

PROTECTED AREAS: CONTEXT FOR PLANNING AND MANAGEMENT – PARKS CANADA PERSPECTIVE

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ABSTRACT

Parks Canada is currently updating its long-term ecological integrity monitoring program. Through this process Parks Canada has identified “bioregions” containing national parks clusters around the country. In Ontario, the “Great Lakes Bioregion” contains all the national parks within the province. The Great Lakes Bioregion is working to update its entire monitoring program including the selection of ecological integrity indicators, monitoring measures, protocols, sampling designs, and so on. From this effort a series of potential partnership opportunities between Parks Canada and Ontario Parks are suggested.

INTRODUCTION

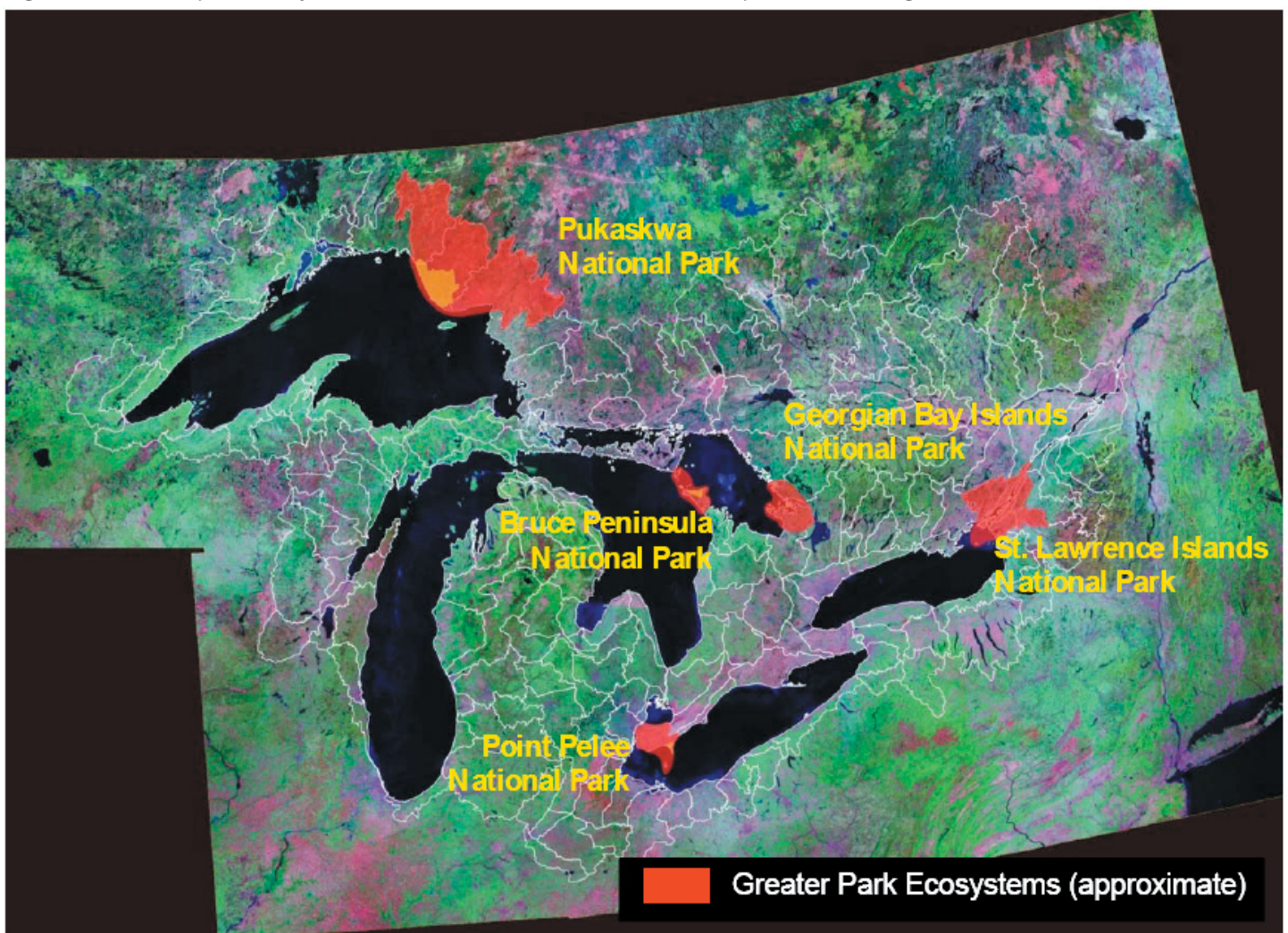
Following the Minister’s *First Priority* report (Parks Canada, 2001), ecological integrity (EI) monitoring has received an elevated priority within the national parks system. EI monitoring now plays a stronger role in park management planning and reporting through the new requirement for every national park to produce a state of the park report every five years (Government of Canada, 2000). In addition to this new legislative requirement, Parks Canada recognizes the enhanced role monitoring must play to be successful in a range of program areas including species at risk, environmental assessment, active management and restoration.

In Ontario, Parks Canada has a relatively high level of investment in EI monitoring. There are five national parks in Ontario each initiating development of a formal EI monitoring program since the mid to late 90’s (i.e., Zorn and Upton, 1997). The scale of EI monitoring at a national park focuses on “*greater park ecosystems*” (Figure 1) that represent an area surrounding a park that encompasses the majority of stresses and processes that influence the EI of that park. These existing monitoring programs need to be reviewed in light of new legislative requirements and program areas developed within the Canadian national parks system. Parks Canada’s limited monitoring resources need to be targeted to support an effective, affordable EI monitoring program that meets many park management needs. To this end, this Ontario Parks – Parks Canada Monitoring Workshop is very timely. Ontario Parks is a major protected areas partner for national parks in Ontario and efforts to work collaboratively on monitoring will need to be successful if Parks Canada will meet its monitoring obligations within the *First Priority* report.

PARKS CANADA'S EVOLVING MONITORING PROGRAM FOR ECOLOGICAL INTEGRITY

Since the release of the *First Priority* report Parks Canada's EI monitoring program has undergone some significant changes. The first of these changes was the creation of a new national monitoring coordinator position (Dr. Donald McLennan). In addition, Parks Canada has created bioregional groupings of national parks across the country. These bioregions are clusters of national parks that are relatively similar in terms of their ecosystems and stresses and represent the primary scale at which parks are to develop and coordinate their EI monitoring and reporting programs. The intent of bioregional coordination is that these parks, due to their similarities, will have similar monitoring needs. By addressing these needs as a bioregional team, parks will be able to achieve cost-efficiencies, develop joint monitoring protocols, participate in consistent training programs, improve shared expertise within the agency, and increase the quality of our monitoring programs. Six bioregions were created through this process, they are: Northern, Pacific Coast, Mountain Parks, Interior Plains, Great Lakes, and Atlantic/Québec. In Ontario, all national parks form the Great Lakes bioregion.

Figure 1: Greater park ecosystem boundaries around the 5 national parks occurring in Ontario.



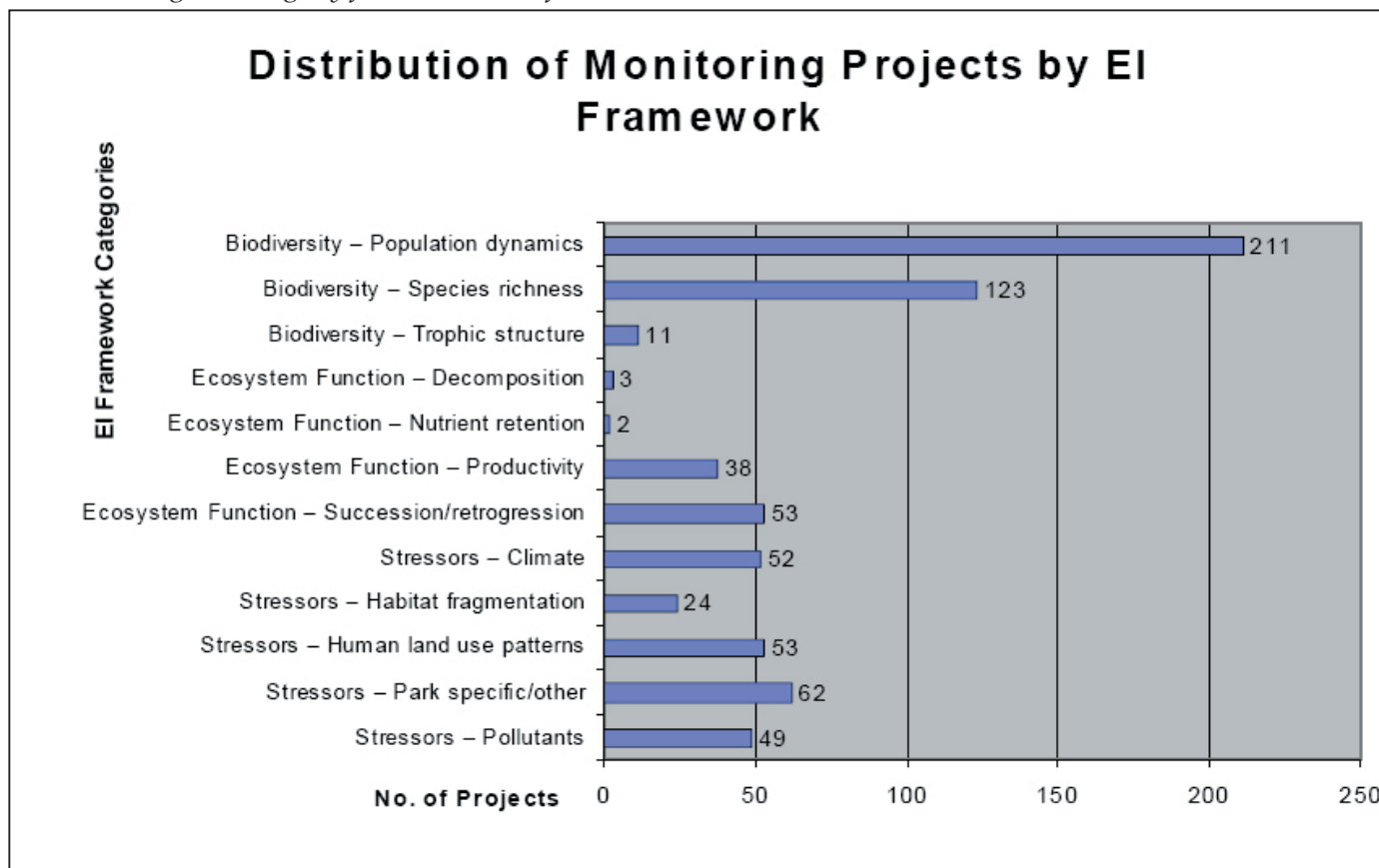
In addition to the national monitoring coordinator, each bioregion has also created new bioregional coordinator positions (Great Lakes bioregional coordinator, Paul Zorn). The national and bioregional coordinators, with other key staff throughout the national park system, form the new *National Ecological Integrity Monitoring Committee* (NEIMC) created in 2002. The NEIMC develops strategic direction of Parks Canada's evolving EI monitoring and reporting program, coordinates the program across bioregions, evaluates park monitoring working plans, and attempts to provide national standards and guidelines for park level prac-

tioners. The NEIMC also makes recommendations on the dispersement of new funds for improving monitoring programs at individual national parks.

In 2003, in Québec City, Parks Canada held a national EI monitoring conference that engaged all national parks, service centres, and the national office. This conference was hosted by NEIMC and its purpose was to: discuss the program direction received from Parks Canada’s *Executive Board* following the *First Priority* report; identify monitoring program issues, needs and gaps; and, to discuss steps forward to achieving *Executive Board’s* direction by 2008 (for more information on this direction, see Zorn and McLennan, this volume). As part of this effort, Parks Canada undertook an inventory of existing monitoring projects through the national park system to identify current levels of investment and program gaps. Figure 2 shows the breakdown of the approximately 700 monitoring programs identified and their relationship to our national EI framework. Generally speaking, existing monitoring projects under-represent ecosystem functions relative to biodiversity and stressor components.

Starting from this monitoring project inventory, Parks Canada undertook an assessment of the quality of these monitoring activities based on the following nine criteria: 1) link to management plan; 2) well defined question; 3) methods defensible; 4) methods available; 5) results linked to larger scale; 6) data availability; 7) sample power; 8) study design; and, 9) feasibility. These assessments form the basis for annual monitoring working plans, developed by every national park in the country, and documents each park’s plan to build upon these projects to create a comprehensive, useful and affordable EI monitoring and reporting program by 2008. Bioregions meet on an ongoing and regular basis to build upon these working plans in a way that maximizes effectiveness and efficiencies for parks within bioregions. Every year parks update their annual monitoring working plans to build upon bioregional progress, and these working plans provide the basis for the allocation of enhanced monitoring funding to individual national parks.

Figure 2. Breakdown of the number of monitoring projects occurring in national parks per category within Parks Canada’s ecological integrity framework (as of 2004).



TIMING FOR PROTECTED AREAS COLLABORATION ON MONITORING IN ONTARIO

The above discussion provides some context as to why this workshop on monitoring with Ontario Parks is very timely. Following the external review of Parks Canada's EI program by the *Ecological Integrity Panel* (2000) and the *First Priority* report, EI monitoring has become a system-wide priority for national parks. Parks Canada has received some increased funding and capacity to make significant advancements in monitoring by 2008 (the final year of Parks Canada's current enhanced funding through its EI Treasury Board submission) and beyond. Individual parks now receive improved support and direction from NEIMC and bioregional coordinators. In Ontario, all national parks within the province (Bruce Peninsula National Park/Fathom Five National Marine Park, Georgian Bay Islands National Park, Point Pelee National Park, Pukaskwa National Park, and St. Lawrence Islands National Park) now form the Great Lakes bioregion, and this bioregion has a dedicated coordinator. This level of national park coordination provides a more effective mechanism for Ontario Parks to communicate and collaborate with on monitoring at park, regional and provincial scales. The focus for EI monitoring investment at a national park is at the greater park ecosystem scale, which includes many provincial parks. In this regard, Ontario Parks represents Parks Canada's most significant protected areas partner. Our management goals are similar as are our monitoring needs. This workshop represents an important first step to more formal and consistent collaboration on a shared protected areas monitoring strategy for Ontario.

POTENTIAL OPPORTUNITIES FOR COLLABORATION ON PROTECTED AREAS MONITORING IN ONTARIO

Based on discussions from this workshop and additional meetings between Parks Canada and Ontario Parks staff, the following are some suggestions for areas of collaboration on monitoring.

What we monitor:

- *Shared, multi-scale ecological conceptual models.*
Collaborating on the development of conceptual ecosystem models of parks and park ecosystems will allow Parks Canada and Ontario Parks to develop a shared understanding of how we think the ecosystems represented by our protected areas function. These models can facilitate the selection of shared monitoring indicators and measures.
- *Collaboration of stress identification.*
Using the same process to identify and rank stressors that impact park ecosystems will facilitate a coordinated response to monitoring their effects on parks.
- *Shared monitoring databases on indicators, measures, protocols, data, and analyses.*
Developing a shared, accessible database that contains details on our monitoring programs will allow us to share expertise and experience on best practices for monitoring and reporting.
- *Ongoing dialogue on planning and management issues.*
Our agencies would be well served to continue our dialogue on monitoring and its link to park planning and management – specifically, as monitoring relates to park management plans. This will allow provincial and national parks to partner on other aspects of their conservation programs in addition to monitoring.

- *Some common protected area monitoring measures.*
Cooperation on the above elements will likely lead to the adoption of common monitoring measures and protocols. Increasing the level of standardization in monitoring among protected areas in Ontario will improve data quantity and coverage across the province. An increased standardized monitoring network in protected areas will provide improved data for a variety of purposes and a range of scales.

Where we monitor:

- *Integrated, hierarchical sampling designs involving park clusters.*
Opportunities exist to supplement existing sampling designs, and create new designs, for various monitoring indicators and measures in and around national and provincial parks. These designs can focus on park clusters involving a range of protected areas in different parts of the province. Sampling designs within park clusters can focus on particular ecosystem types, specific stressors and involve local and regional partners. Status and trend assessments using monitoring data among park clusters can provide larger scale information that would be useful for reporting.
- *Shared, common inventory formats and standards.*
Ontario Parks and Parks Canada should employ the same natural resource inventory standards so that monitoring data can be more easily shared. This is already occurring in some areas through partnerships on *Ecological Land Classification (ELC)* and *Southern Ontario Land Resource Information System (SOLRIS)* initiatives.
- *Shared spatial databases.*
Whether Parks Canada and Ontario Parks are able to develop joint monitoring programs or not, both agencies should endeavour to consistently share their respective monitoring databases. These shared databases will provide each agency with greater information and opportunities to integrate the findings of monitoring programs (i.e., meta-analysis) for improved decision making.

How we monitor:

- *Shared protocols.*
Monitoring protocols developed or adopted by Parks Canada or Ontario Parks should be shared among agencies and partners. This will facilitate standardization in monitoring methods used throughout Ontario.
- *Coordinated training, quality assurance, and quality control.*
Ontario Parks and Parks Canada can achieve some cost savings by coordinating monitoring activities and jointly developing training opportunities for staff (i.e., “train the trainer” models). As part of training programs to improve the quality of monitoring data and reduce measurement error, the two agencies should also consider collaborating on related quality assurance / control efforts (i.e., plot audits) to ensure data quality.
- *Co-funded contracts/partnerships for monitoring.*
Where opportunities exist, Parks Canada and Ontario Parks should consider jointly funding projects that enhance each other’s monitoring programs. This kind of joint business planning will help reduce redundancies and help leverage funds by using each other’s contribution as matching funds.

- *Co-funded "roving" monitoring technicians.*
If individual parks within a region cannot afford dedicated monitoring staff, the two agencies may want to consider co-funding "roving" monitoring technician teams. These teams can concentrate on joint monitoring measures shared among provincial and national parks. Teams can sample individual parks within a region according to a shared, strategic sampling design. By sharing resources, Parks Canada and Ontario Parks can offer longer-term monitoring positions and, therefore, attract and hold on to higher quality science staff.
- *Staggered, rotating sampling frequencies.*
Related to the above bullet, national and provincial parks within a region can participate in shared sampling designs that involve a panel design where groups of monitoring stations in and out of protected areas are sampled on a rotating, staggered sampling frequency. Such a design will provide a balance between status and trend assessments and allow the agencies to expand the number of monitoring stations sampled.

Communication on monitoring:

- *Consistent communication tools and methods.*
Monitoring information needs to be effectively communicated to managers, stakeholders, partners and the public to be useful. The two agencies should share information, ideas and methods on how to improve the communication of monitoring information. This sharing may take the form of consistent communication tools and methods.
- *Shared reporting tools on the state of park clusters.*
Park clusters, if identified, may want to consider developing "state of the park cluster" type documents that communicate the status and trends of different kinds of protected areas at a regional scale. These kinds of communication tools may be of particular relevance to upper-tier municipalities, land trusts, biosphere reserves, and so on.
- *Internet, newsletters, posters, etc.*
To build upon collaborative efforts and communicate our willingness to partner on issues like monitoring, Parks Canada and Ontario Parks may want to consider developing joint communication packages such as websites, newsletters, or posters that can be used to communicate information to a range of audiences.

CONCLUSION

The above bullets are meant as a brainstorm list of ideas that may be pursued for the improvement of both agencies' monitoring programs. Not all items in this list will be accomplished, but hopefully it will provide a starting point for future collaboration following this workshop. Future meetings between Ontario Parks and Parks Canada on monitoring may want to consult this list as a starting point for shared action.

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