride and satisfaction”  
Chretien (1969 p10)

Another important aspect of progress is the amount of area that is under protective legislation. There has been tremendous growth since 1968 (Figure 2). In 1968 at the time of the First *Canadian National Parks: Today and Tomorrow Conference* there was no system plan for any agency in Canada. In 1970 Parks Canada's System Plan was first drafted giving some rationale to the establishment of parks that they would seek to represent the physiographic nature of Canada through identification of 39 terrestrial natural regions (Figure 3). The goal was to have one or more national parks in each of these regions (Department of Indian Affairs and Northern Development 1972). Rapid growth occurred in the early 1970s but slowed in the 80s. By the time of the Parks Canada Centennial celebration in 1985 less than 50% of the target had been achieved (Dearden and Gardner 1987). A system plan was subsequently devised for marine areas in 1996 representing similar principles, with 29 areas identified.

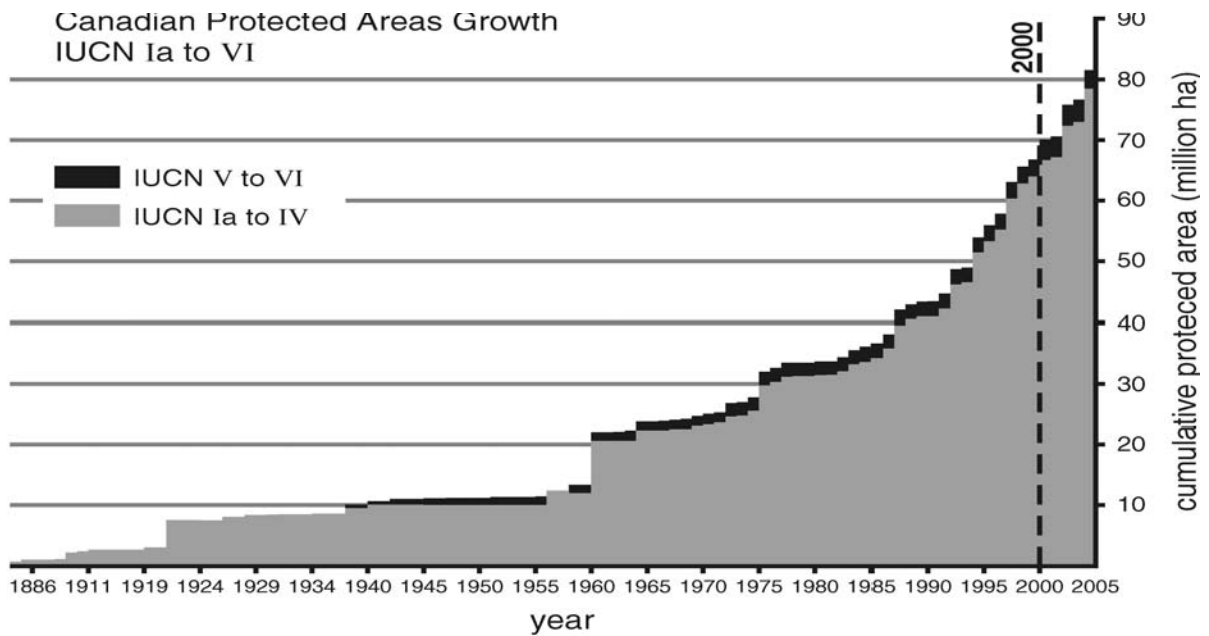


Figure 2: Growth of Protected Areas in Canada (Environment Canada 2006 )

The provinces adopted a similar approach and in 1992 Canada's federal, provincial and territorial Ministers of Environment, Parks and Wildlife signed *A Statement of Commitment to Complete Canada's Network of Protected Areas*. Terrestrial systems were to be completed by 2000 whereas marine designation was to be "accelerated". Despite impressive growth, Canada is still far from meeting these commitments. Even Parks Canada has significant gaps (Figure 3). In terms of overall protection of Canada's ecoregions, 29% are provided a high level of protection (ie over 12% of their area), 12.4% moderate protection (6 to 12%), 41.9% low protection (<6%) and 16.6% have no protected areas (Environment Canada 2006).



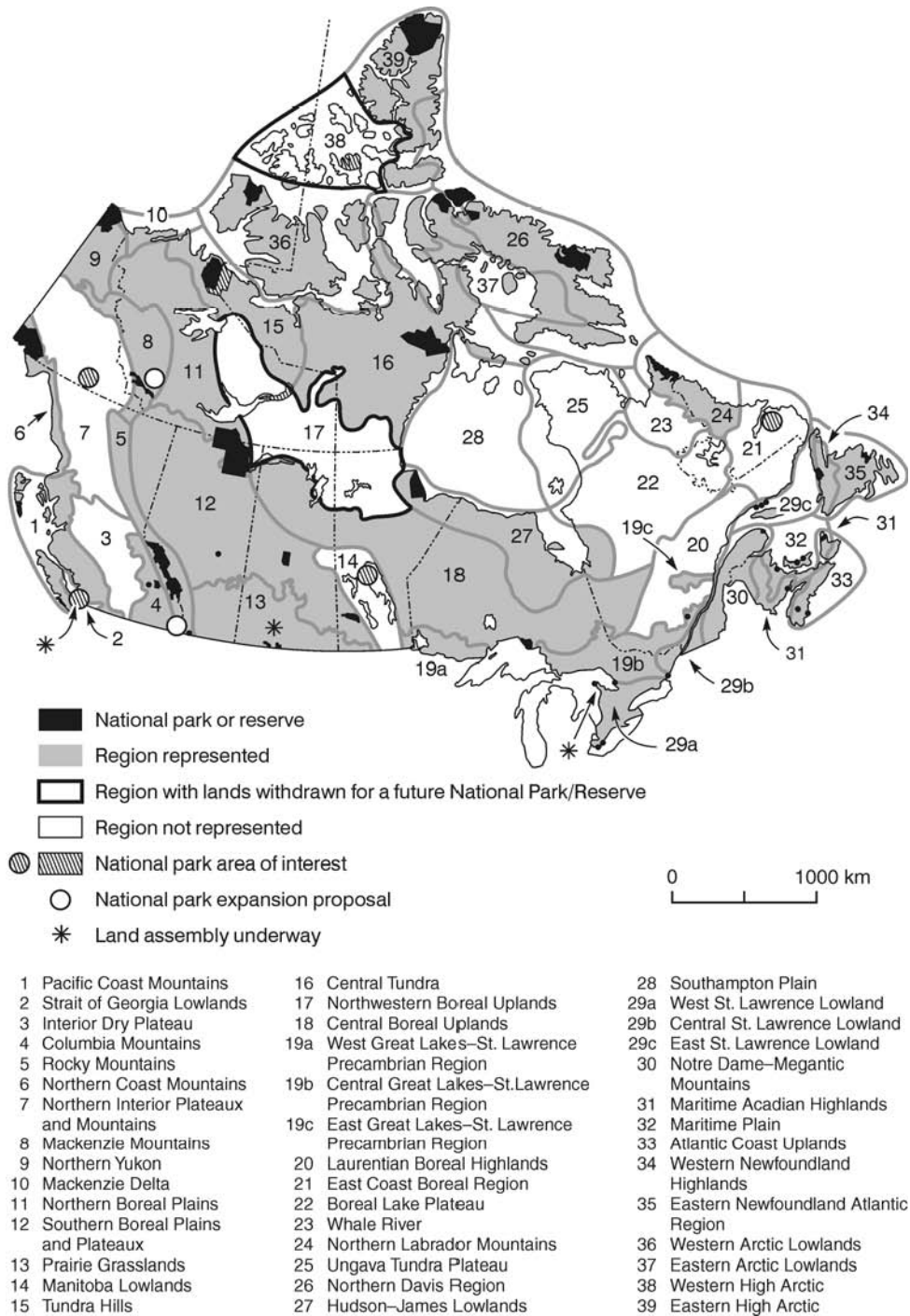


Figure 3: National parks system plan showing current state of representation

Parks Canada's performance targets for creating and expanding new parks were to increase the number of represented terrestrial regions from 25 in March 2003 to 34 by March 2008, and increase the number

of represented marine regions from two in March 2003 to eight by March 2008 (Parks Canada 2007). Neither of these was met and currently 28 terrestrial regions are represented by national parks. Progress was made on several candidate national parks but funding limitations and the complicated nature of the park establishment process resulted in a reduction of performance expectation for representation to 30 terrestrial regions represented by March 2008.

The marine target was also not met. Currently 2 of 29 marine regions are represented, but these are from existing areas and not new acquisitions protected under the NMCA Act. As a result, the goal was reduced to 4 of 29 in the 2007/2008 Corporate Plan, but as yet no areas have been designated, although progress is being made on several areas. Under 0.5% of Canada's marine area is set aside in protective designation and Canada ranks 70<sup>th</sup> globally in terms of the percentage of oceans protected (Environment Canada 2006). Projections suggest that Canada will optimistically achieve perhaps 33% of its international target goal by 2012 (Roff and Dearden 2007).

There have also been major increases at the provincial level. In 1968, Ontario had 90 regulated protected areas totalling 1.6% of the province by area. Currently, Ontario has 632 protected areas totalling over 9.4 million ha, 8.7% of the province (Davis, pers com). Nova Scotia in 2007 passed the Environmental Goals and Sustainable Prosperity Act requiring the province to protect 12% of its terrestrial area by 2015 (Government of Nova Scotia 2007). In BC the area of parkland doubled between 1977 and 2005 and now totals over 12 million ha. BC is the only jurisdiction to accomplish the 12% target set by the WCED (1987). However, no provincial government has completed the 1992 Statement of Commitment to complete a representative network of protected areas (Environment Canada 2006).

To date, about 10 % of Canada's terrestrial area has been awarded protective designation, well short of the average 14.6% protected by OECD countries (Environment Canada 2006). However, 95% of Canada's terrestrial protected areas fall within IUCN categories I-IV and hence have a strong protective mandate. Amongst OECD countries Canada ranks 16<sup>th</sup> out of 30 in terms of the proportion of land protected (the US, for example protects almost 25% compared with our 10%), yet ranks 4<sup>th</sup> in terms of proportion of land with strong protection (IUCN I-IV). Furthermore, Canada has some two-thirds of its protected area within a small number of sites that are in excess of 300,000 ha in size. Few countries have the ability to preserve such large intact landscapes.

The question of progress in terms of establishing a greater extent of protected area in Canada is clearly answered in the affirmative. The PA system has grown enormously within the last forty years. Parks Canada is inching towards completion of the system plan and many provincial jurisdictions have set aside significant areas under their jurisdiction as PAs. However, much remains to be done. Canada is signatory to the UN Convention on Biological Diversity which calls for "the establishment and maintenance by 2010 for terrestrial and by 2012 for marine areas of comprehensive, effectively managed, and ecologically representative national and regional systems of protected areas..." Canada will not be able to meet these international commitments for quite some time after the target dates. The marine system is in its infancy and getting off to a very slow and underfunded start. A significant number of the ecoregions of Canada still remain unprotected. Canada is not a world leader in term of the proportion of area set aside, yet we have some of the largest and wildest PAs on Earth. Progress has undoubtedly been made, but much remains to be done.

**Has visitor satisfaction improved?**

Visitor satisfaction is another important aspect of success for PAs. Ideally one would want to see increasing numbers of visitors having more satisfactory experiences over time to judge whether this is taking place. Unfortunately again we are data challenged, especially over the long term. For example, Al Davidson, speaking at the 1978 Conference gave national park visitation as 18million, compared with 11 million a decade earlier, suggesting major growth (Davidson 1979). Current figures (2006-7) are around 13 million<sup>1</sup> compared with 12.6 million for 2002/3 which would suggest that current visitation is relatively stable but that it has fallen significantly since 1978. These figures should be interpreted with caution, especially over the long term, as there have been many changes in the way in which visitation is measured. However the available data suggests that overall visitation to parks in Canada, as in many parts of the world, is falling.

Are visitors leaving parks more, or equally, satisfied than they were previously? Again data availability and long term and consistent monitoring is an issue but one to which Parks Canada is now paying serious attention. Every national park is now required to participate in an annual, on-site, visitor information program survey once in a five year period, and the results can be found in Parks Canada's annual report for the sites that participate that year. The *2007 Performance Report* (Parks Canada 2007) presents the performance expectation as "85% of visitors are satisfied, and 50% are very satisfied with their experience at national parks" and reports that all three of the parks that undertook surveys in that period met this expectation.

There seems to be little clear evidence available to judge whether park visitors are happier with their visits now than they were 40 years ago and more work is required on visitor monitoring. It could be argued that since there are now more people in nationally and internationally and yet park visitation apparently declining that people are voting with their feet and staying away because of lack of satisfaction. This will be discussed in more detail later in the paper.

#### **Are visitors more aware of parks and park values?**

A long time tenet of park visitation is that visitors should also learn something about protected area values, perhaps about themselves and even about the relationship between society and environment. This message was clearly recognised in both the 1968 Conference by Pimlott and in the later conference by Foley and Keith (1979). Unfortunately this wisdom was swept aside in the wave of business accountability that dominated Parks Canada and many provincial agencies in the later 1990s. What had been some of the premier interpretation programmes in the world found themselves gutted as being not "cost-effective." Although many agencies have yet to recover from this trauma the short sightedness has been recognised by agencies such as Parks Canada who have heavily reinvested in interpretation programmes and created the External Relations and Visitor Experience Directorate to provide national leadership in this area. One important question that needs to be raised, however, is, how did this happen? What were the dominant factors in allowing the dismemberment of one of the most crucial roles of our PA systems, and how do we guard against this happening again? Is this a failure in governance that may strike again? Is there a lack of accountability or were accountability mechanisms not being implemented with integrity?

<sup>1</sup> Brenda Jones, pers com.

Parks Canada now not only recognises the key role of interpretation but seeks to monitor it to assess whether progress is being achieved. One performance expectation is that 50% of visitors to national parks and national marine conservation areas participate in learning experiences (Parks Canada 2007). They conclude that they are "On Target" in this regard as across three surveyed parks, an average of 71% of visitors used at least one heritage presentation product or service during their visit. No NMCA's were surveyed. Other results are not quite so comforting. For example the SOPHA report for 2005 (Parks Canada 2005) reports that less than 10% of surveyed national parks over the last four years have met targets for visitor understanding of reasons for creation of the national park. Furthermore the national telephone survey showed a decrease between 2002 and 2005 in respondents in awareness of national parks, although 99% of respondents thought it important to protect natural areas and a significantly higher proportion had trust in Parks Canada to do this than the federal government overall (Parks Canada 2007). Clearly much remains to be done in generating awareness amongst Canadians about the role of PAs.

One area that has witnessed considerable growth has been in the development of a public advocacy constituency for parks. With this in mind Parks Canada provided funding to get the fledgling National and Provincial Parks Association of Canada (NPPAC) established in 1963. Since this early start the NPPAC (now the Canadian Parks and Wilderness Society (CPAWS)) has grown into a multi-million dollar NGO with chapters across the country that has had considerable influence on park related matters ranging from new legislation and policy through to orchestrating national campaigns to support the creation of more PAs in Canada. CPAWS are not alone in this with groups such as WWF co-ordinating the influential *Endangered Spaces* campaign (McNamee 2002).

## **Governance**

The final progress indicator to be considered differs from the previous three in that it deals not so much with the outcome variables of what we are trying to achieve by establishing PAs, but largely with the inclusivity of the process of establishing and managing PAs. One of the major areas of progress in the last 40 years has been the way in which decisions are made regarding PAs. For example, in the opinion of Parks Canada, Pacific Rim National Park Reserve already provided representation of the Pacific west coast in the system plan and there was no need to create another national park in Gwaii Hanaas. Parks Canada did not support the proposal, but thousands of Canadians did, and most importantly the people whose ancestral homeland was under debate, the Haida, and in 1988 a national park reserve was established, even though the area was not a priority for the agency.

Other areas that were agency priorities had also been moved forward through aboriginal approval following the inclusion of the “Reserve” category in the 1974 amendment to the *National Parks Act*. The reserve designation allowed native people to agree to national park establishment on their lands pending the resolution of outstanding land claims and this was a major factor in establishment of parks in northern Canada and increasingly in the south. Overall, more than 50 per cent of the land area in Canada’s national park system has been protected as a result of Aboriginal peoples’ support for conservation of their lands and 17 formal cooperative management agreements exist in addition to numerous informal agreements (Dearden and Langdon 2008).

The National Parks Act does not guarantee co-operative management for Aboriginal peoples whose traditional lands fall within national parks. However, on a policy basis, Parks Canada has been very active in developing not only a formalized consultative process, but cooperative management arrangements as well. The Gulf Islands National Park Reserve is a good example of how Parks Canada, on a policy basis, in advance of treaty settlement has developed three cooperative management arrangements with Aboriginal groups to ensure consultation and input into major park decisions which affect the Aboriginal groups in question.

Aboriginal interests became firmly embedded within Parks Canada with the establishment of the Aboriginal Affairs Secretariat in 1999; but it is not the only example of changes in the agency over the last 40 years regarding inclusivity. Until the 1970s it was government policy to expropriate and remove local communities from proposed national park lands. This is no longer considered acceptable, following strong resistance to the practice, and land is now acquired through a “willing seller, willing buyer” agreement. There are also many other aspects that are related to governance issues in Canada’s PAs, particularly the national parks that have opened up governance systems to a wider range of input over the years.

## ISSUES

There are many ongoing issues that affect our ability to achieve progress in the PA field and many will be discussed during the course of this Conference and have been at similar conferences, such as SAMPAA, over the years. The following is a small sample of these issues.

### **National System Plan of Protected Areas.**

There is no national strategy for PAs in Canada and this issue arose in both previous conferences (Chretien 1969, Burton 1979). This leads to a lack of efficiency in application of PA resources and confusion as to roles amongst agencies. Nowhere is this more visible than current efforts to form a network of MPAs in Canada. A major stumbling block is the lack of co-ordination and co-operation

amongst the agencies charged with developing this network.

### **Speed of Establishment.**

At the 1968 conference the Minister, Jean Chretien, identified 1985 as the date of system completion for the national park system. However by 1985 the system was still less than half complete. Since that time many deadlines and agreements have passed and the system is still not complete at the national level and woefully incomplete in most provincial jurisdictions, and as pointed out more than 20 years ago, the longer it takes, the more complicated it gets (Dearden and Garder 1987).

### **Monitoring**

Systematic monitoring of PAs is vital to assess whether objectives are being met. Although performance expectations have now been articulated by Parks Canada there is still much to do in this field, especially at the provincial level. It is hoped that the development of CARTS (Conservation Areas Reporting and Tracking System (<http://www.ccea.org/carts.html>)) as a national data source will facilitate ongoing and systematic monitoring programmes that are publically accessible.

### **Research Partnerships**

Protected areas have a major role to play in providing outdoor laboratories and promoting science and this was a strong focus at the 1968 conference. However, park agencies in Canada have not developed successful partnerships with research institutions in any ongoing and systematic way such as those developed in other countries. The result is a series of *ad hoc* relationships with no apparent focus or attempt to work together on a common agenda. Research is a legitimate use of parks in its own right, but it is also essential in providing greater understanding of park management problems.

### **Accountability**

Canada was amongst the first countries in the world to legislate accountability measures such as the *State of the Parks* reports and there is now a bewildering array of reports just from Parks Canada dealing with performance monitoring. One other accountability measure that was crucial for NGO support of the *Parks Canada Agency Act* was the introduction of the Minister's Round Table.

Section 8.1 states:

*(1) The Minister shall at least once every two years convene a round table of persons interested in matters for which the Agency is responsible for advising the Minister on the performance by the Agency of its responsibilities under section 6.*

*(2) The Minister shall respond within 180 days to any written recommendations submitted during a round table convened under subsection (1).*

The success of the Round Table as an accountability mechanism has varied. The first Table and report had little of substance. However the 2003 and 2005 Tables both provided a large group of stakeholders' opportunity to discuss and evaluate Parks Canada's progress and led to changes that otherwise might not have occurred. There was strong support, for example, in the Round Tables, for devoting increased attention to visitor satisfaction ([http://www.pc.gc.ca/agen/trm-mrt/2005/index\\_e.asp](http://www.pc.gc.ca/agen/trm-mrt/2005/index_e.asp)). The 2007 Round Table was held in 2008 and engaged a much smaller group of stakeholders who had little advance warning and the outputs, at the time of writing, have yet to be made publicly available. It is to be hoped that this somewhat hastily called meeting does not signal the erosion of what was intended to be a

major element of accountability reporting. Indeed the role of the Round Table might potentially be expanded. For example, currently Parks Canada assesses whether progress for various indicators is satisfactory or not and whether to change performance expectations. Greater accountability and trust might be engendered by an independent body, such as the Round Table, having a say in these matters.

## EMERGING CHALLENGES

### External Threats

In the 68 and 78 conferences much attention was focused on the threats caused to parks by visitors and the facilities created for visitors. This is still an area of concern in some parks, especially those with large tourism infrastructure, such as ski hills. However by the 1980s it was becoming clear that additional threats originated outside the parks. This raises a whole different set of management challenges as to deal with these threats parks personnel have to become involved in areas where they have no jurisdiction outside the parks, and in some cases, thousands of miles away from the parks. This has given rise to the necessity for ecosystem-based management and elsewhere I have argued that one of the most effective and least used ways to address these challenges is for parks to see themselves as sources of inspiration and knowledge that helps change attitudes towards the environment outside the parks (Dearden 2004). Peart et al (2007), for example, provide some concrete strategies of how park messaging can assist in dealing with global climate change.

Nonetheless, the scale of change that is now happening means that mitigation will not prevent change and adaptation is a key necessity. The rise in “active management” in the parks is certainly something that is going to be increasingly necessary and Woodley (2008) provides several examples from Canadian national parks.

Work is only just beginning on the implications of climate change for protected areas. Canada will be one of the most affected countries in the world. Scientists predict that each 1 °C rise in temperature will cause biomes to migrate northwards some 300 kms. Given the predicted minimum increase of 2-5 °C in 70-100 years this will translate to 600m-1500m in elevation and 300km-750km in distance. Species must either be able to migrate fast enough to keep up with these changes, evolve to deal with them, or go extinct. Certain biomes, such as arctic-alpine and the boreal forest will be very vulnerable to these changes.

For PAs, climate change has very serious implications. On the one hand, PAs will have a huge role to play in terms of the *hospital role* (Table 1) in helping sequester carbon from the atmosphere. On the other hand, the *bank role*, providing refuge for natural populations, will be very vulnerable to the changes described above. PA networks must be made as resilient as possible against these changes. One of the main mechanisms for doing this is through large scale bioregional planning that emphasizes connectivity, especially north-south connectivity amongst PAs. New PAs will be required that help facilitate migration, provide source populations and provide suitable habitat for incoming populations. Private lands will also be important. Whitelaw and Eagles (2007) provide an example from Ontario that illustrates planning on private lands for the kind of long and wide conservation corridors that will be required in the future.

A survey of PA jurisdictions in Canada found that 80% had not completed a comprehensive assessment of the potential impacts and implications of climate change on policy and management and have no adaptation strategy or action plan. Furthermore 86% felt that they did not have the capacity necessary to

deal with climate change issues (Lemieux et al 2007). Hannah (2003) suggests that one of the most important steps to deal with global change in PAs is to improve existing management as soon as possible before climate change raises new challenges. Unfortunately, in almost all provincial jurisdictions in Canada, politicians have been driving things the other way by consistently cutting the funding available to park agencies. This need once again emphasises the importance in building productive research partnerships.

### **Parks are not *the* Solution**

From the above and a wide variety of papers elsewhere it should be apparent that parks, by themselves, will never be large or numerous enough to be “the” solution to the current scale of environmental degradation. Work needs to continue on expanding the whole range of stewardship initiatives on the landscape. This idea is not new. For example two papers were presented at the 1968 conference on the role of nature conservancies in acquiring land for conservation (Buchinger 1969; Lewis 1969). However the role that non-traditional means of protection now plays is much larger than it was then and needs to be much larger again if we are to achieve conservation of those protected area values outlined in Table 1 throughout the landscape.

However there are some dangers to thinking effective protection can be achieved just through stewardship activities. The recent trend at the global level has been for increasing numbers of PAs to be designated as IUCN Category V and VI areas where “sustainable” extraction is encouraged, or even areas where biodiversity values are not paramount. The need to expand different forms of landscape stewardship does not lessen the need to establish large wild areas as have traditionally been protected in national and provincial parks (Locke and Dearden 2005).

### **Visitation**

“The innate need for escape from cities to more natural environments is nowhere better illustrated than in the rush of people to leave our cities whenever they are released from the compulsion of earning a living for a few days” (Pimlott 1969 p262).

The headline of “visitation” in this paper 30 years ago would certainly have referred to the challenges brought by increased numbers (eg see Marsh 1969, Leeson 1978) although Marsh (1979) does suggest that the rate of growth was declining even in those days. However visitation to national parks has declined and even if changes in the way in which visitation is counted, implemented in 2000, are taken into account and the mountain parks excluded, visitation still shows a decline. Visitation to Banff was 3.2 million in 2006, for example, down from the 4.7 million of 2002. These trends are also seen in many provincial parks and also internationally. Three main factors seem to be at work:

The baby boomers that were active in parks throughout their lives are getting older and not as capable of strenuous exercise. Even those who still engage in outdoor activities on a regular basis now prefer a gourmet dinner and a soft bed afterwards rather than sleeping in the pup tent they did when younger. Surveys conducted for Parks Canada show that 63% of Canadians surveyed over the age of 65 said they used to visit parks but no longer do so.

The other main age group missing in the surveys was the 18-24 category, historically one of the main users of parks. Similar results have been found in the US. This drop in visitation by younger people is being, at least in part, attributed to the so-called Nature Deficit Disorder (Louv 2005). Young people in this generation have grown up in a more urbanised world, cut-off from every day ties to the natural environment and with a strong predilection for electronic gadgetry. They understand and feel more comfortable with their electronic world than the

challenges posed by the outdoor world. This trend, apparent in many countries throughout the world, affects not only park visitation but also the entire gamut of society's interaction with the environment. What happens when the nature-deficit generation of today become the decision-makers of tomorrow?

Surveys have also found that minorities and new immigrants are unlikely to be park visitors and supporters. Immigrants born outside of Canada make up 20% of the population but only 10% of visitors to national parks. Many immigrants are likely to be from large cities, rather than poor rural farmers. They are used to an urban lifestyle, need to establish themselves in their new country and may not have the necessary free time or money to get out to the parks. Many are also unaware of the vastness of Canada and what there is to see in the parks.

Will this trend of declining visitation continue? Some researchers working on the impacts of climate change on parks suggest that some parks, such as Banff may experience increases in visitation as a result of warming. However, if visitation continues to decline should this trend generate concern, and if so, what could be done about it? On the one hand some have suggested that the parks should be marketed to provide more commercialized activities and businesses and more motorized recreation. Others, however, caution that park policies can't be driven simply by changing public tastes otherwise they will become slaves to recreational fashion with cell phone towers, touch screen computers and jet skis replacing the nature the parks were created to protect. An emerging challenge of the future will be to develop *appropriate* marketing for parks to assist in encouraging increasing numbers of visitors to the parks, and, when they are there, to ensure that they have enjoyable experiences that help build the parks constituency in society.

Parks Canada is already showing some leadership in addressing this problem. One programme has been to target schools. The *Parks Canada In Schools* program connects with teachers of history/social studies, geography and natural science programs in grades 4-12 in all provinces and territories. The Teacher's Corner on the Parks Canada website provides bilingual, curriculum-based learning resources for teachers across the country. The site experienced a growth from 378,079 in 2005/2006 to 834,369 visits in 2006/2007.

## OUTCOMES

I was also asked to identify possible outcomes from the Conference. Indeed some conferences have stimulated action. I would put the Canadian Assembly Project in Banff in 1985, celebrating 100 years of heritage conservation in Canada, for example, as instrumental in persuading the Minister, the Hon. Tom McMillan, of the value of preserving Haida Gwaii.

If I had one wish for the outcome of this conference it would be that there was a similar catalytic action for establishing marine protected areas in Canada. We have been trying for around 50 years. We have 2 regions now represented in Parks Canada's marine system plan, a far cry from the 8 that were targeted for March 2008 and the 29 that should be established by 2012. Greater political will and funding are required, but it also does not help that the agencies in Canada entrusted with delivering on the system, place MPA establishment as a low priority. Perhaps a rethink is required and instead of having three federal agencies who all place low priority on MPAs in charge we need one joint federal-provincial agency, perhaps led by the provinces, for whom MPA establishment is the top priority.

## CONCLUSIONS



Tremendous progress has been made in the protected area field in Canada since the initial Conferences. The amount of area under protection has more than tripled, PA legislation and policy has advanced considerably, monitoring programmes are being established to assess park management success, park advocacy groups have grown tremendously and public awareness of the need for environmental protection appears to be at unprecedented levels. Ostensibly any park advocate should feel optimistic about the future. Unfortunately the indicators that we have do not seem to support such a feeling of optimism. They show increasing numbers of endangered species, increasing numbers of alien invasive species, declining populations of many native species, increased and widespread pollution levels in some of our most remote areas and an overall crumbling of the fabric of biodiversity as we have come to know it. However many of these challenges are global in nature and will require global solutions. Protected areas in Canada can have a main role to play in these solutions. Few individuals on Earth have as much personal impact on the environment as Canadians with our extravagant use of resources. Protected areas have a key role to play in reconnecting Canadians with nature to engender that sense of personal responsibility that will translate into more responsible activities. Our parks are also vast and have a global role to play in protection of environmental services such as carbon sequestration. Parks may not be *the* solution, but they are certainly a main building block of such attempts.

#### ACKNOWLEDGEMENTS

Rob Davis, Ontario Parks, Ontario Ministry of Natural Resources; Bryan Dyck, BC Provincial Parks; Francis Rennie, Parks Canada Agency; Brenda Jones, Parks Canada Agency; Stephen Woodley, Parks Canada Agency; Jen Hewlett, University of Victoria; Ole Heggen, University of Victoria.

#### REFERENCES

- Auditor General of Canada. 1996. "Banff-Bow Valley: At the Crossroads." *Summary Report of the Banff-Bow Valley Task Force*. Ottawa.
- Auditor General of Canada. 2005. "Ecological Integrity in Canada's National Parks." *Report of the Commissioner of the Environment and Sustainable Development*. Ottawa.
- Boyd, D.R. 2002. *Wild by Law: A Report Card on Laws Governing Canada's Parks and Protected Areas, and Blueprint for Making the Laws more Effective*. POLIS Project on Ecological Governance. Victoria: University of Victoria, Faculty of Law and School of Environmental Studies.
- Buchinger, M. 1969. "The Nature conservancy in various parts of the world: accomplishments and difficulties." In J.G. Nelson and R.C. Scace (Eds.), *The Canadian National Parks: Today and Tomorrow* (pp. 534-546). Calgary: The University of Calgary.
- Burton, T.L. 1979. "The promise and problems of greater coordination in parks development and management." In J.G. Nelson, R.D. Needham, S.H. Nelson and R.C. Scace (Eds.), *The Canadian National Parks: Today and Tomorrow Conference II: Ten years later* (pp. 313-328). Waterloo: University of Waterloo.
- Canada. 1988. "An Act to amend the National Parks Act - Bill C-30." Ottawa: Minister of Supply and Services Canada.

- Chretien, J. 1969. "Our Evolving National Parks System." In J.G. Nelson and R.C. Scace (Eds.), *The Canadian National Parks: Today and Tomorrow* (pp. 7-14). Calgary: University of Calgary.
- Davidson, A.J. 1969. "Canada's national parks, past and future." In J.G. Nelson and R.C. Scace (Eds.), *The Canadian National Parks: Today and Tomorrow* (pp. 23-28). Calgary: The University of Calgary.
- Dearden, P. 1995. Park literacy and conservation. *Conservation Biology*. 9: 1-3.
- Dearden, P. 2004. "Exporting Protected Area Values as an Integral Part of Ecosystem-Based Management." Science and Management of Protected Areas Association: Wolfville, Nova Scotia. Edited by N.W.P. Munro, J.H.M. Willison, T.B. Herman, K. Beazley and P. Dearden. Presented at the proceedings of the Fifth International Conference on Science and Management of Protected Areas, Victoria, BC, May, 2003.
- Dearden, P. and Langdon, Steve. 2008. "Aboriginal peoples and national parks." In P. Dearden and R. Rollins (Eds.), *Parks and protected areas in Canada: Planning and management*. 3rd Edition. Toronto: Oxford University Press.
- Dearden, P. and Gardner, J. 1987. Systems Planning for Protected Areas in Canada: A Review of Caucus Candidate Areas and Concepts, Issues and Prospects for Further Investigation. In R.C. Scace and J.G. Nelson (Eds.), *Heritage for Tomorrow: Canadian Assembly on National Parks and Protected Areas*. Ottawa: Environment Canada –Parks. 2: 9-48.
- Dearden, P. and Rollins, R. 2002. "The times they are still a changing." In P. Dearden and R. Rollins (Ed.), *Parks and protected areas in Canada: Planning and management*. 2<sup>nd</sup> Edition. (p. 416). Toronto: Oxford University Press.
- Department of Indian Affairs and Northern Development. 1972. *National Park System Planning Manual*. Ottawa: Information Canada.
- Environment Canada. 2006. Canadian Protected Areas Status Report 2000-2005. Ottawa.
- Foley, J.P. and Keith, J.A. 1979. "Interpretation in Canadian national parks and related reserves – to what end?" In J.G. Nelson, R.D. Needham, S.H. Nelson and R.C. Scace (Eds.), *The Canadian National Parks: Today and Tomorrow Conference II: Ten years later* (pp. 179-188). Waterloo: University of Waterloo.
- Government of Nova Scotia. 2007. Bill No. 146: Environmental Goals and Sustainable Prosperity Act. Given Royal Assent April 13, 1st Session, 60th General Assembly. Nova Scotia: Ministry of Environment and Labour.
- Hannah, L. 2003. Protected areas management in a changing climate. In *Making Ecosystem-Based Management Work*. Science and Management of Protected Areas Association: Wolfville, Nova Scotia. Edited by N.W.P. Munro, T.B. Herman, K. Beazley and P. Dearden. Presented at the proceedings of the Fifth International Conference on Science and Management of Protected Areas, Victoria, BC, May, 2003. <http://www.sampaa.org/publications.htm>
- Harkin, J.B. 1957. *The History and Meaning of the National Parks of Canada*. Saskatoon, Saskatchewan: H.R. Larson Publishing Company.
- Hockings, M., Stolton, S., Dudley, N., Leverington, F. and Courrau, J. 2006. *Evaluating effectiveness: A framework for assessing the management of protected areas*. Second edition.

IUCN: Gland, Switzerland and Cambridge, UK.

IUCN. 2007. Red List of Threatened Species.

Leeson, B.F. 1979 Changing use patterns in Canada's western national parks. In J.G. Nelson, R.D. Needham, S.H. Nelson and R.C. Scace (Eds.), *The Canadian National Parks: Today and Tomorrow Conference II: Ten years later* (pp. 83-86). Waterloo: University of Waterloo.

Lemieux, C., Beechey, T. and Scott, D. 2007. A survey on protected areas and climate change (PACC) in Canada: survey update. Canadian Council on Ecological Areas. *ECO*, 16: 2-3.

Leverington, F., Hockings, M., and Lemos Costa, K. 2008. Management effectiveness evaluation in protected areas: Report for the project 'Global study into management effectiveness evaluation of protected areas', Australia: The University of Queensland, Gatton. IUCN WCPA, TNC, WWF, AUSTRALIA.

Lewis, F.A. 1969 "The Nature Conservancy of Canada." In J.G. Nelson and R.C. Scace (Eds.), *The Canadian National Parks: Today and Tomorrow* (pp. 523-533). Calgary: University of Calgary.

Locke, H. and Dearden, P. 2005. Rethinking protected area categories and the "new paradigm." *Environmental Conservation* 32:1-10.

Louv, R. 2005. *Last Child in the Woods: Saving our Children from Nature-Deficit-Disorder*. North Carolina: Algonquin books of Chapel Hill.

Malcolm, C. 2008. "The provincial scene." In P. Dearden and R. Rollins (Eds.), *Parks and protected areas in Canada: Planning and management*. 3rd Edition. Toronto: Oxford University Press.

Marsh, J.S. 1969 Maintaining the wilderness experience in Canada's national parks. In J.G. Nelson and R.C. Scace (Eds.), *The Canadian National Parks: Today and Tomorrow* (pp. 228-242). Calgary: University of Calgary.

Marsh, J.S 1979 Recreation and the wilderness experience in Canada's national parks 1968-1978. In J.G. Nelson, R.D. Needham, S.H. Nelson and R.C. Scace (Eds.), *The Canadian National Parks: Today and Tomorrow Conference II: Ten years later* (pp. 151-178). Waterloo: University of Waterloo.

McNamee, K. 2002. "Protected areas in Canada: the Endangered Spaces campaign." In P. Dearden and R. Rollins (Ed.), *Parks and protected areas in Canada: Planning and management*. 2<sup>nd</sup> Edition (pp. 51-68). Toronto: Oxford University Press.

Nabham, G.P. and Trimble, S. 1994. *The Geography of Children: Why Children Need Wild Places*. Boston: Beacon Press.

Parks Canada Agency Act. 1998. Chapter 31.

Parks Canada Agency. 2000. "Unimpaired for Future Generations? Protecting Ecological Integrity with Canada's National Parks, Vol. 2: Setting a New Direction for Canada's National Parks." Report of the Panel on the Ecological Integrity of Canada's National Parks. Ottawa.

Parks Canada Agency. 2001. "Parks Canada First Priority: Progress Report on Implementation of the Recommendations of the Panel on the Ecological Integrity of Canada's National Parks." Ottawa: Minister of Public Works and Government Services Canada.

Parks Canada Agency. 2005. "State of Protected Heritage Areas".

- Parks Canada Agency. 2007. Performance report for the Period ending March 31<sup>st</sup>, 2007. Ottawa.
- Pearl, B., Patton, S. and Riccius, E. 2007. Climate Change, Biodiversity and the Benefit of Healthy Ecosystems. Vancouver: CPAWS-BC.
- Pimlott, D.H. 1969. "Education and national parks." In J.G. Nelson and R.C. Scace (Eds.), *The Canadian National Parks: Today and Tomorrow* (pp. 262-282). Calgary: University of Calgary.
- Roff, J. and Dearden, P. 2007. "Establishing a Network of MPAs by 2012: the Way Forward." Vith International Conference of Science and Management of Protected Areas (SAMPAA). *Ecosystem-Based Management: Beyond Boundaries*. Workshop Report. Wolfville, Nova Scotia. 42. (available at: [www.omrn.ca](http://www.omrn.ca)).
- Whitelaw, G. S. and Eagles, P.E.J. 2007. Planning for long, wide conservation corridors on private lands in the Oak Ridges Moraine, Ontario, Canada. *Conservation Biology*. 21: 675-683.
- Woodley, S. 2008. Planning and managing for ecological integrity in Canada's National Parks. In P. Dearden and R. Rollins (Eds.), *Parks and protected areas in Canada: Planning and management*. 3rd Edition. Toronto: Oxford University Press.
- World Commission on Environment and Development. 1987. *Our Common Future*. Toronto: Oxford University Press.