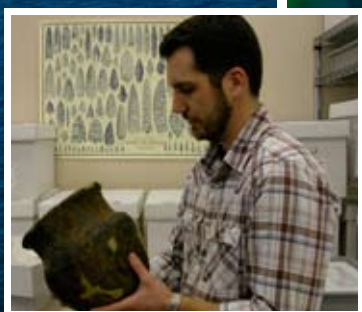
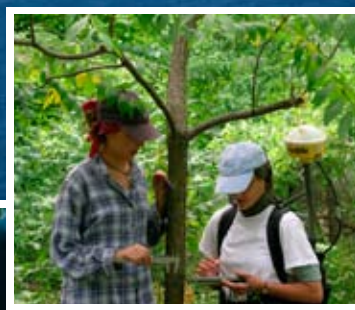
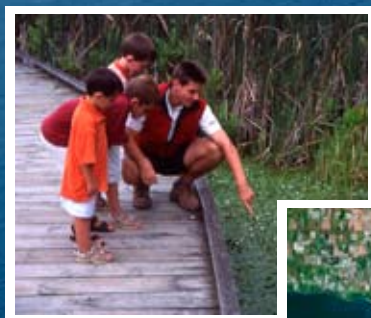




POINT PELEE

NATIONAL PARK OF CANADA

STATE OF THE PARK REPORT 2006



Parks Canada Parcs Canada

Canada 

POINT PELEE NATIONAL PARK OF CANADA

STATE OF THE PARK REPORT

2006

Cover Page Images

A place to connect:

Education programs introduce park visitors to the fragile ecology and storied history of Point Pelee National Park.

A careful watch:

Point Pelee National Park has a research and monitoring program that tracks the ecological integrity of the park.

A stressed ecosystem:

Point Pelee's Greater Park Ecosystem encompasses one of the most developed and populated areas of Canada, a significant ecological stressor for the park.

A storied past:

For 6000 years, the Point Pelee peninsula served as an encampment and hunting grounds for Aboriginal peoples. Their stories are preserved today in artifacts.

An iconic location:

Point Pelee National Park provides a host of memorable visitor experiences such as standing on the southern-most tip of Canada's mainland.

IBA

Point Pelee National Park was designated an Important Bird Area by Birdlife International in 1998.

Ramsar

The UNESCO Ramsar Convention designated Point Pelee National Park a Wetland of International Significance in 1987.

Dark Sky Preserve

The Windsor Centre of the Royal Astronomical Society of Canada designated Point Pelee National Park as a Dark Sky Preserve in 2006. The first national park to hold such a designation.

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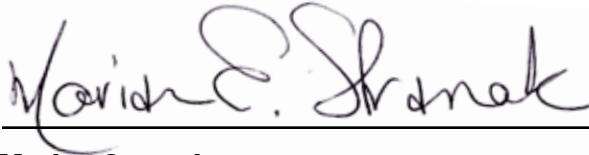
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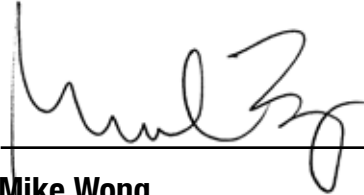
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EXECUTIVE SUMMARY

The 2006 *Point Pelee National Park of Canada State of the Park Report* provides an assessment of the ecological integrity for one of Canada's oldest and smallest national parks. The first step in the management plan review, this *State of the Park Report* is not only a comprehensive snapshot of the park's condition, but also a strategic guidepost to help plan the next stage in the park's evolution. Designed to be used with surrounding communities, park visitors, partners and stakeholders during public consultations, this report also assists Parks Canada in evaluating the challenges and opportunities Point Pelee National Park faces, and to develop management actions that will keep this national park a place of learning, wonder and recreation for generations to come.

The *Canada National Parks Act* (2000) states:

"...maintenance or restoration of ecological integrity, through the protection of natural resources and natural processes, shall be the first priority when considering all aspects of the management of parks... The national parks of Canada are hereby 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."

These clauses are embodied in the Parks Canada mandate, which is to facilitate memorable experiences in ways that ensure the ecological integrity of national parks is protected. The *State of the Park Report* evaluates the three national park management programs that deliver the mandate:

- **natural and cultural resource protection,**
- **public appreciation and understanding, and**
- **visitor experience.**

Protecting, educating and providing visitor experiences to enjoy the spectacular natural and cultural resources found in Point Pelee National Park requires ongoing research and monitoring. The state of Point Pelee's ecosystem biodiversity, functions and stressors is tracked and reported on as part of Parks Canada's system-wide ecological integrity monitoring and reporting program. For Point Pelee National Park, Parks Canada scientists and staff scrutinized four key ecosystem indicators - forest, wetland, Great Lakes shore and non-forest (*Fig. 1*). This information is used to plan and implement strategies designed to help maintain and/or restore biodiversity and impaired ecological processes while ensuring sustainable opportunities for meaningful visitor experiences.

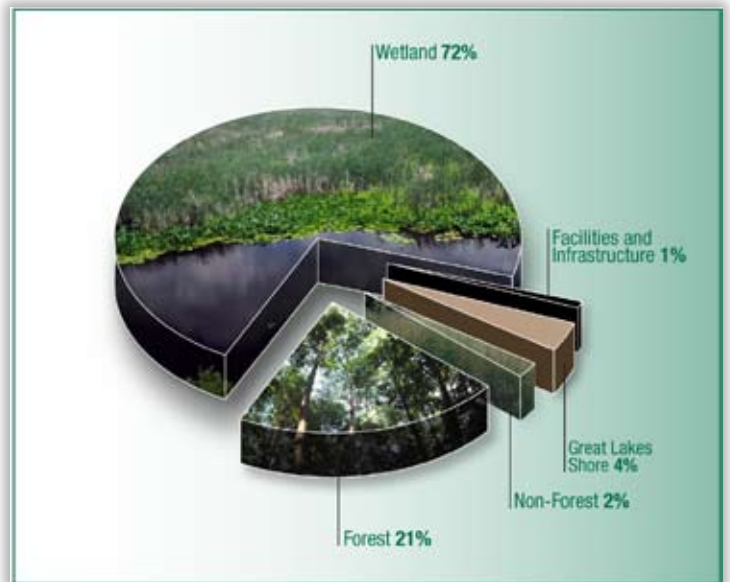


Figure 1: Ecosystem Indicator Coverage for Point Pelee National Park.

Protecting the park's storied cultural resources also requires research and monitoring. Numerous Aboriginal sites have been discovered in the park. A new interpretive exhibit and publication, designed in collaboration with the Caldwell First Nation and the Walpole Island First Nation, help tell the story of Point Pelee's aboriginal past.

The more Canadians know about Point Pelee National Park and see it as relevant and representative, the more they will care about and support the park. This is why educational and learning opportunities have been an important component of the park experience for decades. Focused on inspiring long-term support, involvement, shared leadership and fostering environmental stewardship through appealing and motivating interpretive programs, exhibits and formal education outreach, the public appreciation and understanding program is also responsible for communicating ecological integrity challenges and threats faced by the park.

Creating outstanding visitor experiences means ensuring park visitors have a safe, authentic experience that builds life-long personal connections with the park. Personal interactions with Parks Canada guides, storytellers and guardians combined with the provision of information, facilities, infrastructure, services and programs, designed

to respond to visitor needs and expectations, are key. The visitor experience program is also responsible for evaluating recreation, leisure and tourism trends, and encouraging visitation by positioning the park as a national heritage treasure and tourist destination.

Point Pelee National Park is located within the Carolinian life zone of the St. Lawrence Lowlands, the southern most natural region of Canada. The mainland portion of the park is a sandspit and marsh complex, jutting out into Lake Erie. The park also includes Middle Island located in the western basin of Lake Erie. Despite its small size, the park supports a great diversity of flora and fauna, including numerous rare species. The park's Greater Park Ecosystem (*Fig. 3*) encompasses one of the most highly populated and developed areas of the country, including a population of over 6.5 million people, an economic base composed of manufacturing, farming, and major transportation corridors, as well as the fourth largest metro area in Canada and the United States. As a result, regional ecological processes are impaired and the Greater Park Ecosystem provides no buffering habitat in which species can seek temporary refuge in response to stressors inside the park.

Due to the social, economic and environmental complexities of the Greater Park Ecosystem, Parks Canada has defined a Zone of Greatest Influence for Point Pelee National Park. This zone is strategically considered to have the most direct impact on the park's ecological integrity and as such has been and will continue to be the focus of Parks Canada efforts to work with others to harmonize community vitality, economic prosperity and ecological health within the Greater Park Ecosystem. (*Fig. 4*)

This is the first time Point Pelee National Park has reported on the condition of the park's ecological integrity. Existing research and monitoring results enabled reporting on 23 of the 40 ecological measures identified for the four ecosystem indicators. Some of the measures are repeated in 2 or more indicators (e.g. contaminants), so there are actually 30 distinct measures. Quantitative thresholds to assess park condition were identified for 11 measures. The current assessment reports on a breadth of measures in order to provide the most thorough assessment available. The social science research and assessments for visitor experience and public appreciation and understanding relied on the Parks Canada Visitor Information Program (VIP) as well as opinion polls, a regional stakeholder analysis, Parks Canada and third party leisure and tourism data, and work completed by various universities, local and regional partners, as well as the private sector. The studies quoted are considered statistically valid. As Parks Canada's social science research and monitoring program is currently evolving trends, have not been assigned for these indicators.

As ecological and social science research and monitoring progresses, ecological measures and critical success factors will be adapted and refined. For future state of the park reporting, more complete datasets will provide greater insight into ecosystem stressors as well as public appreciation and understanding, and visitor experience.

Currently, Point Pelee National Park is actively and successfully managing ecosystem issues within the park including the control of hyper-abundant white-tailed deer, the removal of some invasive non-native species and the reintroduction of the southern flying squirrel. More challenging is the management of regional stresses. The park is working with key partners, including First Nations, the Essex Region Conservation Authority, the Windsor, Essex County & Pelee Island Convention and Visitors Bureau, and the U.S. National Park Service at Cuyahoga Valley National Park in Ohio, on education, restoration, research, monitoring, and tourism initiatives to achieve positive results within the Greater Park Ecosystem.

While Parks Canada understands the relevancy of adapting its visitor experience and public appreciation and understanding programs to meet visitor needs and to better target critical audiences (especially regional stakeholders and communities) with key ecological integrity messages, ongoing investment in all phases of the product life cycle (ie: research, implementation and evaluation) is crucial. New research has identified challenges to Point Pelee National Park's tourism product. A communications plan is currently in development to help identify priorities and develop strategies for engaging stakeholders, communities and park visitors. Parks Canada will concentrate education and outreach efforts within the Zone of Greatest Influence.

Results of monitoring programs indicate the key stressors impacting park ecosystems are habitat loss, fragmentation and alteration, shoreline erosion and regional sources of pollution. Point Pelee National Park's small size and the intense land use in the Greater Park Ecosystem leave the park highly susceptible to these regional stressors. Other significant stressors include: invasive exotic species, hyper-abundant species and altered disturbance regimes (e.g. fire and erosion/deposition). Climate change is seen as an emerging stressor, which may impact ecological integrity in the future. Point Pelee National Park currently has more species at risk than any other national park in Canada. A key challenge lies in integrating the recovery and protection needs of these individual species with the maintenance and restoration needs of the Carolinian ecosystems protected within the park.

The overall state of the ecosystems protected in Point Pelee National Park, based on forest, wetland, Great Lakes shore, and non-forest indicators, has been evaluated as fair or of concern. (Table 1)

Despite substantial gains in conservation at the park scale, regional processes that have a dominant effect on the park's ecosystems continue to be impaired. The park lacks connection to other natural habitats in the Greater Park Ecosystem, which are themselves sparse and very small. A review of the achievement of goals and objectives from the 1995 *Point Pelee National Park Management Plan* indicates substantial success in reducing ecological stressors within park boundaries over the last ten years (e.g. removal of roads and infrastructure, reintroduction of southern flying squirrel and education programs to reduce visitor impacts). Continued management of internal stressors such as DDT and other contaminants, exotic plant and animal species and road mortality will be necessary to prevent species declines and extirpations. However, if the ecological integrity in the park is to be improved, action must be taken at the regional scale. Key to the success will be education and engagement of stakeholders and communities within the Greater Park Ecosystem. Continued partnerships with conservation organizations, such as the Essex Region Conservation Authority, as well as regional municipalities will be essential.

The overall state of public appreciation and understanding of Point Pelee National Park, based on visitor participation, visitor understanding, visitor satisfaction and active support indicators, has been evaluated as fair. (Table 2)

While Point Pelee National Park engages well over the current Parks Canada target of 50% of park visitors participating in education programs, park outreach programs reach only a small fraction of the critical audiences in the Greater Park Ecosystem. The current capacity to involve and influence stakeholders and communities presents significant challenges given the complexities of population density and cultural diversity in Southwestern Ontario.

The overall state of the visitor experience of Point Pelee National Park, based on visitor needs influence management, targeted opportunities, delivering high quality service and connecting visitors personally with place indicators, has been evaluated as fair. (Table 3)





Visitors to the park give Parks Canada high satisfaction ratings overall when considering services and facilities. New research indicates the park is successful at creating place attachment, especially among children. Some visitor survey data however suggests quality of services and value for entry fees require improvement. The park

as a tourism destination product has been described as "lacking" and near the end of its product life cycle. Parks Canada is currently looking at how to best re-position Point Pelee National Park with an exclusive destination brand.

The overall state of cultural resources of Point Pelee National Park, based on the protected and communicated cultural resources indicator, has been evaluated as fair. (Table 4)

A cultural resource management strategy is needed to help further develop assessment factors for protection of the park's cultural resources, and to assess effectiveness of communication of the human history of the park.

Table 1: Ecosystem Indicators

Indicator	Condition and Trend of Ecosystem	% of Park Area *	Rationale for Ranking	Condition of Ecological Datasets
Forest Ecosystem	Fair/Stable 	21	<i>Internally, effective visitor management techniques, management of white-tailed deer and reduction of the human footprint have reduced some stresses in the forest ecosystem. However, park forests are negatively affected by the poor and declining condition of the regional forest amount and connectivity. Forests are also suffering from the impacts of invasive plant and animal species as well as hyper-abundance. Although stressors on this indicator are high, the measures of biodiversity and ecosystem processes show a stable trend in recent years.</i>	Measures assessed: 8 of 13 Quantitative thresholds: 4 of 8
Wetland Ecosystem	Fair/In Decline 	72	<i>Pond water quality is fair and plant communities are in poor condition, however marsh birds, amphibians and fish are showing recent good health with stable trends. The overall declining trend in this ecosystem is influenced by the fact that wetlands are fragmented and rare at the regional landscape scale. The park marsh is only half its original size and disconnected from its natural watershed impacting ecosystem processes and biodiversity.</i>	Measures assessed: 7 of 12 Quantitative thresholds: 6 of 7
Great Lakes Shore Ecosystem	Poor/In Decline 	4	<i>The intense human footprint has transformed the shoreline of the Greater Park Ecosystem and has disrupted natural lake and shoreline processes. Lake Erie water quality is still degraded at an ecosystem scale but has improved significantly. The five-lined skink population in the park is in fair condition, probably due to habitat rehabilitation efforts within the park.</i>	Measures assessed: 4 of 7 Quantitative thresholds: 2 of 4
Non-Forest Ecosystem	Fair/In Decline 	2	<i>Eastern prickly pear cactus populations are considered to be in a moderate state of health. Removal of cottages, roads and other structures have reduced the human footprint in this ecosystem. Natural succession and alterations to or lack of natural disturbance regimes are thought to be causing the amount of red cedar savannah in the park to decline. Bird species associated with these open habitats are also showing recent decline.</i>	Measures assessed: 4 of 9 Quantitative thresholds: 1 of 4

* The remaining 1% is park facilities and infrastructure.





Overall State of Ecosystems

Fair



Discussion: Parks Canada is actively managing ecological issues within the park and has been successful with actions implemented at the park scale such as control of hyper-abundant white-tailed deer, the re-introduction of the southern flying squirrel, and removal of the human footprint and park infrastructure. Although some species-level measures have shown recent good conditions, it is the landscape level measures which are more telling of the park's ecological state. The impact of the park's small size, and the rare and fragmented state of remaining natural habitat at a regional scale is made evident by the condition of many measures and is the crucial factor in the overall fair state of park ecosystems.

Table 2: Public Appreciation and Understanding Indicators

Indicator	Rank	Rationale for Ranking
Visitor Participation	Good 	<i>The Parks Canada target is 50% of park visitors participating in a learning experience. Park staff record over 65% participation, while visitor surveys report over 90% participation.</i>
Visitor Understanding	Fair 	<i>The Parks Canada target is 75% of park visitors understand the significance of the park. Recent visitor surveys report between 71-77% understanding. The current survey is not considered in-depth enough to effectively measure this indicator.</i>
Visitor Satisfaction	Good 	<i>86% of park visitors reported being overall satisfied with educational programming, 48% reported being very satisfied. The Parks Canada target is 85% with 50% very satisfied.</i>
Active Support	Poor 	<i>Considering the population density surrounding Point Pelee National Park, the identification of regional land use as a key ecosystem stressor and the limited capacity to reach and sustain efforts with all critical audiences in the Greater Park Ecosystem, this indicator was reported as “poor”. Research to determine degrees of influence on park relevance and environmental/cultural values is not currently available.</i>





Overall State of Public Appreciation and Understanding

Fair



Discussion: *While Parks Canada visitor participation, understanding and satisfaction targets were met or exceeded at Point Pelee National Park, active support in the park’s Greater Park Ecosystem - Zone of Greatest Influence was determined to be poor based on the total population number vs. the number of people actively engaged by park outreach programming.*

Table 3: Visitor Experience Indicators

Indicator	Rank	Rationale for Ranking
Visitor Needs Influence Management	Fair 	<i>Access to timely tourism and visitor needs data and the ability to modify park programming on a constant product cycle, based on on-going research and monitoring, changing demographics and expectations, all contribute to the “fair” ranking.</i>
Targeted Opportunities	Fair 	<i>While the park has a range of targeted opportunities and visitors report being satisfied with most aspects, some opportunities detract from the overall experience or do not reflect an integrated approach to visitor experience and public education (i.e. incorporate understanding of state of the park’s ecological integrity, ecological stressors and stewardship actions).</i>
Delivering High Quality Service	Fair 	<i>Overall visitor satisfaction was reported at 59% and staff courteousness ranked high on visitor satisfaction surveys. However quality of experience, visitor services and value for fees was reported lowest.</i>
Connecting Visitors Personally With Place	Fair 	<i>While recent research shows visitation to Point Pelee National Park results in place attachment, especially for repeat and youth visitors, park visitation is in decline. The relevance of this national park to an increasingly urban, culturally-diverse population needs additional analysis to most effectively position the park.</i>


Overall State of Visitor Experience

Fair



Discussion: *The travelling public is a dynamic entity. The cycle of change of visitor needs, expectations and behaviours is rapid and requires regular monitoring and research. Visitation to Point Pelee National Park has declined over the last decade, probably due in part to external circumstances like US border crossing concerns and a tourism product that is losing market share as it approaches the end of its life cycle. Parks Canada needs further research to determine how to position the park to be more relevant to the surrounding urban and culturally-diverse populations within the Greater Park Ecosystem and the Canadian public in general.*

Table 4: Cultural Resources Indicator

Indicator	Rank	Rationale for Ranking
Protected and Communicated Cultural Resources	Fair 	<i>While archeological sites and collections are well documented and protected, a cultural resource management strategy and communication products that tell Point Pelee’s “human story” are needed.</i>

Overall State of Cultural Resources

Fair



1 | INTRODUCTION

The *State of the Park Report* is an integral part of the national park management planning process (See Fig. 2). The report uses monitoring data to evaluate and analyze the current state, including the condition and trend of indicators. The report further assesses the effectiveness of management actions aimed at preserving park ecosystems, the condition and success of public appreciation and understanding, visitor experience and cultural resource management programs as well as commenting on the availability of information and data used to make these assessments. A *Scoping Document* then takes the conclusions of the *State of the Park Report*, i.e. ecological stressors and challenges facing the park, and identifies key issues and opportunities for the next park management planning cycle.

As Parks Canada is committed to fully involving partners, stakeholders and Aboriginal peoples in the future of Canada's national parks, the *State of the Park Report* is designed to be a detailed reference document for consultations. Consultation input is reflected in the completed park management plan.

The state of ecosystems in Point Pelee National Park was assessed by evaluating four ecosystem indicators identified by the *Parks Canada Great Lakes Bioregional Monitor-*

ing Program. For Point Pelee, these are: forest, wetland, Great Lakes shore, and non-forest. For each indicator, the condition and trend was assessed by a suite of measures. These measures are an initial suite selected based on data availability. Where data availability permitted, quantitative assessment for the measure was made. Assessments of the measures were then applied to establish indicator condition and trend. Details for each measure assessed, including data quality, monitoring methods, threshold information and methods of analysis are available in the *Technical Compendium* for this *State of the Park Report*. (Parks Canada 2006a)

Support and understanding were assessed by evaluating four public appreciation and understanding indicators (visitor participation, visitor understanding, visitor satisfaction, and active support). Four visitor experience indicators (visitor needs influence management, target opportunities, service quality and connecting visitors personally with place) were used to determine satisfaction with services, facilities and the experience. One indicator (protected and communicated of cultural resources) was used to assess cultural resources. Some of these indicators and the related critical success factors are still in development and may change in future state of the park reports.

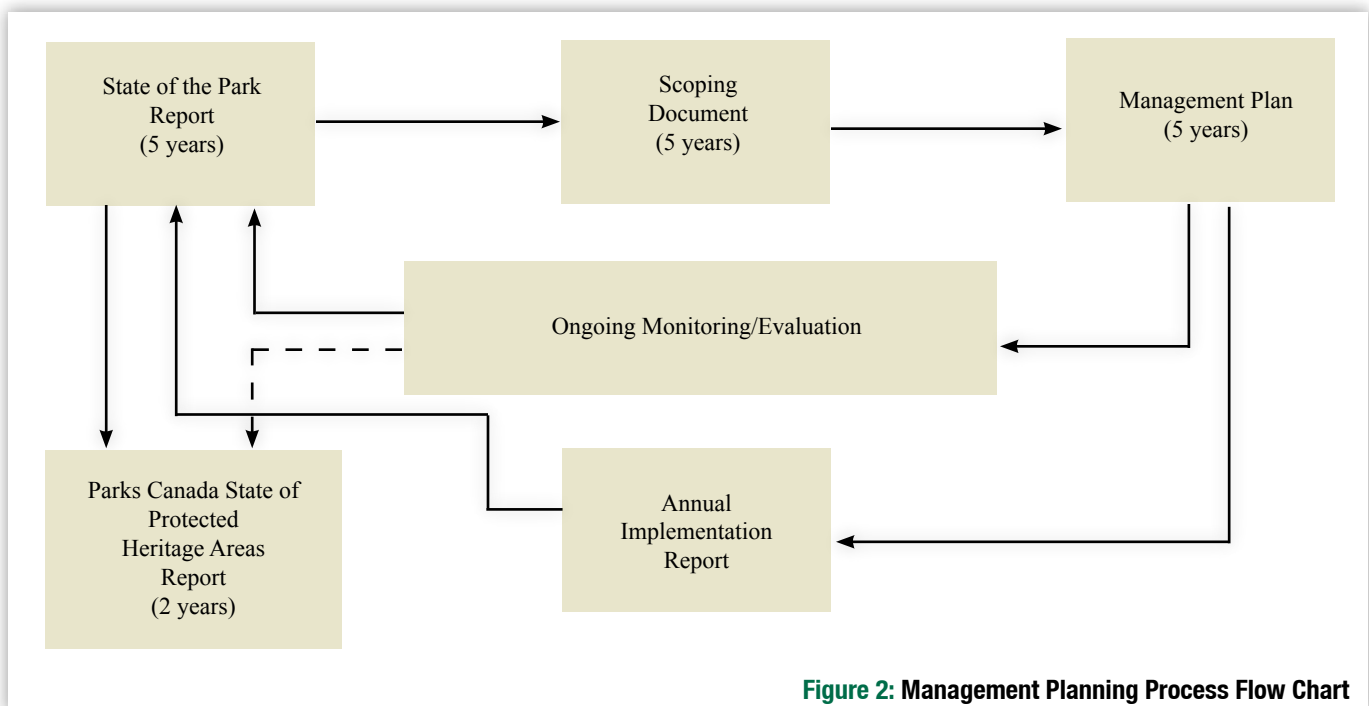


Figure 2: Management Planning Process Flow Chart

2 | ECOLOGICAL CONTEXT

Point Pelee National Park was established in 1918 to protect and present nationally and internationally significant natural resources and processes, particularly those which are representative of the St. Lawrence Lowlands natural region. A ten kilometre long sandspit and marsh complex jutting out into Lake Erie, Point Pelee National Park consists of approximately 420 ha of dry land and 1070 ha of freshwater marsh. (Parks Canada 2003a) In 2000, the 18.5 ha Middle Island, Canada's most southern property located less than 100 metres from the Canada-U.S. international boundary, was added to the park.

The Greater Park Ecosystem for the park encompasses to the North the southern shore of Lake St. Clair, the metro areas of Windsor-Detroit and Toledo to the West, a portion of Chatham-Kent county to the East, and the island archipelago and southern shore of Lake Erie's western basin to the South (Fig. 3). The park's location within the Carolinian Zone and its proximity to Lake Erie define the park's regional ecological context (Fig. 4). A complete description of the ecological context of the park is found in the report, *Conceptual Ecosystem Models for Ecological Integrity Monitoring in Point Pelee National Park*. (Carlson et al. 2006)

The park is located in the most southern biogeographic zone of the St. Lawrence Lowlands natural region, the Carolinian Zone. This zone, which in Canada is restricted to the most southerly part of Ontario, is highly productive due to the moderate climate, flat terrain and rich glacial soils. Despite comprising less than 1% of Canada's land mass, this zone is the most species-rich in Canada. Many of the native species are at the northern limits of their range. Lake Erie, which is also highly productive and diverse, has a moderating effect on climate but is also a source of disturbance for coastal ecosystems.

Much of the park's interior consists of a southern Great Lakes marsh. The park is recognized as a Wetland of International Significance by the RAMSAR Convention of UNESCO. A number of forest habitat types are also present in a range of successional stages, including cedar savannah, dryland forest, and swamp forest. This range of habitat types supports a diversity of species, including the largest number of species at risk, and the second-greatest diversity of native plants per square kilometre of all Canadian national parks. (Parks Canada 1998)

Located at the confluence of the Mississippi and Atlantic flyways, Point Pelee National Park has long been known as a migrant trap and consequently a bird-watcher's paradise. The park's landform acts as an important staging area for over 370 species of birds and a variety of insects like the monarch butterfly, before or after crossing Lake Erie. The park was declared an Important Bird Area by Birdlife International in 1998 and a Monarch Butterfly Reserve in a Canada-Mexico declaration in 1995.

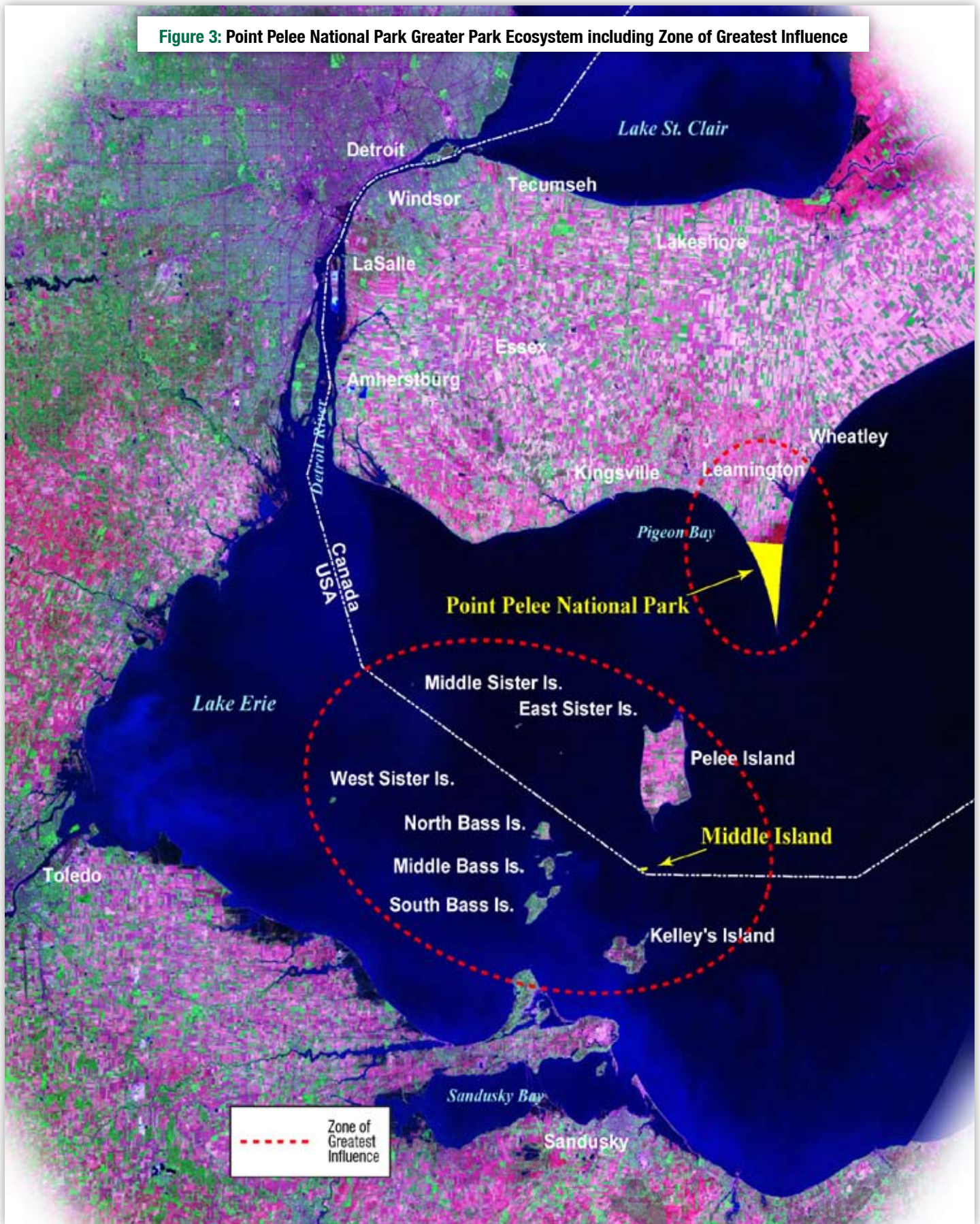
Over the last century and a half, Point Pelee's landscape and natural habitat communities have been significantly altered by human activities. The park has numerous traces of settlement activities, including logging, fishing, cultivation, grazing, sand extraction and canals. The park was also intensively developed for recreation with cottages, hotels and campgrounds.

Ecological impacts of past land and resource uses include the introduction of numerous non-native invasive plant species, the presence of feral animals, large scale clearing of the original vegetation, altered hydrological and fire regimes, the extirpation of several faunal species, and the introduction of contaminants including DDT. Cottage development in the park continued until the 1960s, at which time Parks Canada initiated a land acquisition and rehabilitation program which included the removal of buildings, roads and other facilities. Park visitation peaked in 1963 at 781,000, making the park at the time, the smallest and most heavily used of all the Canadian national parks. While the number of park visitors has decreased, visitor management techniques currently employed have, over the years, helped reduce impacts of human use. There are still some human use stressors Parks Canada continues to manage today, albeit at a much reduced scale, such as vegetation trampling, road-wildlife mortality and the collecting of plants, animals and natural objects.

Essex County, in which Point Pelee National Park is located, has less than 6% forest cover, making it amongst the lowest in Ontario and Canada. Similarly, wetlands, which once covered up to 50% of the regional landscape, are now largely eliminated with less than 3% remaining. To the north, the park is completely bordered by agricultural lands, with the exception of the access road, which is lined with homes and cottages. The park's ecological isolation provides no "buffering" habitat in which species and vegetation types can seek temporary refuge in

Cont'd on pg. 10

Figure 3: Point Pelee National Park Greater Park Ecosystem including Zone of Greatest Influence



response to stressors from within the park. When stressors in the park are too severe for species to persist, the species can become extirpated. An example of this type of species loss is the southern flying squirrel, which disappeared from the park in the 1930's. Its extirpation was due to the combined impacts of habitat alteration within the park, insularization of the park itself, predation by feral cats and park management actions to eradicate the red squirrel. With no adjacent suitable habitat or local source population, this rare nocturnal species remained extirpated from the park for over 60 years until it was re-introduced in the early 1990's. The heavily modified regional landscape no longer supports large carnivores, and thus management of white-tailed deer is required to prevent excessive damage to vegetation. Increased erosion rates along the park's eastern shoreline over the last 50 years, caused by a complex combination of variables including the Wheatley Harbour complex, public and private erosion control structures and past sand mining, threaten the long-term viability of the marsh ecosystem. Invasion by numerous invasive exotic species that can cause extirpation of native species, exposure to water pollution and air pollution from the intensely industrialized Ohio Valley are further examples of regional stressors affecting the park.

Middle Island, located south-southwest of the Point Pelee peninsula, is part of the Lake Erie island archipelago. The island is comprised of rocky limestone shelves, exposed bedrock outcrops, gravel beaches and shallow loamy soils. The climate is even warmer than the mainland, because of the moderating effect of Lake Erie. This has resulted in a unique community of plants and animals, many of which are rare in Canada and living at the northern edges of their range, including Canada's only populations of the Lake Erie watersnake and the clustered sedge. Seven vegetation communities have been identified on the island, including four variations of hackberry forest, two wetland communities and a more open thicket and field community created by previous human use. Research and scientific inventories carried out since the 1940's have tallied 33 provincially significant species, including 9 which are also federally protected species at risk. A rich diversity of 6 colonial waterbird species nest on the island including double-crested cormorants, herring gulls, ring-billed gulls, great blue herons, great egrets and black-crowned night herons. The dominant ecological stressor currently affecting Middle Island is habitat disturbance and loss caused by the colony of double-crested cormorants that has increased dramatically in recent years. If un-checked, this colony is expected to destroy the present Carolinian forest located on the island. (North-South Environmental Inc. 2004)

3

VISION FOR POINT PELEE NATIONAL PARK OF CANADA

Point Pelee National Park – Protecting within, reconnecting outside and educating beyond.

Of all the natural areas protected by Canada's national parks system, the St. Lawrence Lowlands is the most biodiverse. As a result, it takes several national parks to fully represent this region. Point Pelee National Park represents a remnant example of the Carolinian Zone. This includes the dynamic sand landform, the pattern of native vegetation associations, and the floral and faunal communities associated with the southern Great Lakes marsh and sandspit ecosystems. Established to protect a critical staging area for migratory birds and insects, the park is at the crossroads of the Mississippi and Atlantic flyways. This natural phenomenon attracts thousands of bird watching enthusiasts each year.

The vision for Point Pelee National Park is to protect

ecological integrity. Within the vision, ecological integrity means native species are present at viable levels and the ecological processes are present to support them. People are part of the ecosystem, and as such we have a responsibility to understand and ensure our activities do not impair the structure and function of the ecosystems.

Point Pelee National Park will be successful in improving the ecological integrity of the park by integrating the delivery of protection, education and visitor experience programs inside the park, connecting with green spaces and creating natural corridors in the Greater Park Ecosystem, and engaging park visitors, neighbours, stakeholders and the public in stewardship actions.

This vision will be refined in collaboration with First Nations, local communities, stakeholders, partners, park visitors and the Canadian public as part of the upcoming park management plan review.



Point Pelee National Park of Canada

4

INDICATORS, MEASURES & CRITICAL SUCCESS FACTORS

As part of the Great Lakes Bioregional Monitoring Program, Ontario’s national park ecosystems have been divided into six major ecosystem indicator categories:

- **Forest** (at Point Pelee includes a dry land forest and swamp forest of various structures, compositions and successional stages).
- **Wetland** (at Point Pelee consists of a southern Great Lakes marsh and the associated open water ponds).
- **Great Lakes Shore** (at Point Pelee includes the open beach habitat as well as grass-covered dunes, meadows and shrub thickets).
- **Non-Forest** (at Point Pelee consists of red cedar savannah habitat).
- **Lakes** (not present in Point Pelee and will not be used as an indicator).
- **Rivers/Streams** (not present in Point Pelee and will not be used as an indicator).

For each indicator, a suite of measures has been identified to monitor relevant biodiversity, ecological processes and stressors. For this *State of the Park Report*, data was avail-

able to report on most but not all measures. The ecological integrity monitoring program for Point Pelee National Park is currently being refined and future state of the park reports will assess the full suite of measures.

Table 5 presents the measures applied for each ecosystem indicator at Point Pelee National Park. Measures that were not assessed in this *State of the Park Report* are identified in grey italics in the table.

Reporting on public appreciation and understanding, visitor experience and cultural resources is a recent requirement. The indicators and suites of critical success factors for each of these program areas are being refined or are still under development. Thus assessments and reporting for the 2006 *Point Pelee National Park State of the Park Report* are limited in some cases. As indicators and critical success factors are confirmed, specific research and monitoring programs will be established to enable full assessment for future state of the park reports.

Table 5: Ecosystem Indicators & Measures

Indicator	Biodiversity Measure	Process Measure	Stressor
Forest	<ul style="list-style-type: none"> • Forest birds • Southern flying squirrel • <i>Tree health</i> • <i>Top Predator</i> (e.g. <i>Great Horned Owl</i>) 	<ul style="list-style-type: none"> • Forest landscape characteristics • <i>Succession</i> • <i>Decomposition</i> • <i>Fire</i> 	<ul style="list-style-type: none"> • Exotic invasive plants • Hyper-abundant deer • Hyper-abundant double-crested cormorants • Human footprint • Contaminants
Wetland	<ul style="list-style-type: none"> • Marsh birds • Frogs and toads • Wetland fish • Wetland plants • <i>Benthic invertebrates</i> 	<ul style="list-style-type: none"> • Wetland landscape characteristics • Erosion and Deposition • <i>Fire</i> 	<ul style="list-style-type: none"> • Marsh water quality • <i>Exotic invasive plants</i> • <i>Contaminants</i>
Great Lakes Shore	<ul style="list-style-type: none"> • Five-lined skink • <i>Lake Erie watersnake</i> 	<ul style="list-style-type: none"> • Erosion and deposition • <i>Lake Erie water level</i> 	<ul style="list-style-type: none"> • Shorezone footprint • Lake Erie water quality • <i>Shoreline alterations</i>
Non-Forest	<ul style="list-style-type: none"> • Red cedar savannah (beach and old field) • Open habitat birds • Prickly pear cactus 	<ul style="list-style-type: none"> • <i>Forest Succession</i> • <i>Fire</i> • <i>Decomposition</i> 	<ul style="list-style-type: none"> • Human footprint • <i>Contaminants</i> • <i>Exotic invasive plants</i>

5 | CONDITION OF DATASETS

A variety of research and monitoring datasets were used to assess the condition and trend of ecosystem indicators for this report. Satellite data acquired through cooperation with other agencies enabled census of landscape characteristics, human footprint, shoreline erosion, and savannah. Intensive data collection from park research and monitoring programs achieved census of eastern prickly pear cactus, double-crested cormorant, five-lined skink and white-tailed deer. For other measures, complete census (ie. actual counting of each individual) is prohibitively expensive or impractical. In such cases, statistical analysis of samples was used to infer condition and trend. Measures assessed using samples were birds, frogs and toads, water quality, and contaminants. Where possible, the quality of assessments achieved via sampling was evaluated using power analysis. Power analysis considers the probability that a change was detected if a change exists. High power is essential to ecological monitoring. Power analysis determined that good quality data was available for forest birds, open habitat birds, and frogs and toads, whereas fair quality data was available for marsh birds. Although power analysis was not possible for water quality, pond plant, fish, and contaminant measures, data quality was sufficient to detect degradation of water quality and wetland plant communities, and to detect the presence of contaminants such as DDT.

To interpret the condition of an ecological measure, status was compared to thresholds that identify poor, fair and good condition. Thresholds used to assess the condition of measures would ideally be based on the natural range of variation expected in undisturbed ecosystems. Such thresholds are largely not operational, however, because we have no quantitative baseline that predates significant human disturbance. A variety of alternative strategies to set quantitative thresholds have been applied to make the best use of available information. These strategies, which include time series analysis and comparing park status to the status of environmentally similar areas, interpret park condition with respect to the recent condition of the park and surrounding landscapes. For some measures, quantitative thresholds have not yet been identified and instead condition has been assessed based on expert opinion. Future state of the park reports will strive to identify quantitative thresholds for all measures. Details for each ecological measure assessed, including data quality, monitoring methods, threshold information and methods

of analysis are available in the *Technical Compendium of the 2006 Point Pelee National Park State of the Park Report*. (Parks Canada 2006a)

Establishment of Ecological Monitoring and Assessment Network (EMAN) plots in the park's forest and non-forest indicators in 2005/2006 is expected to bring a new source of monitoring datasets for future state of the park reporting. These plots, standardized by Environment Canada, will provide important information on vegetation structure, composition, growth rates, and impacts of environmental change. Protocols and monitoring plans for these plots are projected to be in place by 2008.

Data from the Parks Canada Visitor Information Program (VIP) was used to assess the state of visitor appreciation and public understanding, and visitor experience programs. Opinion polling, a regional stakeholder analysis, in-house and third party leisure and tourism data as well as work completed by various universities, local/regional partners and the private sector were also used to complete assessments. The condition is reported as good, fair or poor. As Parks Canada's social science research and monitoring program advances, the breadth and depth of information needed to assess and report on these indicators is anticipated to increase.

6 | STATE OF ECOSYSTEMS

This section describes the results of analysis for the measures in the monitoring suite for each of the park's four ecosystem indicators (forest, wetland, Great Lakes shore and non-forest). Condition and trend levels assigned to each measure were possible. Condition is summarized by the colours red (indicating poor or impaired), yellow (indicating fair or of concern) and green (indicating good or healthy). In the summary titles for each measure, a rising arrow indicates an improving condition, a falling arrow indicates a declining condition and a side-to-side arrow indicates a stable condition.

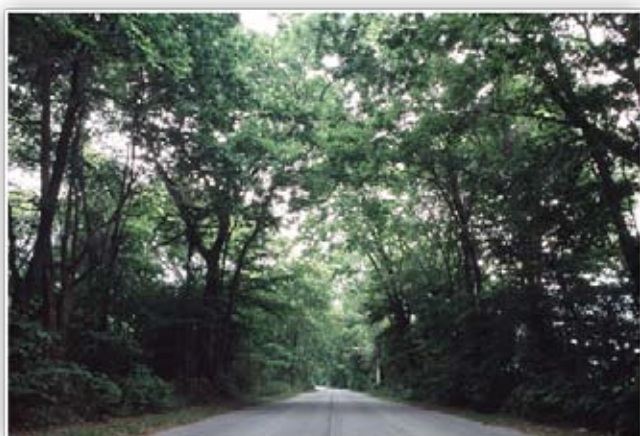
Summarizing the information in the measures into several, simple indicators involves a number of choices. The procedure applied is that recommended in the *Park-level Guide to Ecological Integrity Monitoring*. (Parks Canada 2007) This method essentially gives an average result for the measures of a given ecosystem indicator. However, the method is also designed to report underlying ecological issues if they are sufficiently common to cause concern.

↔ Indicator: Forest Ecosystem



Measure: Forest Birds

Threshold: Based on a statistical method to establish a natural range of variation (Parks Canada 2006a)



Main Park Road

As many as 61 bird species breed in the park's forest, many of which have highly specific habitat requirements.

(North-South Environmental Inc. 2003) In addition to reporting on species diversity, the abundance of bird species grouped together by similar ecological requirements (i.e. guild abundance) is monitored to track the health of major habitat types. Forest bird diversity and guild abundance are assessed using breeding bird survey data collected annually from the park since 1995. Many species were not included in the guild abundance assessment because they were tracked in insufficient numbers. However, for species that were tracked in sufficient number, power analysis indicated data quality was good. *Table 6* presents condition, trend and data quality assessments for forest bird diversity and each guild.

Overall, the forest birds measure is in fair and stable condition. However it should be noted that only bird species found in sufficient numbers were included in the analysis. More work is required to review the knowledge gaps in this measure for subsequent state of the park reporting.

Table 6 : Condition, trend and data quality assessments for forest bird diversity and guild abundances.

Measure	Condition	Trend	Data Quality
Forest Bird Diversity	Good	Stable	Good
Birds of Deciduous or Mixed Open Woodland	Good	Stable	Good
Tree-Nesting Birds of Closed Forest	Fair	Stable	Good
Primary Cavity-Nesters	Good	Stable	Good
Generalists	Poor	Stable	Good
OVERALL	<i>Fair</i>	<i>Stable</i>	<i>Good</i>



Measure: Southern Flying Squirrel

Threshold: Not established.

The southern flying squirrel was extirpated in the 1940's,

likely due to loss of habitat, insularization and predation by non-native species. In 1993, 99 individuals were reintroduced. By 2001 the population had increased to 591 individuals. (Bednarczyk 2003)

The southern flying squirrel measure is assessed to be in fair and improving condition. While the population has increased 6-fold since reintroduction, it has yet to stabilize.

 **Measure: Forest Landscape Characteristics**
Threshold: Based on baseline of entire terrestrial ecozone in which the park is located.

Forest landscape characteristics were assessed to provide a large-scale, coarse-filter monitoring measure to supplement the more fine-filter forest bird measure. Two characteristics were assessed that, together, influence the viability of forest species. Effective forest amount, which influences the size of populations that can be supported; and effective forest connectivity, which influences the ability of species to colonize forest patches. Effective landscape characteristics were assessed separately for deciduous forest bird, amphibian, small mammal and large mammal species due to the different needs of the species groups. *Table 7* presents condition, trend and data quality assessments for forest landscape characteristics.

Overall, the forest landscape characteristics measure is in poor condition, reflecting the high level of forest loss due to human activity and development within the Greater Park Ecosystem. Although quantitative temporal data were not available, opinion of Parks Canada scientists determined that forest landscape characteristics are declining.


 **Measure: Exotic Invasive Plants**
Threshold: Not established.

A long history of human activity in the park including housing, logging and agriculture has promoted the spread and establishment of invasive plant species. Exotic invasive plants compete with native species, reduce the area of habitat available for animals that use native vegetation for food or cover, and can also alter ecosystem functions. (Carlson et al. 2006) As of 1990, 37% of the approximately 760 plant species in the park were considered to be exotic. (Dunster 1990) Although inventories, research and extensive removal efforts for some species (e.g. white mulberry, black locust, Japanese honeysuckle and purple loosestrife) has taken place since the 1970's, systematic monitoring of all exotic invasive plants currently does not occur.

The exotic invasive plants measure is assessed to be in poor condition due to the high number of exotic species in the park. Trends cannot be assessed due to the absence of temporal data.

Table 7: Condition, trend and data quality assessments for forest landscape characteristics.

Measure	Condition	Trend	Data Quality
Effective forest amount <i>deciduous forest birds</i>	<i>Poor</i>	<i>Decline</i>	<i>Good</i>
Effective forest connectivity <i>deciduous forest birds</i>	<i>Poor</i>	<i>Decline</i>	<i>Good</i>
Effective forest amount <i>forest amphibians</i>	<i>Poor</i>	<i>Decline</i>	<i>Good</i>
Effective forest connectivity <i>forest amphibians</i>	<i>Poor</i>	<i>Decline</i>	<i>Good</i>
Effective forest amount <i>small mammals</i>	<i>Poor</i>	<i>Decline</i>	<i>Good</i>
Effective forest connectivity <i>small mammals</i>	<i>Poor</i>	<i>Decline</i>	<i>Good</i>
Effective forest amount <i>large mammals</i>	<i>Poor</i>	<i>Decline</i>	<i>Good</i>
Effective forest connectivity <i>large mammals</i>	<i>Poor</i>	<i>Decline</i>	<i>Good</i>
OVERALL	<i>Poor</i>	<i>Decline</i>	<i>Good</i>

 **Measure: Hyper-abundant White-tailed Deer**
Threshold: The carrying capacity for the park is estimated to be 24 to 32 white-tailed deer total or 6 to 8 per km².

Due to the extirpation of predators and controls on hunting, the white-tailed deer population in the 1980's was five to six times what could be supported by park vegetation communities. Periodic culls were introduced in 1991 to maintain white-tailed deer numbers at a sustainable level. White-tailed deer abundance has been monitored consistently since 1987 using annual aerial



White-tailed Deer

surveys. Since implementation of active management, the population has been maintained within the park's carrying capacity (Fig. 5).

The white-tailed deer measure is assessed to be in good condition and stable due to active management of the population within the park's carrying capacity.

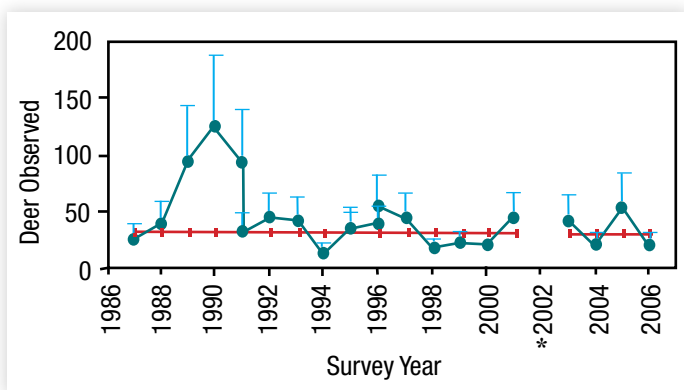


Figure 5. White-tailed deer observed from aerial survey per year (green line). Red line indicates the maximum threshold number. The blue line indicates the maximum error of the survey (1.51).

* Census not completed in 2002 due to weather conditions.

Measure: Hyper-abundant Double-crested Cormorants
Threshold: Not established.

The Lake Erie population of the double-crested cormorant has increased 150-fold over the past 25 years. (Hebert et al. 2005) The dramatic recovery of double-crested cormorant populations from near extirpation from the Great Lakes in the early 1970's is believed to be in response to reduced levels of toxic chemicals such as DDT, reduced human persecution and changes in the prey base such as increases in forage fish in natural water and the development of large-scale aquaculture facilities. (Christie 1974, Hartmann 1988, Weseloh and Collier 1995, Wires and Cuthbert 2006) Three double-crested cormorant nesting pairs colonized Middle Island in 1987. A survey in 1995 determined the population had exploded to 5,202 nesting pairs. (Hebert et al. 2005) Aerial photo analysis has shown a 41% loss of healthy forest canopy on Middle Island between 1995-2006, a change

attributed to double-crested cormorant disturbance. (Herbert et al. 2005, Duffe 2006) The absence of six plant species at risk in a 2000-2003 survey of the island was attributed to double-crested cormorant guano. (North-South Environmental Inc. 2004) It is predicted that the Carolinian vegetation that covers much of the island will be largely eliminated if double-crested cormorant numbers are not controlled. (North-South Environmental Inc. 2004)

The double-crested cormorant measure is assessed to be in poor condition and declining due to the current high number of nesting double-crested cormorants on Middle Island and the corresponding impacts on vegetation communities and island fauna.

Measure: Human Footprint
Threshold: Not established.

For this measure, the human footprint, defines an area of changes and/or alteration by humans to the natural landscape of the park to support land use activities. Historic land use, including cottages, farms, and park infrastructure such as roads, have altered both the park's natural topography and drainage regime, likely influencing the present abundance and distribution of species with narrow habitat requirements. (Carlson et. al. 2006) In addition to reducing natural habitat, some park infrastructure can be associated with potentially detrimental human activities such as road traffic. In 1931 the number of houses in the park was at least 100, with much of the remaining land used for farming. By 1959 the number of houses had grown to 550. (Smith and Bishop 2002) Table 8 presents land use statistics between 1931 and 2000. The park has now restored close to 2 km² of land and the remaining human footprint is limited to park facilities, trails and the main park road. As a result, the terrestrial ecosystem area has increased from 3.65 km² in 1959 to 4.02 km² in 2000 (Fig. 6).

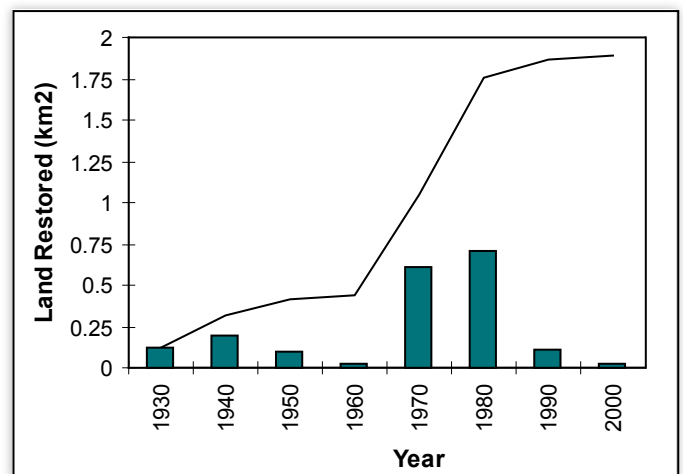


Figure 6. Trend in land restored (bar) and cumulative land restored (line) per decade. Data is from Smith and Bishop (2002)

Table 8: Land use statistics for Point Pelee from 1931 to 2002 (Smith and Bishop 2002).

Year	Length of Roads (km)	Number of Buildings	Area of Buildings (ha)
1931	16.5	100	0.87
1959	36.7	548	3.15
1973	30.7	227	1.62
1985	16.4	N/A	N/A
2000	13.2	72	0.76
2002	12.7	49	0.50

The human footprint measure is assessed to be in good condition with an improving trend due to the removal of the human footprint and restoration to natural habitat that has occurred in recent decades.

Measure: Contaminants
Threshold: Not established

The pesticides DDT and dieldrin were banned in Canada in the 1970's after they were found to have adverse effects on amphibians, reptiles, birds and mammals. Residual concentrations of DDT and dieldrin from historical applications have been detected in samples of soil, sediments, groundwater and biota within the park. The highest concentrations occur in former agricultural areas, and in some locations concentrations exceed provincial limits for recreational/parkland land use areas. (Crowe et al. 2002) Unusually high to extremely high levels of DDT and its metabolites have been found in tissue samples of numerous amphibians and reptiles in the park (Russell and Haffner 1997), and toxic effects may have contributed to the 50% decline in amphibian diversity that has occurred in the park over the last 50 years. (Parks Canada 2000) This link to the park's wetland habitat is concerning and more research and monitoring is underway. To date most of the monitoring has occurred in the park's forest habitats. Contaminants are proposed as a measure for both the wetland and non-forest ecosystem indicators, but data was insufficient to be analyzed for this report.

The contaminants measure is assessed to be in fair condition. DDT and its breakdown products are found in background levels in the park high enough for adverse ecological effects to occur. (Crowe et al 2003) Data is not available to assess trend.



Indicator: Wetland Ecosystem



Measure: Marsh Birds

Threshold: Based on a statistical method to establish a natural range of variation (Parks Canada 2006a).

As many as 24 bird species breed in the park's wetlands, many of which have highly specific habitat requirements. (North-South Environmental Inc. 2003) In addition to reporting on species diversity, the abundance of bird species grouped together by similar ecological requirements (i.e. guild abundance) is monitored to track the health of major habitat types. Marsh bird diversity and guild abundance are assessed using data collected annually from two Marsh Monitoring Program routes that have been in place since 1998. Many species were not included in the guild abundance assessment because they were tracked in insufficient numbers. For species that were tracked in sufficient numbers, power analysis indicated that data quality was fair. *Table 9* presents condition, trend and data quality assessments for marsh bird diversity and guild abundance.

Overall, the marsh bird measure is in good condition and stable. However, the assessment is based only on recent data and does not account for species decline or extirpations that took place before this time.

Table 9: Condition, trend, and data quality assessments for marsh bird diversity and guild abundance.

Measure	Condition	Trend	Data Quality
Marsh bird diversity	Good	Stable	Fair
Above ground nesting Marsh birds	Good	Stable	Fair
Aerial marsh feeders	Good	Stable	Fair
Ground nesting marsh birds	Good	Stable	Fair
OVERALL	Good	Stable	Fair

**Measure: Frogs and Toads****Threshold:** Based on a statistical method to establish a natural range of variation (Parks Canada 2006a).

Frogs and toads are diverse, relatively easy to detect and are a sensitive indicator of decline in habitat quality as evidenced by extirpation of several species in recent decades. (North-South Environmental Inc. 2003) Marsh frog and toad diversity and occupancy were assessed using data collected annually from two Marsh Monitoring Program routes that have been in place since 1999. Occupancy refers to the proportion of sites where a species is present, and is used as a surrogate for abundance. Sufficient data existed to monitor occupancy for four species: American toad, green frog, northern leopard frog, and spring peeper. Table 10 presents condition, trend and data quality assessments for frog and toad diversity, and occupancy of each species.

Overall, the frogs and toads measure is in good condition and stable for the period for which data is available (1999-2005). However, this analysis does not account for species decline (e.g. American bullfrog) or extirpations (e.g. Blanchard's cricket frog, Fowler's toad, grey tree frog), which took place before data collection began in 1999.

Table 10: Condition, trend and data quality assessments for frog and toad diversity and species occupancy.

Measure	Condition	Trend	Data Quality
Anuran diversity	Good	Stable	Good
American toad	Good	Stable	Fair
Green frog	Good	Stable	Good
Northern leopard frog	Good	Stable	Good
Spring peeper	Good	Increase	Good
OVERALL	<i>Good</i>	<i>Stable</i>	<i>Good</i>

**Measure: Wetland Fish****Threshold:** Based on a wetland fish index developed for Great Lakes wetlands.

Fish surveys conducted at two park ponds in 2005 identified 17 species. (Razavi 2006) Presence/absence fish data were used to calculate the wetland fish index (WFI) for each pond. The index is based on the relationship between the fish community and water quality variables at 43 Great Lakes wetlands. Wetlands can score from 1 to 5, with 1 indicating a fish community associated

with highly degraded wetlands and 5 indicating a fish community associated with highly pristine wetlands. WFI scores for the ponds were 2.37 and 3.00. To evaluate the trend in wetland fish communities, historical fish surveys were used to calculate WFI scores. The historical WFI scores are difficult to compare because of inconsistent sampling methods. Ignoring the variability in sampling method, four ponds show an improvement in WFI scores from 1983 and 2003 while two ponds show slight declines. The improvement may be the result of less nutrient-rich water entering the ponds from Lake Erie during breaching of the east barrier beach. Overall, park WFI scores suggest moderately degraded wetland conditions compared to other Lake Erie wetlands and other national parks in the region (Georgian Bay Islands National Park and Fathom Five National Marine Park).

The wetland fish measure is assessed to be in fair condition based on WFI scores that indicate moderately degraded wetland conditions compared to other wetlands in the region. Overall trend is assessed to be stable because both positive and negative trends in WFI were observed between 1983 and 2003.



Blanding's turtle

**Measure: Wetland Plants****Threshold:** Based on a wetland macrophyte index developed for Great Lakes wetlands.

Vegetation surveys conducted at five park ponds in 2005 identified 28 native species. (Razavi 2006) Presence/absence plant data were used to calculate the wetland macrophyte index (WMI) for four of the ponds. The index is based on the relationship between the plant community and water quality variables at 154 Great Lakes wetlands. Wetlands can score from 1 to 5, with 1 indicating a plant community associated with highly degraded wetlands and 5 indicating a plant community associated with highly pristine wetlands. WMI scores for the ponds were 1.89, 1.90, 2.16, and 2.36.

The wetland plants measure is assessed to be in poor condition based on low WMI scores. Trend in wetland plants could not be measured.

Measure: Wetland Landscape Characteristics
Threshold: Based on baseline for terrestrial ecozone in which the park is located.

Wetland landscape characteristics were assessed to provide a large-scale, coarse-filter monitoring measure to supplement the fine-filter anuran and marsh bird measures. Two characteristics were assessed that, together, influence the viability of wetland species. Effective wetland amount, which influences the size of populations that can be supported; and effective wetland connectivity, which influences the ability of species to colonize wetland patches. Effective landscape characteristics were assessed separately for anuran and bird species due to different needs of the species groups. *Table 11* presents condition, trend and data quality assessments for wetland landscape characteristics.

Overall, the wetland landscape characteristics measure is in poor condition, reflecting the high level of wetland loss due to human activity and development within the Greater Park Ecosystem (*Fig. 7*). Although quantitative temporal data were not available, opinion of Parks Canada scientists was used to determine that wetland landscape characteristics are in decline.

Table 11: Condition, trend, and data quality assessments for wetland landscape characteristics.

Measure	Condition	Trend	Data Quality
Effective wetland amount <i>marsh birds</i>	Poor	Decline	Good
Effective wetland amount <i>marsh amphibians</i>	Poor	Decline	Good
Effective wetland connectivity <i>marsh birds</i>	Fair	Decline	Good
Effective wetland connectivity <i>marsh amphibians</i>	Fair	Decline	Good
OVERALL	<i>Poor</i>	<i>Decline</i>	<i>Good</i>

Measure: Erosion and Deposition
Threshold: Not established.

The total beach area declined from 88 to 41 hectares between 1931 and 2000. Although the area of the west coast beach increased moderately over this time period, the east coast beach declined by 74 hectares. (Smith and Bishop 2002) This is significant for the park's marsh habitat, because a narrow beach ridge along the east side of the marsh is all that protects the marsh from the lake. Recent studies have concluded that the natural erosion processes of the eastern shoreline have been altered. Multiple factors over the last century including sand mining, public and private shoreline protection and harbour structures have altered the sand budget, as well as lake currents and waves. (Baird and Associates 2006) In recent years, beach recession has resulted in sustained breaching of the barrier beach in the northeastern corner of the park. (Lavalle and Lakhani 2000) Continuous exposure to Lake Erie via a breach could alter marsh plant and animal communities and eventually result in total loss of marsh habitat in the park. (Schiefer and Lush 1986)



Figure 7: Loss of Point Pelee's historic wetland complex due to draining and dyking for agriculture during late 1800's to mid-1900's.

The erosion and deposition measure is assessed to be in fair condition because the northeast barrier beach of the park remains intact, though reduced, and has not yet crossed the threshold beyond which ecological integrity of the marsh would be seriously affected. The trend of this measure has been rated as declining based on the evidence of recent and sustained beach recession of the barrier beach in the northeastern corner of the park which protects the marsh from Lake Erie.

Measure: Marsh Water Quality
Threshold: Based on a water quality index developed for Great Lakes wetlands.

Wetlands cover over 70% of the park and are recognized as having international significance due to their role in providing habitat for endemic species and serving as a stopover for migratory birds. (Razavi 2006) Water quality within the wetlands is susceptible to degradation from disturbance of sediment by invasive carp, runoff from farms in the region and contamination from septic systems. (Carlson et al. 2006) Water quality parameters measured in 2005 were used to calculate the water quality index for five ponds within the park. (Razavi 2006) The water quality index determined one pond to be in good condition, 2 ponds to be moderately degraded, one pond to be very degraded, and one pond to be highly degraded. Actions to improve water quality such as removal of farms and cottages from the park have occurred in recent decades. However, trends in water quality cannot be determined due to lack of consistent historical sampling methods. Implementation of consistent protocols to measure the water quality or the related wetland fish and macrophyte indices are underway. This will permit monitoring of water quality trends in the future.

Indicator: Great Lakes Shore Ecosystem

Measure: Five-lined Skink
Threshold: Not established.

Formerly widespread across southwestern Ontario, the five-lined skink experienced range collapse in response to large-scale deforestation that occurred across the region in the 1800s. (Hecnar and Hecnar 2006) The population within the park is the largest within the region for this species of special concern. Monitoring has occurred since 1990 using systematic searches at two sites on the park's

west beach. (Hecnar and Hecnar 2006) The park's five-lined skink population declined between 1990 and 1996. Research determined the dominant cause of the decline was the degradation and removal of woody debris used by skinks as refuges. After the removal of large woody debris from park beaches was reduced, the population increased between 1997 and 2001, and has fluctuated thereafter.

The five-lined skink measure is assessed to be in fair and stable condition based on the population increase in the early 1990's and the more recent population fluctuation.



Five-lined Skink

Measure: Erosion and Deposition
Threshold: Not established.

The total beach area at Point Pelee declined from 88 to 41 hectares between 1931 and 2000. Although the area of the west coast beach increased moderately over this time period, the east coast beach declined by 74 hectares. (Smith and Bishop 2002) Although erosion and deposition are natural disturbances in a shoreline habitat, the frequency and intensity of the processes must be in the natural range of variation in order to support the natural diversity of plants and animals which inhabit it. Following a recent study, there is substantial evidence the beaches along the east side of the park are losing sand and gravel at a rate much increased from that experienced historically. (Baird and Associates 2006) Comparison of current and past bathymetric studies have shown a 90% decrease in the amount of beach material being added to the sediment budget on the east side of Point Pelee compared to the pre-1900's supply rate. The accelerated erosion of the eastern shoreline is thought to be due to harbour structures in Wheatley, public and


private shoreline protection along the shoreline between Wheatley and the park, and sand mining carried out over the last century. (Baird and Associates 2006) Between 1910 and 1921, federal permits allowed extraction of sand and gravel directly from park beaches including the southeast shoal off the tip. Provincial authorization to dredge the lake bottom occurred between 1910 and 1984. Removal of the sand and gravel has undermined the foundation of the tip of Point Pelee as well as reduced the potential for wave generated currents to transport sediment in a northerly direction from the tip and along the east beach. (Baird and Associates 2006) Further bathymetric surveys are needed to ascertain the exact impact. Another impact of modifications to the natural shoreline is that larger waves are able to attack the tip and shoal from the south and east allowing strong currents to navigate in close proximity to the tip causing further erosion of the sand and gravel. In 1889, these currents were deflected much farther to the south (almost 1 km based on the historical accounts of the sand spit dimensions) and were not able to erode sediment from the beaches at the tip. (Baird and Associates 2006) Further study is needed to complete sediment modelling on the western shoreline. The threats to ecological integrity through loss of habitat and increased disturbance regimes, based on this recent information should also be examined for future state of the park reporting.

The erosion and deposition measure is assessed to be in poor condition and declining because of ongoing recession of the beach along the eastern shoreline and tip.

 **Measure: Shorezone Footprint**
Threshold: Not established.

Coastal wetlands and nearshore habitats provide fish spawning nursery and food production areas, and influence coastal processes such as runoff and erosion. Loss and degradation of these habitats to human footprint in the Lake Erie basin has been extensive over the past 200 years. (Environment Canada and U.S. Environmental Protection Agency 2005) The footprint measure is assessed on the Greater Park Ecosystem scale using population census data and building and road density measured from Ontario Base Mapping data. Between 1991 and 2001, population density within 1 km of the shoreline increased from 501 people/km² to 570 people/km². In comparison to the entire Greater Park Ecosystem, population density is dramatically higher (217%) in the shorezone. Similarly, road density is 21% higher and building density 51.4% higher in the shorezone than through the entire Greater Park Ecosystem.

The shorezone footprint measure is assessed to be in poor condition due to the high density of footprint relative to the Greater Park Ecosystem. The shorezone footprint measure is assessed to be declining based on the increase in population density between 1991 and 2001.

 **Measure: Lake Erie Water Quality**
Threshold: Based on guidelines adopted by the State of the Great Lakes 2005 report.

Lake water pollution can affect habitat during periodic breaching of the barrier beach and via contamination of groundwater. More importantly, lake water quality can affect park biota through altered predator and prey communities and bioaccumulation of toxins. Lake Erie water quality is assessed based on two indicators reported by the *State of the Great Lakes 2005 Report* (Environment Canada and U.S. Environmental Protection Agency 2005), phosphorous concentration and contaminant levels in juvenile fish. Phosphorous levels in the eastern and western basins of Lake Erie fluctuate from year to year but frequently exceed the 10 µg/L threshold concentration. Contaminant levels in juvenile fish (spottail shiner) are measured to assess the risk that contaminants pose to fish-eating wildlife. Samples taken off Leamington (west of the park) indicate that PCB concentrations in juvenile fish have declined from 888 ng/g in 1975 to 204 ng/g in 2001, but still exceed the 100 ng/g guideline. Similarly, DDT concentrations in juvenile fish have declined since peaking in 1986 at 183 ng/g, but remain above the 14 ng/g guideline. Phosphorous levels and juvenile fish contamination in Lake Erie are higher than in other Great Lakes, and fish contamination at Leamington is higher than at other sites in Lake Erie.

The Lake Erie water quality measure is assessed to be in fair and improving condition because, although contaminant levels are decreasing, phosphorous and fish contamination guidelines were exceeded in the most recent reported year.

 **Indicator: Non-Forest Ecosystem**

 **Measure: Red Cedar Savannah (Beach)**
Threshold: Not established.

Red cedar savannah is an early successional habitat type with sparse tree cover where the principal arboreal species is red cedar (*Juniperus virginiana*). Red cedar savannah is an example of the Lake Erie sandspit

savannah. This ecosystem type is globally rare, associated with 41 provincially recognized rare species and 15 federally COSEWIC-designated as well as provincially-designated species at risk. (Dougan & Associates and McKay 2006) Natural and anthropogenic disturbances are required to maintain savannah which otherwise succeeds to hardwood forest. Red cedar savannah in the park is divided into two habitat types: beach and old field. Beach red cedar savannah exists as a thin area inland of the open beach along the west and east shore. Coastal processes including wind, wave action and the movement of sand create and sustain beach red cedar savannah. Since 1931, beach red cedar savannah has decreased from 0.25 km² to 0.21 km², mainly due to high water levels during the 1970's and 1980's. (Smith and Bishop 2002) (Fig. 8)

The beach red cedar savannah measure is assessed to be in fair condition due to the moderate decline in the habitat type since 1931. The measure is assessed to be stable because the decline in habitat largely occurred in the 1970's and 1980's.

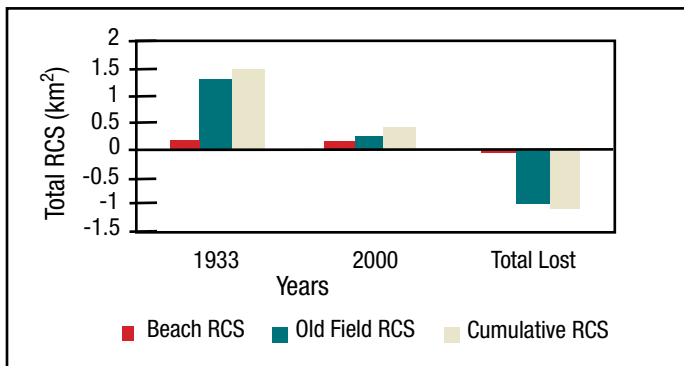


Figure 8: Beach RCS, Old Field RCS and the total RCS lost from 1931 to 2000.

Measure: Red Cedar Savannah (Old Field)
Threshold: Not established.

Old field red cedar savannah refers to red cedar savannah located at abandoned farm and cottage sites within the park. Low nutrient availability, prolonged drought, and disturbance contributed to the establishment of savannah at these sites.

Old field red cedar savannah is treated as a separate measure from beach red cedar savannah due to the significant ecological distinctions between these two habitats. Most importantly, the differences in the processes which are thought to create and perpetuate them.

Although old field red cedar savannah tends to support

lower biological diversity and more invasive species than beach savannah, the habitat does support five nationally and/or provincially significant species that cannot be found in beach savannah. (Dougan and Associates and McKay 2006) Due to recent low rates of natural and anthropogenic disturbances, the majority of old field red cedar savannah has succeeded to forest. Since the 1930's, old field red cedar savannah has decreased from 1.35 km² to 0.27 km². (Smith and Bishop 2002) (Fig. 8)

The old field red cedar savannah measure is assessed to be in poor condition and declining due to the continuing and substantial decline in old field red cedar savannah.

Measure: Open Habitat Birds
Threshold: Based on a statistical method to establish a natural range of variation (Parks Canada 2006a).

As many as 22 bird species breed in the park's open habitat, many of which have highly specific habitat requirements. (North-South Environmental Inc. 2003) In addition to reporting on species diversity, the abundance of bird species grouped together by similar ecological requirements (i.e. guild abundance) is monitored to track the health of major habitat types. The measures were assessed using breeding bird survey data collected annually since 1995. The exception is the ground-nesting birds of the early-successional habitats guild which was assessed using data from a nearby Ohio landscape due to data constraints. Many species were not included in the guild abundance assessment because they were tracked in insufficient numbers. However, for species that were tracked in sufficient number, power analysis indicated data quality was good. Table 12 presents condition, trend, and data quality assessments.

Overall, the open habitat bird measure is in poor condition and declining. This assessment supports the concern that open habitats are losing their early successional characteristics.



Yellow-billed Cuckoo

Table 12: Condition, trend and data quality assessments for open habitat bird diversity and guild abundance.

Guild	Condition	Trend	Data Quality
<i>Birds of successional habitats: nest above ground, obtain invertebrate food from the ground</i>	Poor	Decrease	Fair
<i>Seed-eating birds of late-successional habitat</i>	Good	Stable	Good
<i>Shrub-nesting species of mid-successional habitats: obtain invertebrate food from foliage</i>	Poor	Stable	Good
<i>Ground-nesting birds of early-successional habitats: obtain invertebrate food from ground</i>	Poor	Decrease	Good
OVERALL	Poor	Decrease	Good

Measure: Eastern Prickly Pear Cactus
Threshold: Not established.

The park is one of two locations in Canada where the endangered eastern prickly pear cactus grows naturally, the other being Pelee Island. The species experiences optimal growth in open savannah habitats with well drained soils, and in Ontario is limited to sandy ridges within 25 km of the shoreline. (VanDerWal et al. 2005a) The species is found at two locations in the park, the savannah along the western beach and the old field savannah. Although genetically distinct, the two populations display similar demographic trends. Since 1981, the estimated number of microsities (clusters of cactus pads) has increased from 258 to 345. In contrast, the number of cactus pads per microsite declined by approximately 75% between 1995 and 2005, and the average age of microsities also declined. Fruit production (i.e. sexual reproduction) increased over the same period. (VanDerWal et al. 2005b) The loss of older plants and the increase in sexual reproduction suggest that the species



Eastern Prickly Pear Cactus

is experiencing stress. Despite the stress, a population viability analysis predicted that the population will remain relatively stable over the next 30 years if the quality and quantity of savannah habitats are maintained as they are now. (Evans et al. 2005)

The eastern prickly pear cactus measure is assessed to be in fair condition due to the increase in the number of microsities but decrease in microsite size in recent years. The measure is assessed to be stable based on a population viability analysis that predicts a stable population over the next 30 years if current habitat remains.

Measure: Human Footprint
Threshold: Not established.

For this measure, the human footprint, defines an area of changes and/or alteration by humans to the natural landscape of the park to support land use activities. Historic land use including cottages, farms, park infrastructure such as roads have altered both the park's natural topography and drainage regime, likely influencing the present abundance and distribution of species with narrow habitat requirements. (Carlson et al. 2006) This impact has occurred most notably in the Forest Ecosystem Indicator and the Non-forest Ecosystem Indicator of the park.

In addition to reducing natural habitat, some park infrastructure can be associated with potentially detrimental human activities such as road traffic. In 1931 the number of houses in the park was at least 100, with much of the remaining land used for farming. By 1959 the number of houses in the park had grown to 550. (Smith and Bishop 2002) Table 8 presents land use statistics between 1931 and 2000. The park has now restored close to 2 km² of land and the remaining footprint is limited to park facilities, trails and the main park road. As a result, the terrestrial ecosystem area has increased in the park from 3.65 km² in 1959 to 4.02 km² in 2000. (Fig. 6)

The human footprint measure is assessed to be in good condition and improving due to the restoration of land that has occurred in recent decades.

7

STATE OF PUBLIC APPRECIATION & UNDERSTANDING

Establishing and protecting heritage places depends on public appreciation, understanding and support. Parks Canada investments in the delivery of evocative learning experiences, dissemination of information to the public, and engagement of stakeholders and partners as this is critical to building knowledge, appreciation and support for national parks. Four indicators assess the public appreciation and understanding program. Condition of indicators and critical success factors, where available, is summarized by the colours green (good), yellow (fair) and red (poor).

Point Pelee National Park has a year round public appreciation and understanding program. Staff routinely deliver educational programs for park visitors and regional residents (both adult and youth). The communications and heritage presentation functions in the park have been very successful over the years yet continue to face significant challenges. While meeting or exceeding Parks Canada standards for engaging park visitors, successfully engaging communities and residents within the Greater Park Ecosystem, particularly in the Zone of Greatest Influence, has become increasingly important.

Indicator: Visitor Participation

Description

50% of national park visitors participate in a learning experience related to natural or cultural heritage.

Point Pelee National Park offers year-round education programs including a number of personal programs, a new exhibit in the visitor centre, exhibits at the DeLaurier Homestead and Trail, the Marsh Boardwalk (Marshville) and the Tip, as well as three interpretive trails (with displays), two self-guided interpretive trails (with booklets), and numerous film and audiovisual presentations. Over the last five years, an average of 48,500 visitors participated in personal programs annually, while an average of 125,000* visitors viewed the visitor centre exhibit. Visitor statistics are not collected for DeLaurier Homestead and Trail, Marshville, the Tip or for interpretive trails. These figures taken into account, Point Pelee National Park reaches conservatively an average of 175,000 people each

year with educational messages about the significance of the park and the importance of environmental stewardship. With an annual average visitation over the last five years of 242,762 person day visits **, the park reaches almost 65% of park visitors with some type of personal or non-personal educational experience. The 2005 VIP Survey reported, that 92% of respondents participated in some form of educational experience (61% had taken part in at least one personal program while the remaining 39% used only non-personal interpretation. (Parks Canada 2005)

Point Pelee National Park welcomes over 5700 students on average each year, delivering formal education programming at the Marsh Boardwalk, Tip, Woodland Nature Trail and other locations in the park including the Henry Community Youth Camp. The park also delivers outreach programming in local schools to another 1000 students on average each year. In addition, there are also presentations to community service groups and special interest groups, such as Field Naturalists, Boy Scouts, and Girl Guides.

* While raw data is collected on the number of visitors to the visitor centre, the calibration of this data has been estimated.

** Person day visit means a visitor is counted once per day even if they have multiple entries on the same day.

Indicator: Visitor Understanding

Description

75% of visitors understand the significance of the heritage place.

As part of the Parks Canada Visitor Information Program (VIP), visitors are queried about how well the park is "Telling the Story" of the national park's significance. In 2000, 75% percent of participants were able to answer at least four out of six questions about the park's significance correctly. By 2005 this number had dropped to 71%***. Of those who responded, the greatest level of understanding revolved around the diversity of plants and animals in the park, the importance of the Carolinian Life Zone, the importance of Point Pelee for migrating birds and insects, and the influence of human activity

in the area. The majority of incorrect answers revolved around the rarity of the Great Lakes marsh ecosystem and the type of forest protected in Point Pelee National Park.

The number of visitor survey respondents able to answer four out of the six questions about the park's significance jumped to 77%, once they participated in one personal education program. (Parks Canada Agency 2005a)

*** In 2005 the question about the Great Lakes marsh ecosystem was changed to test visitor understanding of its rarity. It was the responses to this question that were extensively different, skewing the data.

Indicator: Visitor Satisfaction

Description

85% overall satisfied, 50% very satisfied with onsite and outreach programming.

In 2005, 85% of park visitors that participated in an educational activity reported being satisfied or very satisfied with their experience. (Fig. 9) In addition, 66% of visitors reported awareness of educational programs prior to their park visit, while 72% participated in interpretive trails, 64% in the visitor centre exhibit and 51% in the Pelee Express program. Greatest satisfaction levels were reported for the on-shuttle Pelee Express program, theatre programs, self-guided trails (which includes trails with signs and booklets), and the interactive "Creature Feature" program. The Marshville and DeLaurier Homestead exhibits



Creature Feature Educational Program

and the Freighter Canoe Tour program have the lowest reported satisfaction. On a level of importance, visitors reported that self-guided trails (64%) and interpretive programs (62%) were the most important activities while guided hikes (22%) and indoor theatre programs (20%) were the least important. (Parks Canada 2005)

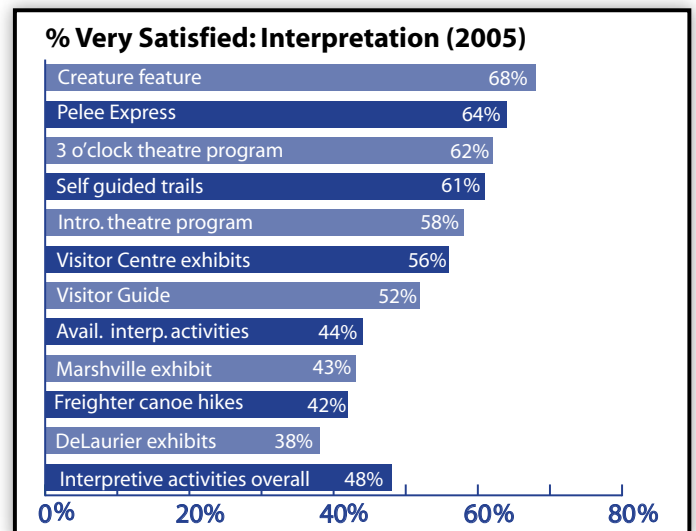


Figure 9: Level of Visitor Satisfaction: Educational Programs (2005)

Indicator: Active Support

Description

Canadians, visitors and stakeholders actively support management actions in achieving or maintaining the ecological health of Point Pelee National Park.

Point Pelee National Park's ecological integrity is directly affected by the cumulative impacts of population density and land use in the Greater Park Ecosystem. As such, it is a strategic necessity for surrounding communities to understand the park and the effect land use has on both Point Pelee's and the region's ecological health. Parks Canada has a significant challenge in reaching and educating current and future generations around Point Pelee National Park. The following expands upon the park's regional context and challenges: Point Pelee National Park is a small, 15.1 square-kilometre park in one of the most industrialized, culturally diverse and densely populated regions of Canada. The park's Greater Park Ecosystem encompasses one of the largest metro areas in North America with an estimated population of 6.5 million. Over 46 million people live within a 450-kilometre radius of the park, a distance considered to be reasonable for tourism travel. In 2006, Point Pelee National Park supported 15,568 visitors per square kilometre. This calcula-

tion includes the entire park even though only 4.2 square kilometres is dry land, the rest being marsh.

Media in the region is saturated with two Canadian and four American daily newspapers, seven Canadian TV stations, twelve American TV stations, 14 AM/FM Canadian radio stations, 46 AM/FM American radio stations as well as numerous weekly papers and Internet news distribution channels. As a consequence, key messages about Parks Canada's mandate in the Greater Park Ecosystem including the Zone of Greatest Influence are easily diluted without careful consideration of target audiences and key tools/techniques for effectively working with media outlets.

Despite such a challenging media market, the park attracts sizeable attention. During 2006, the total media profile for Point Pelee National Park exceeded 14 million media viewers/readers and included front page profile in Canada's national newspapers, stories in some of Canada's largest magazines and profile on CBC National News. However there is still some data that suggests residents in Point Pelee's Greater Park Ecosystem lack an understanding of the park's science, monitoring and ecological integrity mandate. (Parks Canada Agency 2005b)

Point Pelee National Park has an economic impact of \$10 million annually for a twenty square kilometre radius surrounding the park. (Parks Canada 2004) While adding to the economic prosperity of Leamington, this figure is eclipsed by a \$3.9 billion economic impact posted by the region's greenhouse industry, of which the largest concentration of greenhouses in North America is found in Leamington. (The Ontario Greenhouse Alliance 2006) Other industries such as automobile and parts manufacturing, and food processing also generate significant economic impact for surrounding communities. As a result these communities are not primarily focused on tourism as an economic generator, making community engagement challenging.

Parks Canada's 2005 Public Opinion Poll showed the majority of the representative sample from Chatham-Kent and Essex Counties has a very positive impression of Canada's national parks, with over 85% considering parks to be "memorable", a "good value" (90%), "authentic" (89%) and "fun" (87%). However, 27% said national parks were "common" and 20% said that Canada's national parks were "not relevant" to them. Close to half of all respondents said that Parks Canada operates/maintains parks and another 14% said that Parks Canada protects "the natural environment," "parks" (12%) or "wildlife" (2%). These findings remain relatively unchanged from the 2002 poll and corroborate personal communications park staff have had with residents from

local communities. When queried as to the last national park visited, 64% responded with "Point Pelee", a percentage essentially unchanged from 2002, suggesting that Point Pelee National Park is still the most significant national park to regional residents.


The greatest change from the 2002 to the 2005 poll is in the number of respondents who trust Parks Canada a "great deal" as protector or steward of Canada's natural and cultural heritage (up 35%, from 20% to 55%). However, researchers note that a wording changed from 2002 to 2005 may have skewed data.

Over the last decade, park staff has been working with community groups to build tourism partnership initiatives and to coordinate efforts with local municipalities and other partners. *In Search of Heart*, a portable exhibit about the last two centuries of human history of Point Pelee, promoted the value Parks Canada places on this era. Park staff regularly participate in events such as parades and festivals. A new Species at Risk portable exhibit will help increase community awareness of Point Pelee National Park's species at risk program.

While Point Pelee National Park has an intensive curriculum-based outreach program, *Earthschools*, this program at present reaches a relatively small number of students in comparison to the region's population.

In 2002, the park conducted a local landowner survey encompassing the southeast Leamington area. The goal of the survey was to better understand conservation attitudes and levels of awareness within the Zone of Greatest Influence. Respondents reported that clean air and water, the local economy and family/friends were most important to them, while the protection of species at risk often ranked low. Natural areas like Point Pelee contribute a sense of peace and tranquility, help create a personal closeness to the land, create a sense of community and provide a venue for community and social activities, according to a majority of the respondents. Most local landowners reported they were only somewhat aware of species at risk and could only list three to four species at risk (e.g. prairie rose) or groups of species at risk (e.g. frogs). Half of those queried said that healthy wildlife populations is one of the best indicators of environmental health. 60% indicated that crop/property damage caused by wildlife was a serious concern and over 70% agreed they could continue caring about endangered species regardless of damage. Some reported they have participated in conservation or restoration programs such as the Farm Tax Incentive Program, the Environmental Farm Plan Program and the Friends of the Watershed Tree Planting Program administered by the Essex Region Conservation Authority and supported by Parks Canada through Point

Table 13: Critical Success Factor for Active Support Indicator

Critical Success Factor	Strengths	Challenges	Rank
<i>Key resource protection communication messages are relevant to targeted visitor/ community segments and communication and education messages are continually revised as a result of research tests and evaluations.</i>	<i>Some research suggests that Point Pelee National Park interpretive programs and messages effectively communicate the significance of the park to visitors and help to create place attachment.</i>	<p><i>Currently, research and monitoring are not considered sufficient in determining if messages are relevant, especially when talking with surrounding communities about the cumulative effects the population base and associated land use choices have on both Point Pelee's and the region's ecological health.</i></p> <p><i>Parks Canada requires specific research and monitoring to determine if key resource protection messages are relevant and engaging targeted visitor and regional community segments.</i></p>	<p>Poor</p> 

Pelee National Park. Based on this information, while local landowners perceive natural areas to have community value and environmental protection of air and water as important, there is a moderate understanding of species at risk and high concern about damage caused by wildlife. Having said this, local concern and support for natural areas and endangered species still remain moderately high. While confidence in land management information was reported highest if received by landowner or farmer associations, Point Pelee National Park placed a close second. (Parks Canada 2003)

Parks Canada regularly collaborates with the Essex Region Conservation Authority on local restoration projects, creating fish habitat along shorelines, education initiatives like the *Essex Region Children's Water Festival*, and the student seed collection program as well as tourism market research including the *2006 Birding in the Essex Region Report*. In 2005 Parks Canada co-funded the *South-east Leamington Sustainable Management Strategy*, which is looking at sustainable land use management options north of the park within the Zone of Greatest Influence. The consultant's report is expected in early 2007 and will include a recommended option.

In 2005 Point Pelee National Park and Cuyahoga Valley National Park in Ohio began collaborating under the *US Park Service Park Flight Program*. This program brings together North American and Latin American parks and conservation areas to protect bird breeding, migration and wintering habitats, and to initiate pro-active conservation programs. In addition, the relationship includes sharing tourism, education, and communications successes, and looking for additional opportunities to partner

and collaborate. A second Park Flight intern will work with the two parks during the summer of 2007 to advance key projects and programs. Considering Cuyahoga Valley National Park is located almost directly south of Point Pelee National Park, across Lake Erie, between Cleveland and Akron, and is one of the most visited US national parks, this is a strategically important partnership for the park.

Table 13 summarizes and ranks the critical success factor for the Active Support indicator.

8

STATE OF VISITOR EXPERIENCE

Parks Canada places great emphasis on outstanding visitor experiences. These are designed to enable park visitors to develop a clear and strong connection to the nature and history of the national park as well as contributing to personal well-being and health. Park visitors have enjoyed and appreciated Point Pelee National Park for almost ninety years through the provision of a variety of visitor services, facilities and education/learning programs. Four indicators and a series of 13 critical success factors assess visitor experience. Condition of indicators and critical success factors is summarized by the colours green (good), yellow (fair), and red (poor).

Current research confirms visitation to Point Pelee National Park generates place attachment, support for its protection and environmental stewardship. The provision of effective tourism information and orientation, facilities, infrastructure, services and educational/learning programs is a high priority. Ensuring standards for a quality visit are met, while the park's natural and cultural resources are protected requires a delicate harmonization of people and nature.

Point Pelee National Park regularly receives high praise for its visitor experience and provision of services with overall visitor satisfaction levels (91%) exceeding Parks Canada standards. (Parks Canada 2005) Park visitation, however, is decreasing, probably due to a combination of Canada-U.S. border crossing issues, changing tourism expectations and a province-wide tourism destination product that seems to be nearing the end of its product life cycle. (Ontario Ministry of Tourism 2006) Much of the park infrastructure is between 30-50 years old. Several visitor services and facilities require replacement or recapitalization including the Tip shuttle, the marsh boardwalk and observation tower including Marshville exhibits, and the DeLaurier Homestead and trail.

Recent research suggests the Point Pelee National Park tourism experience is "lacking", "conflicted" and "incongruent". The park theme and brand is inconsistent and lacks exclusive ownership. The park does not have a clear 100% visit point, or an obvious place where visitors should start their visit. The park's product is further challenged by surrounding communities that are focused on sectors other than tourism as well as serious competition from other North American birding destinations. Proposed positioning includes "Canada's most southern and



Visitors at the Marsh Boardwalk

accessible nature or wildlife sanctuary and travel destination". (Sawler 2006)

Indicator: Visitor Needs Influence Management

Description

The extent to which management decisions are influenced by an understanding of actual and potential visitors' needs and expectations.

For almost forty years, Point Pelee National Park has been open to visitors year round as a day use park. Camping is provided for youth groups only at a small park campground and at the Henry Community Youth Camp. The park primarily attracts Greater Park Ecosystem and southern Ontario markets. However because the park is widely renowned as one of the top birding spots in North America, there is significant national and international visitation primarily in the spring. The park offers low-impact outdoor recreation activities for a semi-passive visitor combined with significant educational and learning opportunities. Canoeing, hiking, trail biking, photography, beach activities, bird watching and picnicking tend to be the most popular summer activities. During the winter, skating, photography, cross-country skiing and hiking are popular, though some of these activities are in decline due to warmer winters.

Since 2002 annual visitation to Point Pelee National Park

has declined from 271,952 to 225,587 person day visits in 2006. This represents about a 17% decrease. Due to the migration phenomenon, the busiest visitation month is May, when an average of 44,575 person day visits were recorded. December tends to be the slowest month with an average of 5,470 person day visits. It should be noted that regional tourism statistics have also declined. Between 1999 and 2003, the Windsor, Essex County & Pelee Island Convention and Visitors Bureau reported a drop of 3.8 million visitors to the region, representing about a 26% loss.

Point Pelee National Park generates approximately 23% of its annual operating budget of just over 2 million dollars (salary and goods & services) through revenues. Overall 71% of park visitors report being satisfied or very satisfied with the value they receive for their entry fee. (Parks Canada 2005)

A variety of tools are used to better understand visitors and visitation. Most notably, Parks Canada employs Visitor Information Program (VIP) surveys every five years to help profile park visitors and test satisfaction and understanding. This is achieved both during summer visitation and the May birding season to differentiate these two distinct markets. Through strategic partnerships, the park also collects and analyzes data on potential visitors from Southwestern Ontario, the mid-Western United States and the rest of Ontario and Canada. Several specific initiatives have also captured data regarding the profile of birders including the regional birding tourism product.

Parks Canada carefully considers performance results and, where possible, adjusts plans. However adapting park services and visitor experiences, based on changing demographics and tourism expectations, is challenging. Parks Canada is cooperatively engaging partners to assist it in this area. Examples include a regional analysis of the birding product and support of regional image and brand recognition research. Communities in the Greater Park Ecosystem are focused on sectors other than tourism and serious competition from other birding destinations has reduced the park's market share. Reinvigorating the park's visitor experience and increasing site visitation in a sustainable manner will require a continued cycle of research, product development and marketing in conjunction with strategic partners. The park will undertake a Visitor Experience Assessment as part of the park management plan review.

Table 14 provides a summary of the critical success factors assessed for the Visitor Needs Influence Management indicator.

Indicator: Targeted Opportunities

Description

Target segments participate in opportunities that are targeted to their needs and expectations.

Point Pelee National Park provides a range of opportunities for park visitors including hiking trails, a bike trail, beaches, a marsh boardwalk and observation tower, indoor and outdoor exhibits, displays and picnic sites. The Friends of Point Pelee offer canoe and bike rentals, a food concession, a gift store, and operate the park's shuttle to the Tip. Park interpreters offer a variety of personal education and learning programs daily during summer months and special events during select times over the rest of the year. Non-personal interpretive opportunities include signed and self-guided trails as well as the visitor centre exhibit and theatre.

During summer months, visitors to Point Pelee National Park are primarily from Ontario (75%) and the US (19%). Of the Ontario visitors, 54% were from Southwestern Ontario while 15% were from Central Ontario. Of the US market, a majority were residents of Michigan (50%) and Ohio (15%). 59% of Ontario visitors were from urban areas while 14% were from rural areas.

A majority of park visitors are repeat customers (66%) with 40% reporting having visited the park three or more times in the last two years. Two main types of groups use the park: adults with children under the age of 16 (39%) and adults only between the age of 17 and 54 (39%). Park visitors primarily participated in trail (76%) and beach (46%) activities during the summer months. (Parks Canada 2005)

Current visitation profiles during spring birding are similar, with 74% from Ontario and 24% from the US. This has changed dramatically over the decade. In 1999 visitation from the US during spring was 38%, while Ontario visitation was 51%. The majority of Ontario birders previously came from Central and Eastern Ontario (98%) with only 2% coming from Southwestern Ontario. Today, visitors coming from other parts of Ontario are down to less than 12%. Quebec visitation over the same period has increased from negligible to 6%. 78% of birding visitors are repeat customers, having visited two or more times in the last two years, while party composition is primarily all adults 17 years old and over (79%). (Parks Canada 1999 and 2006b)

Because the park is in close proximity to the US, tourism and visitation are heavily influenced by cross-border,

Cont'd on pg. 32

Table 14: Critical Success Factors for Visitor Needs Influence Management Indicator

Critical Success Factor	Strengths	Challenges	Rank
<i>Access to information to identify and profile current and potential markets and identify priorities.</i>	<i>Parks Canada undertakes visitor and niche-market (birding) surveys and studies on a regular basis and has a moderate level of access to market profiles.</i>	<i>Tourism market expectations and realities have changed rapidly over the last 5-10 years, especially US and birder markets, probably impacting park visitation. External market information is moderately accessible but requires continued monitoring for strategic product life cycle renewal.</i>	Fair 
<i>Knowledge to understand and respond to changing demographics and emerging trends that often affect visitor preferences or motivations for recreational and learning experiences.</i>	<i>Parks Canada has a good understanding of Point Pelee's traditional markets and has a fair understanding of market trends. Flexible strategic communications and marketing strategies have been developed.</i>	<i>Ongoing and timely response to changing demographics and emerging trends is challenging. The current investment to adjust the park visitor experience in response to changing preferences and motivations is limited.</i>	Fair 
<i>Access to reliable, timely information about potential visitors' interests, preferences, and limitations.</i>	<i>Partnerships with the Windsor, Essex County & Pelee Island Convention and Visitors Bureau and the Ontario Ministry of Tourism, provide access to some information.</i>	<i>Ongoing research will provide insight into positioning the park's theme and brand for exclusive ownership.</i>	Fair 
<i>Advice and service from technical specialists and professionals who can develop sustainable, appealing opportunities that respond to potential visitors' interests, preferences, and limitations in ways that support the protection and education elements of the mandate.</i>	<i>The park has recently employed a third party specialist to help evaluate the product and to recommend branding, positioning and product cycle planning strategies. Also partnered to commission a study of the birding strengths, weaknesses, opportunities and threats not only in the park but within the Greater Park Ecosystem.</i>	<i>Parks Canada requires assistance integrating its tourism offer with that of surrounding communities. Parks Canada is interested in being part of community-led sustainable tourism initiative.</i>	Fair 
<i>The ability to develop effective communications programs to reach target audiences before they make their travel decisions and when they arrive.</i>	<i>The website provides some information for pre-trip planning. The park has an effective visitor guide that includes a map and general visitor information. The majority of visitor guides are passed out at the park entrance when visitors arrive.</i>	<i>Parks Canada's website has few "up-to-the-minute" features, thus the park's key tourism product (unpredictable bird and butterfly migrations) is not well communicated to important niche market audiences. The location of the park's Visitor Centre means visitors experience much of the park with limited orientation.</i>	Poor 
<i>Advice and service from technical specialists and professionals who can assess effectiveness of investments to monitor performance for planning and reporting, and to help guide future investment.</i>	<i>Parks Canada tests visitor satisfaction and expectations every five years as part of the Visitor Information Program (VIP). The park has recently employed a third party to assess current effectiveness of the visitor experience.</i>	<i>Creating effective tourism products requires a sustained investment in research, product development and marketing. Parks Canada is currently developing strategic partnerships and enhancing its capacity.</i>	Fair 

fully independent day trips from Michigan and Ohio. These markets have declined significantly since 9/11 and SARS, and continue to suffer from border-crossing instability, a less favorable Canada-US exchange rate and high gas prices. A decline in Ontario's attractiveness as an enticing tourism destination among US markets has also been reported. (Ontario Ministry of Tourism 2006) Statistics Canada reported a drop of 4 million visitors between 1999 and 2004, roughly equalling a \$300 million reduction in tourism spending in the Windsor, Essex County and Pelee Island area. (Windsor, Essex County & Pelee Island Convention and Visitors Bureau 2004)




In 2005, 20% of Point Pelee National Park visitors were from the US, down from 26% in 2000. Most significantly the Michigan market dropped to 10% overall, down from 16% in 2000. (Parks Canada 2005) The US market continues to be the softest Canadian inbound market with a - 4.4% growth in 2005 for Ontario (Ontario Ministry of Tourism 2006) combined with the possibility of increasingly stringent border crossing regulations, it is anticipated this market will be slow to recover. This is seen as having a negative impact because Point Pelee National

Park's Greater Park Ecosystem includes Michigan and Ohio, making these visitors an important audience for conservation and ecological stewardship messages.

Seventy-two percent of Point Pelee's visitation is from Southwestern (57%) and Central (15%) Ontario. 24% of park visitation is from the closest urban centre (Windsor), while 3% is from Leamington. This suggests over a third of residents from both Leamington and Windsor visit the park regularly.

The Ministry of Tourism reports that intra-provincial travel is increasing in Ontario, up 5.2% in 2005. (Ministry of Tourism, 2005) This supports focusing on visitors from the Greater Park Ecosystem and South-Central Ontario markets. Both because they are a growth market and because the decisions these residents make will most affect the park's ecological integrity now and into the future. The demographic profile of Ontario is changing however. Its population will have grown 37% by 2026; 41% of the population will be over 55 in the next twenty years; only 3 in 10 households will have children (29% down from 37%); and the foreign-born population will grow to 37%

Table 15: Critical Success Factors for Targeted Opportunities Indicators

Critical Success Factor	Strengths	Challenges	Rank
<i>The potential for “transformative” experiences by participating in an appealing range of opportunities that allow for self-discovery and interactions with staff, stakeholders, local residents, and authentic resources.</i>	<i>The park has a variety of “transformative” experiences including standing on Canada’s southern-most tip, exploring and understanding a Great Lakes marsh with an interpreter and bird watching in one of North America’s best sites.</i>	<i>Old and out of date components of the experience work negatively against other transformative qualities. These include Marshville/Marsh Boardwalk and DeLaurier Homestead exhibits. Contextual issues like biting flies, Lake Erie water quality can also negatively impact the experience.</i>	Fair 
<i>A range of opportunities that provides visitors with educational or learning possibilities and informs them of the challenges and issues associated with the ecological integrity of Point Pelee National Park.</i>	<i>Educational and learning opportunities abound in the park from non-personal interpretive trails and exhibits to personal heritage presentation and education programs. The park’s public appreciation and understanding program reaches 65-92% of all visitors with some type of experience. A new exhibit in the visitor centre further enhances the visitor education experience.</i>	<i>Parks Canada has limited research and measures in place to determine if visitors are learning about the state of the park’s ecological integrity, its stressors and how programs are helping to create a culture of conservation and stewardship. These are currently in development and will help determine effectiveness as well as guide priorities and investments.</i>	Poor 
<i>Received and understood communication that allows visitors to select opportunities they like.</i>	<i>New directional road and trail signs and an attractive, easy-to-use visitor guide ensure visitors can find the opportunities they seek.</i>	<i>The position of the visitor centre (7 km from the park entrance) means visitors experience much of the park before becoming orientated to it or having the opportunity to engage with staff. This impedes the visitors’ ability to put their experience into context before selecting opportunities.</i>	Fair 

of the total population, up from 31% currently. (Ontario Ministry of Tourism 2002) These demographic changes will be especially important for Point Pelee National Park as Windsor is the third most ethnically diverse city in Canada and the Leamington area has a significant ethnic population. The warm climate of southern Ontario attracts a large percentage of retirees while the agricultural sector employs thousands of migrant workers each year.

The region has a very competitive tourism market. Large casino hotels, amusement parks like Cedar Point; super-sized events such as the North American International Auto Show, Comerica Tastefest, Superbowl XL, the Henry Ford museum (the largest museum complex devoted to American history) and a host of performing arts centres, major league football, baseball and hockey stadiums / teams, theatres, museums, libraries, parks and beaches all compete with the park tourism offer. In addition, national icons like Toronto’s CN Tower, the Stratford Festival and Niagara Falls corner the market in Southern Ontario.

The park does provide a variety of visitor experiences and appropriate orientation to them. The education and learning experience is well rounded though somewhat dated. Some parts of the park visitor experience negatively counteract the transformative qualities of others (especially Marshville and DeLaurier Homestead). The visitor centre exhibit is new and receives many positive comments but the location of the visitor centre means visitors generally experience the park and then receive orientation to the park itself and the key messages.

Table 15 provides a summary of the critical success factors assessed for the Targeted Opportunity indicator.

Indicator: Delivering High Quality Services

Description

The state of perceived service quality received by visitors: 85% overall visitor satisfaction, including at least 50% very satisfied.

91% of park visitors reported being satisfied or very satisfied with their visit to Point Pelee National Park in 2005 (59% very satisfied, 32% satisfied). Level of satisfaction with service time at the gate, official languages service and staff courteousness was reported highest, while quality of services, the visit as a learning experience and value for entry fee were reported among the lowest. (Fig. 10) The level of satisfaction with overall park facilities was reported as good to very good by 90% of visitors. The availability of picnic areas and hiking trails and the condition of the visitor centre was reported highest, while conditions of the beaches, availability of park staff and

availability of information prior to visit was reported lowest. (Parks Canada 2005)

Studies suggest there were 85.2 million birders in the United States as of 2004, up from 21 million in 1983. On average, they spent 2.5 billion on travel related to birding. (U.S. Department of Agriculture 2004) While accurate numbers are not available for Canada, it is assumed birding is a growth market as well. Point Pelee National Park is widely recognized as one of the top birding spots on the continent and has even been ranked third overall. (Konrad 1996) May visitation statistics suggest the park is losing market share. The park has experienced a 17% decline in visitation since 2002. Speculation is that increasing competition from over 38 birding festivals in Canada; over 300 across North America (Fig.11) and an increasingly diversified and heterogeneous birding market (Scott & Thigpen, 2003) are slowly decreasing Point Pelee National Park’s relevance to this important niche market.

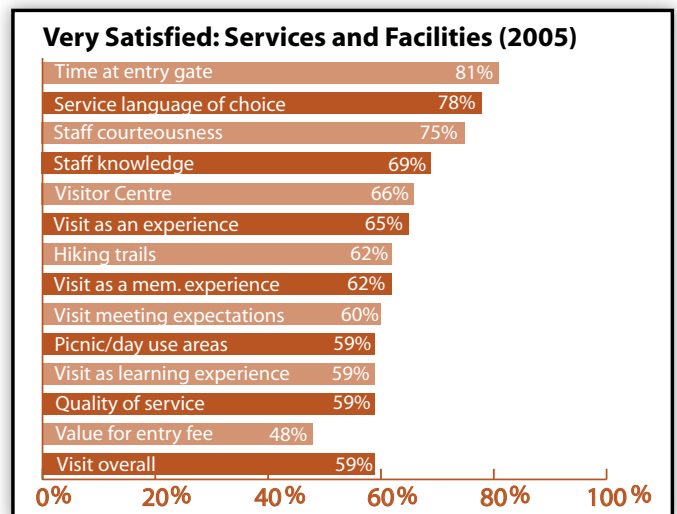


Figure 10: Level of Visitor Satisfaction (2005)

The Windsor, Essex County & Pelee Island Convention and Visitors Bureau, in collaboration with regional partners including Parks Canada, the Essex Region Conservation Authority, the City of Windsor, the municipalities of Leamington and Chatham-Kent, the town of Amherstburg as well as the Ontario Ministry of Tourism, commissioned a study to analyze the strengths, weaknesses, opportunities and threats for birding tourism in the Essex County region in 2006. This study will also help to better understand where the regional birding product is at in relation to its product life cycle.

Visitor reception and recreation facilities are in various states of renewal and are overall in good condition. In 2005, 90% of visitors rated the conditions of park facilities at either very good (50%) or good (40%). (Parks Canada 2005) 80% of the park shuttle service users also reported being very satisfied with this experience. (Parks Canada

2004) The visitor centre exhibit has recently been renewed thanks in part to funds raised in partnership with the Friends of Point Pelee as part of the park *Keep the Songs Alive* fund-raising program. New area revitalization concepts have been developed for an orientation area, the Marsh Boardwalk and the North West Beach area, and the Visitor Centre area. Priority projects include extending the municipal waterline through the park, repairs to the Marsh observation tower and boardwalk, repaving the Tip road, replacing the Tip shuttle system and “greening” two septic systems.

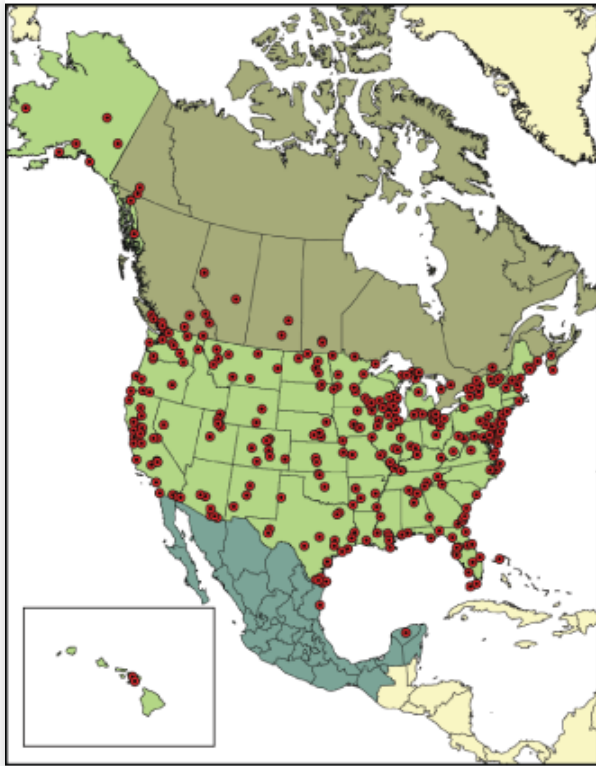


Figure 11: Birding Festivals across North America, 2005. Reprinted with permission from American Birding Association.

Point Pelee National Park’s cooperating association, the Friends of Point Pelee, enriches the park’s visitor experience by operating four visitor key services: the Cattail Café, bike and canoe rentals, the Nature Nook Gift Store

and the Tip shuttle. The Friends are also Parks Canada’s key partner for the *Festival of Birds* event and the park’s *Keep the Songs Alive* fund-raising program. Currently, the Friends’ Board of Directors is undertaking an operational review in conjunction with park management to ensure the future of these valuable visitor services.

While results suggest high rankings for satisfaction, participation and understanding, there are some concerns. Park visitation continues to decline, probably due to a number of external circumstances and a visitor product that is nearing the end of its life cycle. Some survey results also point to a potential client service concern (quality visitor service was reported as one of the lowest



Birders at Point Pelee National Park




satisfaction ratings). In addition, a recent report indicates that Point Pelee’s visitor experience is “lacking”. (Sawler 2006) For this *State of the Park Report*, the effectiveness of the current suite of visitor products and services has not been assessed. Parks Canada is currently building a research and monitoring program to address targeted and potential visitor market needs and expectations. This will assist with future state of the park reporting.

Table 16 provides a summary of the critical success factor assessed for the Delivering High Quality Services indicator.

Table 16: Critical Success Factors for Delivering High Quality Service Indicator

Critical Success Factor	Strengths	Challenges	Rank
<i>Point Pelee National Park provides services that respond to target audiences’ needs and expectations and meet clearly stated corporate service standards. Targets are 85% of visitors satisfied, 50% very satisfied with their experience.</i>	<i>Park visitors report 91% overall satisfaction (59% were very satisfied). Staff courteousness, official language service and wait times at the gate rate high on VIP satisfaction scales. The park’s Let’s Keep in Touch program also reports high satisfaction when dealing with park staff.</i>	<i>Overall quality of services ranks low in VIP as does the park visit as a learning experience and value for fees. This suggests quality service concerns that need further investigation. A formal reporting and monitoring program needs to be established.</i>	Fair

Table 17: Critical Success Factor for Connecting Visitors Personally With Place Indicator

Critical Success Factor	Strengths	Challenges	Rank
<i>Communicating the park's status as a protected heritage area, its unique stories, challenges and opportunities to the visitor before they make their travel decision, en route, upon arrival, and on site.</i>	<i>The website provides pre-trip information and education opportunities. On-site orientation and information includes a visitor guide, several non-personal and personal education opportunities and a visitor centre exhibit. The park regularly works with media and TV/film opportunities to promote Point Pelee's stories and unique messages.</i>	<i>Surrounding destination marketing organizations and communities have yet to market the region as a sustainable tourism destination and do not use the national park brand in collateral materials. Pre and en-route visitors and community members therefore have little to no understanding of the park's unique values.</i>	Fair 
<i>Providing visitors with tangible take away memorabilia.</i>	<i>The Friends of Point Pelee operate a gift shop within the visitor centre where visitors can purchase books, clothing and other memorabilia.</i>	<i>There is little market research determining product interests and expectations. The park offers few free value-added take away memorabilia.</i>	Fair 
<i>Providing opportunities for the visitor to get involved at the park or site, for example, through volunteer programs.</i>	<i>Volunteer opportunities do exist through the Parks Canada Volunteer Program, the Friends of Point Pelee and the Point Pelee National Park Advisory Committee of Local Citizens. Youth regularly participate in Adopt-a-Beach programs as well as through the Earthschools program and other opportunities to fulfill their 40 hour volunteer requirement for Ontario secondary school completion. The park is investigating participation in the Ontario Nature-Volunteer for Nature program.</i>	<i>Currently, the majority of opportunities are "one time" or limited time opportunities for the visitor or members of the community to be involved in or to volunteer.</i>	Fair 

Indicator: Connecting Visitors Personally With Place

Description

The presence and level of a visitor's personal connection to the park or site.

Research was undertaken recently to determine if park visitation affected place attachment as well as environmental behavior and attitudes. (Halpenny 2006) Several variables were measured from a cross section of past and present park visitors, including place satisfaction, motivation for visiting (social interaction, nature observation, recreational activities and learning opportunities), distance between the park and visitor residence and visitation patterns (as a child, length of affiliation, length of visit and frequency of visits). The study concluded visitor appreciation and attachment to the park increased with the number of visits, childhood visitation, lack of substitution (lack of other similar experiences nearby), length of

affiliation, commitment to the park (e.g. Friends of Point Pelee, Parks Canada volunteer) as well as satisfaction with the park and activities engaged in during a visit. The study also concluded that increased attachment to the park consistently predicted pro-park and, to a lesser degree, pro-environmental behavior. This supports the contention that people who visit and subsequently care about a place are more likely to protect it and that visiting a national park does to some degree lead to pro-environmental stewardship values. (Halpenny 2006) As discussed, there is strong personal connection to Point Pelee National Park especially among visitors who experience the park as youth.

While visitors to the park report a reasonable understanding of the significance of Point Pelee National Park, there is little data or measures in place to determine level of understanding, level of support for the park or the effectiveness of public appreciation and understanding programs.

Table 17 provides a summary of the critical success factors assessed for the Connecting Visitors Personally With Place indicator.

9

STATE OF CULTURAL RESOURCES



Indicator: Protected and Communicated Cultural Resources

Point Pelee National Park has an inventory of 25 burial sites and an additional 25 archaeological sites that range from Aboriginal habitation and portage camps to historic farmsteads and other historic dwellings. All sites including those with human remains have been comprehensively mapped to ensure protection and minimize disturbance. Only two archeological sites are reported to have any disturbance potential. Both are non-burial. Parks Canada archeologists are present during all major construction and development initiatives to ensure cultural resources are not destroyed or to identify new sites.

Aboriginal history is featured in the new Visitor Centre exhibit, adding to cultural exhibits along the Tip trail and at the DeLaurier Homestead. Third-party publications about the cultural significance of the park are available in the Friends of Point Pelee gift shop. Relevance and understanding of cultural messages have not been tested. It is recognized that Parks Canada needs to develop a Cultural Resource Management Strategy for Point Pelee National Park. This strategy would include an inventory of landscape features, buildings and structures (includ-



DeLaurier Homestead

ing those found on Middle Island), other inventories and holdings as well as the currently managed archeological sites.

Table 18 provides an assessment of the Protected and Communicated Cultural Resources indicator.

Table 18: Measure for Protected and Communicated Cultural Resources Indicator

Measure	Strengths	Challenges	Rank
<i>Cultural Resources are protected and not under threat from visitor use or natural process disturbance and are communicated to park visitors.</i>	<i>Planned communication elements in the Visitor Centre will tell the story of Aboriginal peoples. Current archeological sites are managed in order to ensure an adequate level of protection.</i>	<i>A cultural resource management strategy is required, incorporating landscapes, buildings and misc. collections.</i>	Fair

10

ASSESSMENT OF MANAGEMENT ACTIONS

Of the many goals and objectives established in the *1995 Point Pelee National Park Management Plan*, the majority have been accomplished. Some were adjusted to incorporate new partners, new financial opportunities and new legislation, including the revised *Canada National Parks Act* (2000) and the new *Species at Risk Act* (2002). Issues and opportunities not anticipated such as the addition of Middle Island to the park, the first expansion of the park since 1918, brought with it complex ecological challenges and an increased number of species at risk.

Point Pelee National Park is actively managing ecological integrity issues within the park and has successfully collaborated with regional stakeholders to improve conservation in the Greater Park Ecosystem. *Table 19* provides examples of key objectives from the *1995 Point Pelee National Park Management Plan*, management actions taken to accomplish them and their relative effect on ecological integrity of the park. Many actions implemented at the park scale have been successful. For example, much of the human footprint has been removed and land restored; the negative effects of a hyper-abundant white-tailed deer population on vegetation communities have been reduced; the extirpated southern flying squirrel has been reintroduced and several initiatives have been undertaken to inform, engage and collaborate with regional stakeholders. Education programs reach many regional residents and regional conservation initiatives have achieved tangible gains.

Table 19. Management actions and effects on ecological integrity.

Management Plan Objectives	Management Action	Effect on Ecological Integrity
<i>To enhance the park's educational role, with the aim of fostering environmental awareness.</i>	<p><i>Development and delivery of education programs:</i></p> <ul style="list-style-type: none"> • Earthschools • Junior Naturalist Program • Henry Community Youth Camp 	<i>Over 5700 children participate annually in the in-park school programs and the outreach Earthschools program reaches over 1000 primary and secondary school children in the Zone of Greatest Influence.</i>
<i>To provide a range of orientation, information and interpretive services both inside and outside the park, to enable the public to better understand and protect the park's natural and cultural resources.</i>	<ul style="list-style-type: none"> • New visitor center exhibit through fund-raising partnerships • Renewed focus on ecological integrity messages in all personal interpretation programs • A strategy to minimize birder impacts through interpretive signs, and communication products and programs. 	<ul style="list-style-type: none"> • In-park interpretation programs attract 48,500 participants annually while 125,000 visitors view the visitor centre exhibit. • The park's public awareness program reaches 65-92% of all park visitors with some type of educational experience. • Monitoring of seasonal birding trails in the Tip area shows the length of unofficial trails was reduced from 6.75 km in 1985 to less than 0.3 km in 2006.
<i>To provide the natural resources and processes of the park with the highest degree of protection in order to maintain their natural qualities and prevent further human impact.</i>	<ul style="list-style-type: none"> • Removal of cottages, roads, fields, orchards and park infrastructure • Redeveloped the park entrance and Tip areas to reduce human impact, including the provision of the shuttle service to the Tip. 	<ul style="list-style-type: none"> • Approximately half of the dry land (200 ha) in the park has been restored reducing the human footprint and creating habitat for flora and fauna including rare and endangered species. • With the removal of 22.9 km of roads between 1959 and 2004, the potential for vehicle-wildlife collisions has been reduced as have barriers to wildlife movement.
<i>To emphasize the protection of habitats which are of limited distribution and extent, and without which adequate populations of many species could not survive.</i>	<i>Active management of white-tailed deer population through periodic culls.</i>	<i>The forest vegetation has responded to reduced deer densities. McLachlan and Bazely documented an increased diversity of native understory species from 1966 to 1995. Vegetation monitoring plots have shown an increase in canopy cover from 69% in 1996 to 85% in 2005 with substantial increases in the density of small and intermediate size trees.</i>
<i>To provide opportunities for the public living in the adjacent communities and region to play a meaningful role in park planning and plan implementation.</i>	<i>The Point Pelee National Park Advisory Committee of Local Citizens underwent a restructuring of membership to better represent the local community.</i>	<i>The renewed Advisory Committee is providing park management with valuable insight into community perceptions, expectations, concerns and needs. Since so many of the ecological integrity issues and stressors affecting the park originate in the Greater Park Ecosystem, a better connection with local land owners, residents and decision makers is essential.</i>
<i>To provide the greatest possible protection to those features, processes, habitats or populations of species which are unique, sensitive, rare or endangered in a park, regional, national or international context.</i>	<i>In 1998 the park, with financial assistance from the Friends of Point Pelee and Pelee Island Winery, successfully re-introduced the southern flying squirrel, a native species that vanished from the park in the 1940's.</i>	<i>This species at risk has risen to a population of 591 individuals (Bedarczuk 2003) since the reintroduction. Although the population in the park is still at risk because of its isolation and habitat fragmentation, it is a significant addition to the biodiversity of the park through its role in seed and fungus dispersal.</i>
<i>To encourage and support local initiatives to restore areas in order to counter the effects of habitat fragmentation.</i>	<i>Partnering with Essex Region Conservation Authority (ERCA) in the Friends of the Watershed Program through tree planting projects.</i>	<i>In 2005/2006, work with ERCA through the Friends of the Watershed program led to restoration of 3 private properties totaling over 9.3 hectares in close proximity to the park. These habitat restorations in the Greater Park Ecosystem focused in the Zone of Greatest Influence reduced fragmentation and helped restoration of ecosystem processes.</i>

11

ECOLOGICAL STRESSORS & PARK CHALLENGES

There have been considerable successes over the last 30 years to reduce the number and impacts of the ecological stressors originating from inside the park. Despite the seemingly overwhelming legacy left by intensive human use of the park in its early years, many of these impacts have been reduced or eliminated. With ongoing efforts, Parks Canada will continue to make progress in accomplishing goals to reduce stressors originating from within park boundaries. However, despite these efforts, the overall state of park ecosystems is reported to be fair. The major stressors affecting the assessment emerging from this *State of the Park Report* are:

- regional sources of pollution;
- regional habitat loss, fragmentation and alteration; and
- shoreline erosion.

The park's small size and the intense land use in the Greater Park Ecosystem, leave the park highly susceptible to regional stressors. In Essex County, within which the park is situated, only 6% of the natural areas remain. (Parks Canada 2003a) As a result, the park is a functional island prone to species extirpations. The draining of over half of the original wetland has left the Point Pelee marsh cut off from its natural hydrological regime affecting natural processes and biodiversity. This will continue to have a profound effect on the health of the wetland ecosystem. Regional land use is also affecting the shoreline of the park. Recent studies have concluded harbour structures at Wheatley, public and private armouring of the eastern shoreline north of the park and historical sand mining have combined to alter natural coastal processes such that the park's eastern shoreline is eroding at a much higher rate. Since the park's marsh habitat is sustained and protected from Lake Erie by the east barrier beach, this means the marsh is under increased threat to breaches during storms at average and high lake levels. If the barrier beach disappeared, this would result in a substantial loss of wetland and forest ecosystems. This presents a major challenge to the maintenance or restoration of ecological integrity as the primary stressors are outside the direct control of Parks Canada.

Other key park challenges identified through this *State of the Park Report* are:

Invasive exotic species

The park is facing new stresses from exotic species of plants and animals. Some exotic species pose little or no threat. Others are invasive (e.g. purple loosestrife, garlic

mustard) and can quickly crowd out native species. Carp is an exotic species of fish which is thought to be responsible for causing high nutrient levels in the park's marsh ponds. (Mayer et al. 1999) Emerald ash borer is an exotic species of beetle which has recently killed most of the ash trees in Essex County and threatens the four species of ash found in the park, including blue ash, a species at risk.

Hyper-abundant species

The park's efforts to control hyper-abundant white-tailed deer to protect vegetation have been very successful, but require ongoing investment. The addition of Middle Island to the park in 2000 brought with it complex operational and ecological challenges. The most significant challenge being how to address the impacts of intense double-crested cormorant nesting on the rare Carolinian vegetation communities and species at risk.

Altered disturbance regimes

Although the reduction of the human footprint in the park has resulted in an increase in the ecological integrity of the park, it has also eliminated some disturbance mechanisms which may have been sustaining some habitat in the early stages of succession, such as old field red cedar savannah. This habitat is now decreasing in the park at a steady rate and threatens to take with it the rare plants and animals which depend on this habitat. The complexities and issues surrounding this need to be addressed through the development of a vegetation communities management plan to guide management actions. Loss of the old field red cedar savannah habitat is also impacting visitor experience.

Climate change

This is an emerging stressor which may increase the frequency of storms, cause shifts in species ranges, increase exotic species invasions, and disrupt lake ecology. (Kling et al. 2003) The park's ecological integrity is susceptible to these changes and therefore climate change impacts should be considered in the upcoming management plan review.

Species at Risk

Point Pelee National Park is currently home to almost 60 nationally-listed species at risk (SAR), more than any other national park in Canada. In fact, tiny Middle Island has a longer SAR list (9) than any other Canadian national

park. The *Species at Risk Act* mandates the steps necessary to protect and recover flora and fauna that are nationally at risk. The large number of SAR, the relatively small land area of the park and the high number of stressors affecting it, make protection and recovery of species at risk extremely complex. The challenge lies in the determination of how to manage for both the needs of individual SAR species and the overall ecological integrity of the park.

Public Appreciation and Understanding

Currently, awareness and education programs reach a large percentage of park visitors. However, little is understood with respect to satisfaction and effectiveness in engaging education and learning program participants to become more involved and supportive - environmental stewards. As many of the major ecological stressors for Point Pelee National Park originate from outside the park, the challenge lies in reaching enough of the target audiences within the Greater Park Ecosystem to enable real and tangible change in the condition and trend of ecological integrity of the park. The key to achieving this will be through working with partners and enabling others.

Visitor Experience

Changing demographics and market expectations, tired park infrastructure, a tourism product that requires renewal and a reduced mosaic of natural habitat types are affecting the quality and relevance of the visitor experience. Park visitation has declined over the last decade. Renewed investment is required to revitalize the visitor experience, and to work with regional partners in positioning and promoting Point Pelee National Park as a premier site in the regional tourism offer.

Cultural Resources

Point Pelee National Park has a long and varied history of human interaction with the natural environment. As a result, the park is rich with cultural resources. The challenge is to ensure protection and to better understand significance of cultural resources in order to weave their stories through park communications programs.

12 | CONCLUSIONS

The 2006 *Point Pelee National Park State of the Park Report* concludes that overall, the ecosystems of the park are in a fair state. Despite substantial gains in conservation at the park scale, regional processes that have a dominant effect on ecological integrity continue to be severely impaired. Erosion, immigration, succession, and nutrient cycles currently operate outside of the natural range of variation. The park lacks connection to other natural habitats in the Greater Park Ecosystem, which are themselves sparse and very small. Current research predicts the landscape scale fragmentation of the area will cause a slow but steady decline in biodiversity as neither new, incoming genes or growth in population size may be possible. The high level of disturbance in the ecologically stressed areas in close proximity to the park will also continue to make the park highly vulnerable to exotic species invasion. Without continued and enhanced management intervention and participation in regional conservation initiatives, park ecosystems are expected to decline from their current condition. The park has a successful in-park education offer and regularly engages over 90% of park visitors in some form of educational or learning experience. Considering however that the park's greatest ecological stressors come from outside its boundaries, greater education and engagement of communities and stakeholders in the Greater Park Ecosystem is needed to succeed in protecting the park into the future.

While park visitors report being satisfied overall with the visitor experience, park visitation continues to decline. Point Pelee National Park needs to define the tools, priorities and investments required to regularly revitalize and maintain relevance of the park's public appreciation and understanding, and visitor experience programs to successfully contribute to maintaining and improving ecological integrity.

A review of the goals and objectives from the 1995 *Point Pelee National Park Management Plan* shows success at implementing objectives directed at reducing ecological stressors within the park (ie. removing park infrastructure, reducing visitor impacts, etc.). The challenge to be met in the upcoming management plan review will be to identify the active management needed to reduce the ecological stressors pressuring the park from within (exotic invasive species, road mortality impacts, hyper-abundant species, contaminants, etc.) while developing strategies to address the landscape scale stressors (wetlands and natural area fragmentation, altered natural disturbance

regimes and coastal processes, etc.) that ultimately affect the trend for ecological health of the park. Partnerships with conservation organizations, municipalities, and other regional land use managers in the Greater Park Ecosystem, specifically within the Zone of Greatest Influence will be crucial for success. The park challenges outlined in this *State of the Park Report* must also be addressed to maintain and improve ecological integrity and to achieve the vision for Point Pelee National Park.

13

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