

Multi-species Action Plan for Prince Edward Island National Park of Canada



2016

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For copies of the action plan, or for additional information on species at risk, including COSEWIC Status Reports, residence descriptions, recovery strategies, and other related recovery documents, please visit the [Species at Risk Public Registry](http://sararegistry.gc.ca/default.asp?lang=En&n=24F7211B-1)¹.

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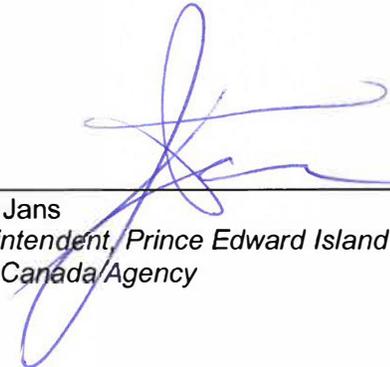
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¹ <http://sararegistry.gc.ca/default.asp?lang=En&n=24F7211B-1>

Approval Statement

The Parks Canada Agency led the development of this federal action plan under the Species at Risk Act. The relevant Field Unit Superintendent hereby approves this document indicating that the relevant Species at Risk Act requirements related to action plan development have been fulfilled in accordance with the Act.

Approved by:



Karen Jans
Superintendent, Prince Edward Island Field Unit
Parks Canada Agency

Preface

The federal, provincial, and territorial government signatories under the [Accord for the Protection of Species at Risk \(1996\)](#)² agreed to establish complementary legislation and programs that provide for effective protection of species at risk throughout Canada. Under the *Species at Risk Act* (S.C. 2002, c.29) (SARA), the federal competent ministers are responsible for the preparation of action plans for species listed as Extirpated, Endangered, and Threatened for which recovery has been deemed feasible. They are also required to report on progress five years after the publication of the final document on the Species at Risk Public Registry.

Under SARA, one or more action plan(s) provides the detailed recovery planning that supports the strategic direction set out in the recovery strategy for the species. The plan outlines what needs to be done to achieve the population and distribution objectives (previously referred to as recovery goals and objectives) identified in the recovery strategy, including the measures to be taken to address the threats and monitor the recovery of the species, as well as the proposed measures to protect critical habitat that have been identified for the species. The action plan also includes an evaluation of the socio-economic costs of the action plan and the benefits to be derived from its implementation. The action plan is considered one in a series of documents that are linked and should be taken into consideration together with the COSEWIC status report, the recovery strategy, and other action plans produced for these species.

The Minister responsible for the Parks Canada Agency (the Minister of the Environment and Climate Change) is the competent minister under SARA for the species found in Prince Edward Island National Park (PEINP) and has prepared this action plan to implement the recovery strategies as they apply to the park, as per section 47 of SARA. To the extent possible, it has been prepared in cooperation with Environment and Climate Change Canada, Fisheries and Oceans Canada, the Province of Prince Edward Island, and the Mi'kmaq Confederacy of Prince Edward Island, as per section 48(1) of SARA.

Implementation of this action plan is subject to appropriations, priorities, and budgetary constraints of the participating jurisdictions and organizations.

Acknowledgments

Thanks are extended to Mr. Randy Angus (Mi'kmaq Confederacy of Prince Edward Island), Jackie Waddell (Island Nature Trust) and Samara Eaton (Environment and Climate Change Canada) for contributing content and perspective to the plan. Parks Canada would also like to acknowledge NatureServe Canada and the Atlantic Canada Conservation Data Centre for providing data and information used in assessing the status of species in PEI National Park.

² www.ec.gc.ca/media_archive/press/2001/010919_b_e.htm

Executive Summary

The *Multi-species Action Plan for Prince Edward Island National Park of Canada* applies to lands and waters occurring within the gazette boundaries of Prince Edward Island National Park (PEINP), as well as Crown lands located adjacent to the park that are owned and administered by Parks Canada, including Greenwich. The plan meets the requirements for action plans set out in the *Species At Risk Act* (SARA s.47) for species requiring an action plan, and that regularly occur in these sites. Measures described in this plan will also provide benefits for other species of conservation concern that regularly occur at PEINP and on associated federal lands.

Where it has been determined that the park can conduct management activities to help recover and/or manage a species, site-specific objectives are identified in this plan and represent the park's contribution to objectives presented in federal recovery strategies and management plans. For those species that have a recovery strategy, the park-specific objectives represent the Park's contribution to the overall population and distribution objectives. In Canada's national parks, species at risk, their residences, and their habitat are protected by existing regulations and management regimes in national parks, as well as by SARA. Additional activities that will contribute to the survival and recovery of the species in the Park and nearby Parks Canada-administered lands are described in this plan. These activities were identified based on threats and actions outlined in federal and provincial status assessments and recovery documents, as well as knowledge of the status and needs of each species on these lands. Population monitoring measures are also identified for the species for which management actions at the sites can contribute to recovery.

Critical habitat in PEINP was identified in the Recovery Strategies for Piping Plover and Gulf of St. Lawrence Aster, and Parks Canada has legally protected these parcels of critical habitat. No new information exists to identify additional critical habitat in this action plan. Measures to protect critical habitat in the Park are presented in this action plan.

Measures proposed in this action plan will have limited socio-economic impact and place no restrictions on land use outside of the Parks Canada-administered lands addressed in this plan. Direct costs of implementing this action plan will be borne by Parks Canada. Indirect costs are expected to be minimal, while benefits will include positive impacts on park ecological integrity, enhanced visitor opportunities, greater awareness and appreciation of the value of biodiversity to Canadians, and opportunities for engagement of local communities and Indigenous groups.

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1. Context

Prince Edward Island National Park of Canada (hereafter PEINP, or the Park) was established in 1937 and protects approximately 16.1 km² of coastal, freshwater, forest and wetland ecosystems along Prince Edward Island's north coast (Figure 1). Parks Canada's Prince Edward Island Field Unit also administers an additional 18.8 km² of adjacent Crown lands, which have been purchased opportunistically since the 1950's as a strategy to buffer the park against intensive land development.

The Park was established to protect representative examples of the Appalachian - Maritime Plain natural region. It is characterized by low-lying lands with rich estuaries, Acadian Region mixed forests, barrier islands, sand dunes and sandstone cliffs. Historically, forests on Prince Edward Island (PEI) were dominated by American Beech, Yellow Birch, Sugar Maple, Red and Black Spruce, Eastern Hemlock and White Pine. The island's original forests have long since been cleared by settlers for lumber and related wood products and to make way for agriculture. As a result, contemporary forests, which cover 35% of the Park, are largely dominated by mature, early-successional White Spruce, Balsam Fir and White Birch forests. The coastal ecosystem (above high-tide) comprises 40% of the Park, and the remaining 25% of the Park is made up of wetland (5%) and freshwater (4%) ecosystems. Developed lands and park infrastructure occupy the remaining land area (16%).

Maintenance and restoration of ecological integrity is the first priority of national parks (*Canada National Parks Act* (CNPA) s.8 (2)). Species at risk, their residences, and their habitat are therefore protected in Canada's national parks and national historic sites by existing park regulations and management regimes, as well as by the *Species at Risk Act* (SARA). On adjacent federally-owned Crown lands, protection is accomplished by existing management practices and by SARA. In addition, SARA prohibitions protecting individuals and residences apply automatically when a species is listed, and all critical habitat in national parks and national historic sites must be legally protected within 180 days of being identified.

Recovery measures for species at risk will be integrated within the framework of Parks Canada's ongoing ecological integrity programs. National parks maintain comprehensive, scientifically rigorous ecological integrity monitoring and restoration programs that are organized according to the major ecosystems present in the Park. The recovery measures described in this action plan are therefore organized in the same manner. Parks Canada's ecological integrity programs make contributions to the recovery of species at risk by providing inventory and monitoring data, and through the implementation of habitat restoration projects and other conservation action on the ground. The species-directed measures outlined in this plan will in turn contribute to maintaining and improving the ecological integrity of PEINP by improving the conservation status of native species and their habitat. Species at risk information will also be integrated into the Park's comprehensive visitor experience, prevention and compliance, education and outreach programs, helping to improve awareness, appreciation, and support for recovery efforts in the Park and beyond.

Federally-owned Crown land occurs proximate to the park boundary, but the largest areas are found in Cavendish and Greenwich (Figure 1). In Cavendish, just over 450 hectares of Crown land are operated under licensed agricultural lease agreements. Smaller parcels of acquired properties have been generally naturalized, exposed to natural restoration and managed in a manner similar to lands within the Park itself.

A number of federal and provincial recovery strategies and plans, management plans, and action plans have been prepared for species considered in this action plan. Along with status assessments, those documents provide guidance for the recovery of individual species, including strategic directions, recovery objectives, critical habitat, and threats. This action plan was developed and will be implemented in a manner that is consistent with those recovery documents, and should be viewed as part of this body of linked strategies and plans.

1.1 Scope of the Action Plan

The geographic scope of this action plan includes all lands and waters within the boundary of PEINP, as described in Schedule 1 of the CNPA, as well as 41 parcels of federally-owned Crown lands adjacent to the Park that are administered by Parks Canada, including Greenwich, Brackley, Dalvay and Cavendish areas totaling 18.8 km² (Figure 1). This multi-species action plan has been written specifically for these federally-owned lands because the Parks Canada Agency (PCA) is legally responsible for species at risk on Parks Canada administered lands, has the ability to take direct conservation action, and deals with different threats, legislation, and management priorities.

This action plan addresses SARA-listed species that regularly occur on Park-administered lands, and which require an action plan under SARA (s.47), as well as other species of conservation concern (Table 1). This approach both responds to the legislated requirements of the SARA and provides the Parks Canada Agency with a comprehensive plan for species conservation and recovery at these sites. The plan will be amended as required to meet SARA requirements for action planning.

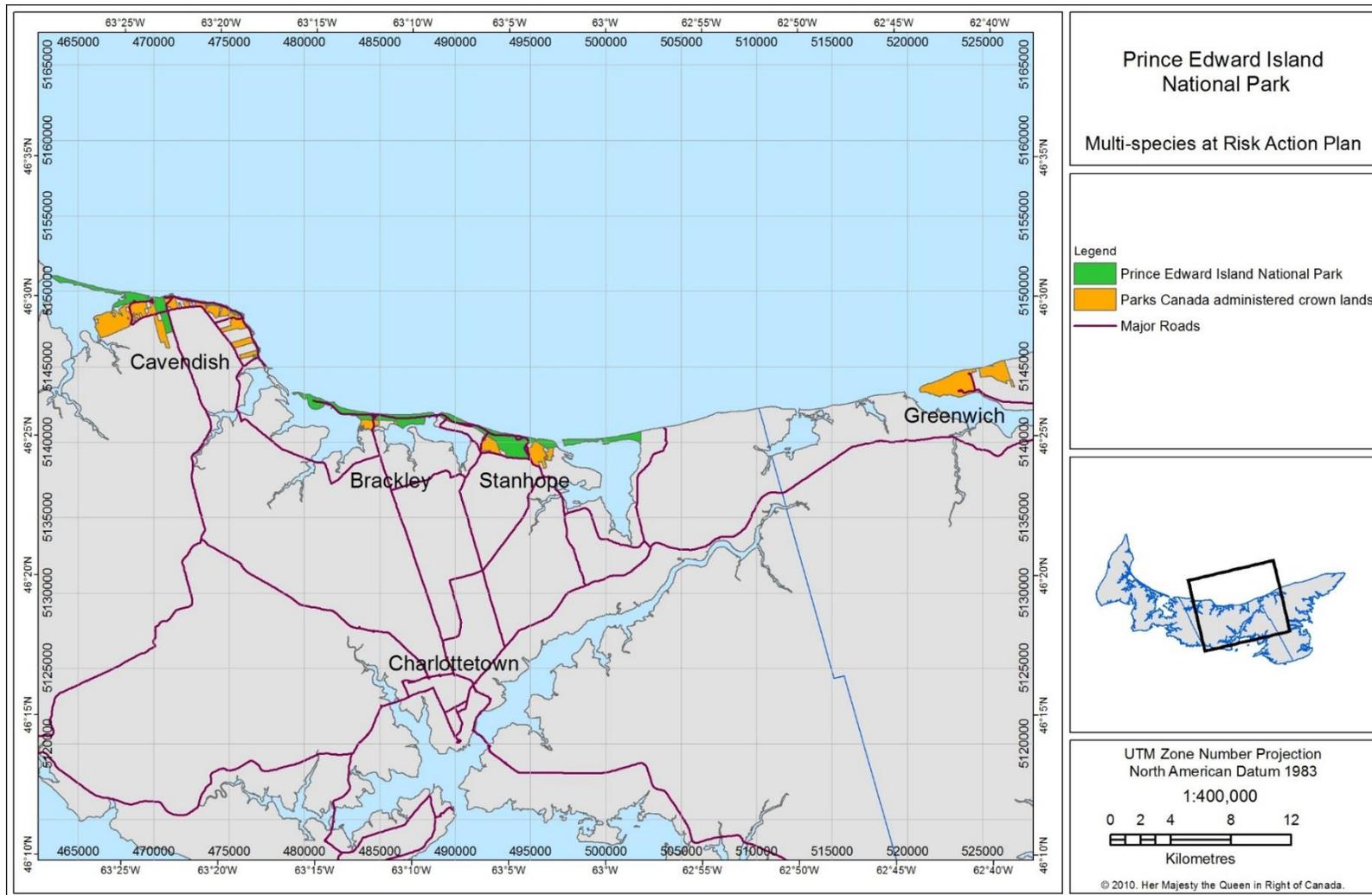


Figure 1: Geographic scope for the *Multi-species Action Plan for Prince Edward Island National Park of Canada*. The park is located on Prince Edward Island and includes lands and water totaling 16.1km² and adjacent to the park federal lands totaling 18.8km².

Table 1. Species included in the Multi-species Action Plan for PEINP.

Species	COSEWIC assessment	SARA status
Little Brown Myotis (<i>Myotis lucifugus</i>)	Endangered	Endangered
Northern Myotis (<i>Myotis septentrionalis</i>)	Endangered	Endangered
Piping Plover (<i>Charadrius melodus melodus</i>)	Endangered	Endangered
Red Knot (<i>Calidris canutus rufa</i>)	Endangered	Endangered
Canada Warbler (<i>Cardellina canadensis</i>)	Threatened	Threatened
Gulf of St. Lawrence Aster (<i>Symphyotrichum laurentianum</i>)	Threatened	Threatened
Olive-sided Flycatcher (<i>Contopus cooperi</i>)	Threatened	Threatened
Beach Pinweed (<i>Lechea maritima</i>)	Special Concern	Special Concern
American Eel (<i>Anguilla rostrata</i>)	Threatened	Not listed
Bank Swallow (<i>Riparia riparia</i>)	Threatened	Not listed
Barn Swallow (<i>Hirundo rustica</i>)	Threatened	Not listed
Bobolink (<i>Dolichonyx oryzivorus</i>)	Threatened	Not listed

2. Site-based Population and Distribution Objectives

The opportunity for Parks Canada to contribute to the local and/or national recovery of each species through management actions at PEINP and the other Parks Canada-administered lands was assessed and incorporated into this plan. Site-specific population and distribution objectives have been developed (Appendix A) to identify the contribution that the Prince Edward Island Field Unit can make towards achieving the national objectives presented in federal recovery strategies and management plans. Because they are directly linked to population and distribution objectives, monitoring measures are reported in Appendix A rather than in the table of recovery measures (Appendix B). In some cases, the opportunity for the Park to contribute to the recovery of a species will be relatively small due to the distribution of the species in Canada, or because the primary threats it faces occur outside national park sites. In these cases, site-specific objectives and conservation actions may be limited to protection measures in place under the CNPA and SARA, population monitoring, and habitat maintenance and restoration through the existing park management regime.

3. Conservation and Recovery Measures

Measures that are proposed to achieve the site-based population and distribution objectives, along with any measures required to protect the species and to learn more about them, are presented in Appendix B and Appendix C. For each measure, timelines, targets, and desired outcomes were established.

The majority of measures to be taken and implemented that will contribute to the recovery of species at risk within the Park and associated lands focus on protecting existing habitat and monitoring for species presence. This will be largely achieved through the use of existing methodologies, resources, regulations and policies, or by increasing protection measures through the creation of critical habitat areas under Species at Risk Act. These efforts are commensurate with the amount of habitat available for many species at risk within PEINP, as its size is modest when viewed on a regional or national scale. However, for species such as Gulf of St. Lawrence Aster or Piping Plover, the Park's habitat contributes significantly to regional populations. Therefore, active recovery measures such as intensive monitoring, enforcement patrols, area closures, and in the case of Gulf of St. Lawrence Aster, transplants for site colonization and naturalization are being attempted to improve or maintain favorable conditions for the species in the landscape.

In addition to the implementation of measures that contribute to species recovery, Parks Canada has an important role in promoting awareness and appreciation of species at risk. Providing opportunities for the public to learn about and experience national parks is a central component of Parks Canada's mandate. Thus national parks afford an opportunity and an imperative for engaging the public in species at risk recovery. A suite of public outreach, education, and visitor activities was developed as part of the action planning process (Appendix D). These will engage audiences using a broad range of approaches and levels of participation, including passive media such as interpretive panels and print publications, on-demand electronic information via the Parks Canada website, as well as guided interpretive activities and targeted prevention initiatives designed to teach the public about species at risk and efforts undertaken to address their recovery.

This action planning process identified measures to achieve the site-based population and distribution objectives, along with measures required to protect the species and learn more about them. The process of determining which measures will be conducted by the Park (Appendix B, C, and D) involved a prioritization process. The process primarily considered ecological effectiveness of measures, and also included consideration of opportunities to increase the value of visitor experience in the park, opportunities to increase awareness through external relations, and budgetary opportunities and constraints. Wherever possible, Parks Canada is taking an ecosystem approach, prioritizing actions that benefit numerous species at once to effectively and efficiently protect and recover species at risk.

4. Critical Habitat

Critical habitat is “the habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species’ critical habitat in the recovery strategy or in an action plan for the species” (SARA s.2 (1)). At the time of writing, it was not possible to identify any additional critical habitat in the park. Critical habitat has already been identified in PEINP in SARA recovery strategies for Piping Plover and Gulf of St. Lawrence Aster. This includes 5 parcels of Gulf of St. Lawrence Aster critical habitat along the northern boundary of the Park (Environment Canada 2012a), and 10 parcels of Piping Plover critical habitat along north shore beaches (Environment Canada 2012b). SARA prohibitions protecting these parcels of plover and aster critical habitat have been enabled by publication of descriptions of the critical habitat in the *Canada Gazette*. More critical habitat will be identified in the future when possible. Where critical habitat identification is not complete, it will be identified in an upcoming or revised action plan or revised recovery strategy; refer to the schedule of studies in relevant recovery strategies for further details.

4.1 Proposed Measures to Protect Critical Habitat

Critical habitat identified within PEINP in previous recovery documents is legally protected from destruction as per section 58(1) of the SARA.

5. Evaluation of Socio-Economic Costs and of Benefits

The Species at Risk Act requires the responsible federal minister to undertake “*an evaluation of the socio-economic costs of the action plan and the benefits to be derived from its implementation*”.

5.1 Costs

The total cost to implement this action plan will be borne by Parks Canada out of existing salaries and goods and services dollars. Many of the proposed measures will be integrated into the operational management of the Park, and there will be few new costs. These costs to Government will be covered by prioritization of existing funds and will not result in additional costs to society.

No major socio-economic costs to park visitors, partners, stakeholders or Indigenous groups are expected as a result of this action plan. The action plan applies to lands and waters in PEINP and the federally-owned Crown lands administered by the Park, and does not bring any restrictions to land use outside of the lands administered by Parks Canada. While minor restrictions may be placed on visitor activities on park lands to protect and recover species at risk, implementation of this plan is expected to have an overall net benefit to visitor opportunities.

5.2 Benefits

Measures presented in this action plan for PEINP will contribute to meeting recovery strategy objectives for Threatened and Endangered species, and will also contribute to meeting management objectives for species of Special Concern. These measures are expected to have an overall positive impact on the ecological integrity of the Park, for example through improvements to the health of coastal ecosystems, and enhanced opportunities for appreciation of the Park and the species by visitors and the general public. This action plan includes measures that could result in benefits to Canadians, such as positive impacts on biodiversity and the value individuals place on preserving biodiversity, as well as protection and enhancement of ecosystem services such as maintenance of coastal shoreline processes.

The proposed measures seek a balanced approach to reducing or eliminating threats to species at risk populations and habitats, and include protection of individuals and their habitat, potential species re-establishment, and increasing public awareness and stewardship.

Potential economic benefits of the recovery of the species at risk found in the Park cannot be easily quantified, as many of the values derived from wildlife are non-market commodities that are difficult to appraise in financial terms. Wildlife, in all its forms, has value in and of itself, and is valued by Canadians for aesthetic, cultural, spiritual, recreational, educational, historical, economic, medical, ecological and scientific reasons. The conservation of wildlife at risk is an important component of the Government of Canada's commitment to conserving biological diversity, and is important to Canada's current and future economic and natural wealth.

Implementing this action plan is expected to have positive benefits for park visitors, local residents and Indigenous groups. Benefits and opportunities for involvement should be relatively evenly distributed across Indigenous and non-Indigenous members of local communities and will be available to all park visitors.

6. Measuring Progress

Reporting on implementation of this action plan (under s. 55 of SARA) will be done by assessing progress towards implementing the measures. Reporting on the ecological impacts of the action plan will be done by assessing progress towards meeting the site-based population and distribution objectives.

7. References

- COSEWIC. 2007. COSEWIC Assessment and Status Report on the Red Knot *Calidris canutus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 58 pp.
- Environment Canada. 2011. Atlantic Canada Piping Plover Conservation Guidance Manual. Internal Canadian Wildlife Service Report Series May 2011. Canadian Wildlife Service, Atlantic Region. 64 pp.
- Environment Canada. 2012a. Recovery Strategy for the Gulf of St. Lawrence Aster (*Symphyotrichum laurentianum*) in Canada. *Species at Risk Act* Recovery Strategy Series. Environment Canada, Ottawa, v + 18 pp + appendices.
- Environment Canada. 2012b. Recovery Strategy for the Piping Plover (*Charadrius melodus melodus*) in Canada. *Species at Risk Act* Recovery Strategy Series. Environment Canada, Ottawa, v + 29 pp.
- Environment Canada. 2016a. Recovery Strategy for Canada Warbler (*Cardellina canadensis*) in Canada. *Species at Risk Act* Recovery Strategy Series. Environment Canada, Ottawa. vii + 56 pp.
- Environment Canada. 2016b. Recovery Strategy for Olive-sided Flycatcher (*Contopus cooperi*) in Canada. *Species at Risk Act* Recovery Strategy Series. Environment Canada. Ottawa. vii + 52 pp.
- Environment Canada. 2013. Management Plan for the Beach Pinweed (*Lechea maritima*) in Canada. *Species at Risk Act* Management Plan Series. Environment Canada, Ottawa, iii + 18 pp.
- Parks Canada. 2007. Prince Edward Island National Park of Canada and Dalvay-by-the-Sea National Historic Site of Canada Management Plan. Parks Canada, Ottawa, 71 pp.
- Parks Canada. 2011. Consolidated Guidelines for Ecological Monitoring in Canada's National Park. Parks Canada Agency. Ottawa, 114 pp + appendices.

Appendix A: Species information, objectives and monitoring plans for species at risk in PEINP and on federally-owned lands adjacent to the park

Species	National objectives ¹	Site-based Population & Distribution objectives	Population Trend in PEINP	Population monitoring ²	General Information and Broad Park Approach
Piping Plover – <i>melodus</i>	(1) Maintain at least 255 pairs in Atlantic Canada, increasing to 310 pairs over time; (2) fledge at least 1.65 chicks per pair	Maintain productivity of 1.65 chicks per pair per year, calculated as a 5 year running average.	Stable and relatively good since the 1980's (1.69 chicks/pair), though variable in recent years. Number of breeding pairs declining over past 15 years, with lowest levels recorded in 2012.	Survey suitable habitat each spring; once a pair is found, monitor productivity following Parks Canada's Piping Plover monitoring protocol. Contribute to the International Piping Plover Census every 5 years.	Mitigate disturbance of breeding pairs, which is identified as a high-level threat. Each spring all critical and suitable habitat is surveyed in PEINP. When a nesting pair is observed, protection measures are put in place (e.g. beach closures) until chicks are 28 days old. Directed compliance patrols, interpretive panels and signage are used to promote compliance with beach regulations and, when beach closures occur, to redirect visitors to open beaches. Ten beaches within PEINP are protected as Critical Habitat under SARA.
Gulf of St. Lawrence Aster	Maintain and, if possible, increase number of individuals and area of occupancy within each of 16 priority occurrence sites	Maintain and, if possible, increase the number of individuals and 300m ² area of occupancy in one of three priority occurrence sites in PEINP. Monitor the remainder two sites.	Stable at Blooming Point, but very low relative to historical populations (pre-2005)	Survey annually at occupied and historic sites. Survey suitable sites periodically.	Gulf of St. Lawrence Aster is declining across its range. PEINP monitors populations within three of the 16 priority occurrence sites and works with the Recovery Team to bank seeds and monitor transplant success at one site.

Species	National objectives ¹	Site-based Population & Distribution objectives	Population Trend in PEINP	Population monitoring ²	General Information and Broad Park Approach
Red Knot – <i>rufa</i>	Short term: to halt the national decline before 2025. Long term: to increase and then maintain the population at (or above) 1986-1990 levels (100,000-150,000 individuals); Maintain the current extent of occurrence in Canada	No objective established: low numbers pass through PEINP on migration so park is of limited importance to national recovery.	Unknown	Record observations opportunistically and document any changes.	Disturbance of migration stop-over sites is considered a low-level threat that will be mitigated through measures promoting compliance with existing park regulations (dog prohibitions, etc.)
Canada Warbler and Olive-sided Flycatcher	Short term: halt national decline by 2025; ensure population doesn't decrease > 10%. Long term: ensure a positive 10-year population trend; maintain current extent of occurrence	No objective established: limited breeding activity and suitable habitat within PEINP, so park is of limited importance to the species' national recovery.	Unknown: Possibly declining due to population-wide trend	Conduct Breeding Bird Atlas Survey and annual presence-absence monitoring in suitable habitat or past locations.	Continue to protect and maintain habitat.
Beach Pinweed	From Management Plan: Maintain existing populations	Maintain existing population in PEINP.	Unknown	Survey annually at one known site. Monitor abundance and area occupied.	A small population of Beach Pinweed occurs in PEINP on a small barrier beach island. There is a low-level risk from trampling that will be mitigated through management.

Species	National objectives ¹	Site-based Population & Distribution objectives	Population Trend in PEINP	Population monitoring ²	General Information and Broad Park Approach
Little Brown Myotis and Northern Myotis	Short term (12-18 years): to maintain (and where feasible increase) the current level of the population. Long term (many generations): to have a self-sustaining, resilient, and redundant population	No objective established: status in PEINP is poorly understood.	Unknown	Monitor occurrence and activity levels using Parks Canada protocols.	The status of Little Brown Myotis and Northern Myotis in PEINP are poorly understood. Conduct inventory to assess distribution and activity levels; protect roosts in park buildings and forested areas. Measures related to white nose syndrome will be considered if hibernacula are found.
Bobolink	Not applicable	No objective established: this species is not listed under SARA and PEINP is of limited importance to national recovery.	Unknown	Conduct Breeding Bird Atlas Survey and annual presence-absence monitoring in suitable habitat.	Bobolink occurs irregularly on crown lands adjacent to the park. PEINP will explore options to mitigate potential impacts of hay mowing and other land management practices occurring on these lands to Bobolink breeding success, and will evaluate and implement the best available options.
Bank Swallow	Not applicable	No objective established: this species is not listed under SARA. No threats known in park and PEINP is of limited importance to national recovery.	Number of nest holes declined by 3.6% per year from 1995-2014, though increased by 4.6% per year from 2010-2014	Survey number of nest holes annually.	Continue to protect and maintain habitat.
Barn Swallow	Not applicable	No objective established: this species is not listed under SARA and PEINP is of limited importance to national recovery.	Unknown	Conduct Breeding Bird Atlas Survey and annual presence-absence monitoring in suitable habitat or past locations.	Breeding activity and suitable habitat are limited in PEINP. Continue to protect and maintain habitat.

Species	National objectives ¹	Site-based Population & Distribution objectives	Population Trend in PEINP	Population monitoring ²	General Information and Broad Park Approach
American Eel	Not applicable	No objective established: this species is not listed under SARA. No major threats known in park and PEINP is of limited importance to national recovery	Unknown	Survey annually for relative abundance within freshwater ponds.	Continue to protect and maintain freshwater habitat connectivity and quality.

¹ National objectives from recovery strategies or management plans available at the time of writing; Refer to documents cited in reference section.

² Where population and distribution objectives have been established for PEINP, monitoring is designed to directly measure success in achieving those goals; otherwise baseline population monitoring efforts necessary for park stewardship, management and reporting are described.

Appendix B: Conservation and recovery measures

The measures below will be conducted for species at risk occurring in PEINP and on federally-owned Crown lands administered by the Park. Measures are grouped by ecosystem indicator, as defined under the park's ecological integrity monitoring program. The measures in Appendix B have been classified as higher priority than those in Appendix C through a prioritization process. This was based primarily on ecological effectiveness, but also on Parks Canada-specific factors, such as the ability of the measure to increase the value of the visitor experience to the site, and increase awareness through external relations.

Species	Measure Number	Measure Description	Desired Outcome	Threat or recovery measure addressed
Coastal Ecosystem				
Piping Plover	1	<u>Reduce human disturbance on nesting beaches:</u> Reduce disturbance of breeding plovers, by using directed compliance patrols, interpretive panels and signage to promote compliance with beach regulations and, as warranted, closing beaches in the vicinity of nests.	Annual productivity is ≥ 1.65 chicks per pair per year (calculated as a 5 year running average).	Human disturbance to breeding pairs
Piping Plover	2	<u>Contribute to regional monitoring and research initiatives:</u> Document evidence of predation at each life stage and report marked birds during breeding and migration to determine migratory movements and survival.	Knowledge gaps are reduced, regional reporting and partnerships are continued.	Addresses knowledge gaps
Gulf of St. Lawrence Aster	3	<u>Transplant seedlings:</u> Greenhouse raised asters are transplanted to suitable areas at the Blooming Point site.	An area of 300 m ² of coastal ecosystem is maintained and occupied by asters or 100 individual plants are detected annually.	Reintroduce or increase the number of individuals at priority target sites
Beach Pinweed	4	<u>Reduce disturbance to Beach Pinweed areas:</u> Erect signs indicating SAR plants in vicinity.	Beach Pinweed is maintained within PEINP.	Human disturbance (i.e. trampling)

Appendix C: Other conservation and recovery measures

The measures below will be encouraged through partnerships, or will be conducted when additional resources become available. Measures are grouped by ecosystem indicator, as defined under the park's ecological integrity monitoring program (Parks Canada, 2011).

Species	Measure Number	Measure Description	Desired Outcome	Threat or recovery measure addressed
Forest Ecosystem				
Canada Warbler and Olive-sided Flycatcher	5	<u>Inventory</u> : Conduct breeding season surveys to assess presence, breeding activity and distribution.	Information on distribution, status and abundance is available.	Assess population status and distribution in PEINP.
Little Brown Myotis and Northern Myotis	6	<u>Bat Inventory</u> : Assess distribution and relative abundance of bats in PEINP.	The distribution and relative abundance of bats in PEINP is understood.	Assess population status in PEINP.
Other Ecosystems (managed agricultural lands)				
Bobolink	7	<u>Best Management Practices</u> : Implement existing, or develop (if unavailable) Best Management Practices, that mitigate potential impacts of agricultural land use on breeding Bobolinks.	Presence on lands administered by PEINP is maintained.	Incidental mortality of individuals resulting from agricultural activities.

Appendix D: Outreach, education and visitor experience measures related to species at risk in PEINP

Measure ¹	Measure Number	Desired outcome	Measure Description ²
Develop & implement media strategy	1	At least one media story is produced to highlight species at risk in PEINP each year.	Develop and implement a media plan (print, film, radio, etc.) to disseminate species at risk messaging through news media, web content and social media.
Implement outreach education activities	2	Target audiences are aware of species at risk in PEINP.	When requested, contribute to regional and national curriculum-linked school programming delivered by partners regarding species at risk. Support and develop outreach and educational resources and programs for SAR.
Provide species at risk information throughout park	3	Park visitors learn about species at risk through personal programming (e.g., guided hikes, animated programs, interpretive stations) and early intervention as part of the field unit prevention/compliance program; and non-personal media (e.g., interpretive panels, website content, social media platforms).	Install interpretive panels at strategic locations within the park and surrounding areas. Provide SAR information at Greenwich Interpretation Centre. Include species at risk information in content for personal programming, guided activities and self-guided media.
Engage NGOs and stakeholders to protect species at risk	4	Relationships with NGOs and stakeholders are maintained and developed.	Engage NGOs and stakeholders to collaborate on species at risk awareness.
Encourage citizen science programming	5	Visitors are engaged in monitoring species at risk.	Encourage visitors to participate in SAR monitoring by reporting species at risk sightings to citizen science databases (e.g. E-bird, i-Naturalist).

¹ All measures will be implemented on an annual, ongoing basis.

² Actual measures may vary from year-to-year based on available resources, opportunities, and emerging program needs.

Appendix E: Effects on the Environment and Other Species

A strategic environmental assessment (SEA) is conducted on all SARA recovery planning documents, in accordance with the *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals*. The purpose of a SEA is to incorporate environmental considerations into the development of public policies, plans, and program proposals to support environmentally sound decision-making and to evaluate whether the outcomes of a recovery planning document could affect any component of the environment or achievement of any of the [Federal Sustainable Development Strategy](#)'s³ (FSDS) goals and targets.

Recovery planning is intended to benefit species at risk and biodiversity in general. However, it is recognized that recovery measures may also inadvertently lead to environmental effects beyond the intended benefits. The planning process, which is based on national guidelines, directly incorporates consideration of all environmental effects, with a particular focus on possible impacts on non-target species or habitats. The results of the SEA are incorporated directly into the plan itself, and are summarized below.

Overall, it is anticipated that implementation of this action plan will have a beneficial impact on non-target species, ecological processes, and the environment in PEINP. This plan puts into practice measures presented in recovery strategies for Piping Plover (*melodus* subspecies) and Gulf of St. Lawrence Aster (*Symphyotrichum laurentianum*), both of which were subject to SEAs during the development of those documents (Environment Canada 2012a, 2012b). Further, this action plan was developed to benefit all species at risk that regularly occur in PEINP. Consequently all of these species were considered in the planning process, any potential secondary effects were evaluated and mitigated, and where appropriate, measures were designed to benefit multiple species. The planning process was also guided by priorities identified in the Park's ecological integrity monitoring program and the Park's management plan (Parks Canada 2007). As a result, measures outlined in this plan address key management priorities aimed at improving the broader ecological health of the Park. Finally, this plan outlines stewardship measures, educational programs, and awareness initiatives involving park visitors, local residents, Indigenous organizations, and the general public. This will lead to greater appreciation, understanding, and action towards the conservation and recovery of species at risk in general.

³ www.ec.gc.ca/dd-sd/default.asp?lang=En&n=F93CD795-1