

Multi-species Action Plan for Pukaskwa National Park of Canada



2017

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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](#)¹.

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¹ <http://www.registrelep.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:



Robin Lessard
*Field Unit Superintendent, Northern Ontario Field Unit
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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 strategies 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 strategies, 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 has 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 reports, management plans, recovery strategies, 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 Pukaskwa National Park (PNP) of Canada and has prepared this action plan to implement the recovery strategies as they apply to the park, as per section 47 of SARA. It has been prepared in cooperation with Indigenous organizations, Environment and Climate Change Canada, Fisheries and Oceans Canada and the province of Ontario 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

Special thanks go out to all of those who contributed to the content of this plan and especially those who participated in the site analysis workshop in the fall of 2015 and contributed their time, expertise and information.

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

Executive Summary

The *Multi-species Action Plan for Pukaskwa National Park of Canada* applies to lands and waters occurring within the boundaries of the park. 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 Pukaskwa National Park (PNP).

Where it has been determined that the site can conduct management activities to help recover and/or manage a species, site-specific objectives are identified in this plan and represent the site's contribution to objectives presented in federal recovery strategies and management plans. Species at risk, their residences, and their habitat are protected by existing regulations and management regimes in national parks and national historic sites as well as by SARA. Additional measures that will contribute to the survival and recovery of the species at the sites are described in this plan. These measures 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 at each site. Population monitoring measures are also identified for the species for which management activities at the sites can contribute to recovery.

Critical habitat is not identified 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 PNP. 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 ecological integrity, greater awareness and appreciation of the value of biodiversity to Canadians, and opportunities for engagement of local communities and Indigenous Peoples.

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1. Context

Pukaskwa National Park (PNP) is 1878km² in size and is located on the northeast corner of Lake Superior, Ontario, Canada (Figure 1). PNP is home to the Anishinaabek, the people of the northern Superior region connected by a common language and culture (Parks Canada Agency 2014). First opened as a national park in 1983, PNP represents the Central Boreal Uplands natural region within Canada's National Parks System Plan and is characterized by rugged terrain, boreal forests, rushing rivers, and a spectacular coastline (Parks Canada Agency 2014). Visitors to PNP enjoy wilderness experiences in ways that include camping, hiking, interpretive programs and special activities, and have opportunities to learn about the Anishinaabek people, plant and animal species, and natural processes. The Park's "signature" attraction is its 60-kilometre coastal hiking trail and paddling route along Lake Superior (Parks Canada Agency 2014).

Maintenance and restoration of ecological integrity is the first priority of national parks (*Canada National Parks Act* s.8(2)). Species at risk, their residences, and their habitat are therefore protected by existing national park regulations and management regimes. In addition, the *Species at Risk Act* (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 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 measures. The species-directed measures outlined in this plan will in turn contribute to maintaining and improving ecological integrity at both sites by improving the conservation status of native species and their habitat and maintaining biodiversity.

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 federally owned lands and waters managed by PNP (Figure 1). This multi-species action plan has been written specifically for PNP because the Parks Canada Agency (PCA) is legally responsible for species at risk on PCA lands and waters, has the ability to take direct conservation action, and deals with different threats, legislation, and management priorities than areas outside the park.

This action plan addresses SARA-listed species that regularly occur in PNP 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.

Table 1. Species included in the action plan for Pukaskwa National Park.

Species	Scientific Name	COSEWIC Status	SARA Schedule 1 Status
Barn Swallow	<i>Hirundo rustica</i>	Threatened	Not Listed
Bank Swallow	<i>Riparia riparia</i>	Threatened	Not Listed
Canada Warbler	<i>Cardellina canadensis</i>	Threatened	Threatened
Common Nighthawk	<i>Chordeiles minor</i>	Threatened	Threatened
Eastern Wood-pewee	<i>Contopus virens</i>	Special Concern	Not Listed
Lake Sturgeon (Great Lakes – Upper St. Lawrence populations)	<i>Acipenser fluvescens</i>	Threatened	Not Listed
Little Brown Myotis	<i>Myotis lucifugus</i>	Endangered	Endangered
Monarch	<i>Danaus plexippus</i>	Endangered	Special Concern
Olive-sided Flycatcher	<i>Contopus cooperi</i>	Threatened	Threatened
Peregrine Falcon (<i>anatum/tundrius</i>)	<i>Falco peregrinus anatum/tundrius</i>	Special Concern	Special Concern
Pitcher's Thistle	<i>Cirsium pitcheri</i>	Special Concern	Endangered
Rusty Blackbird	<i>Euphagus carolinus</i>	Special Concern	Special Concern
Shortjaw Cisco	<i>Coregonus zenithicus</i>	Threatened	Not Listed
Woodland Caribou (boreal population)	<i>Rangifer tarandus</i>	Threatened	Threatened
Snapping turtle	<i>Chelydra serpentina</i>	Special Concern	Special Concern

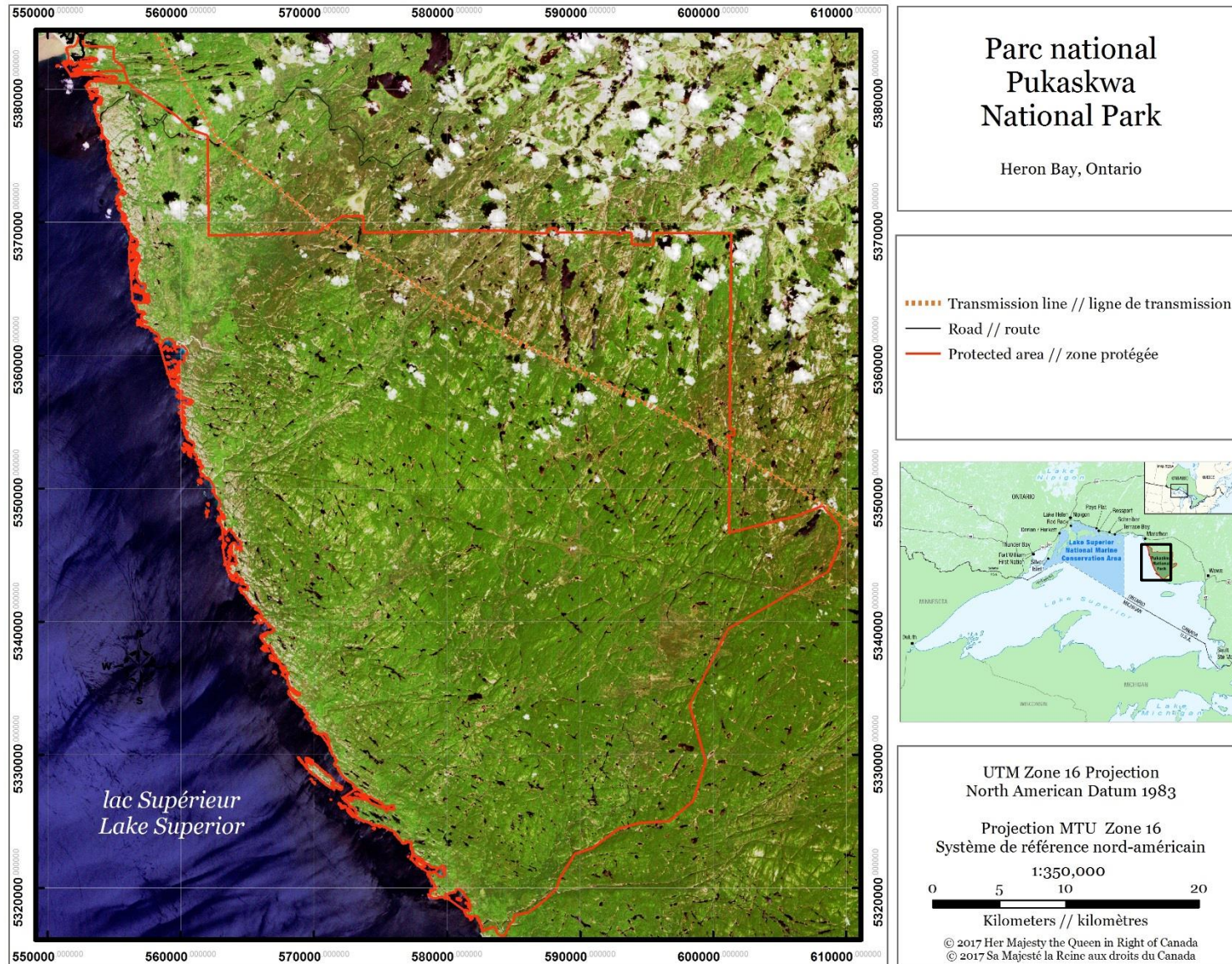


Figure 1. Pukaskwa National Park, Ontario, Canada.

2. Site-based Population and Distribution Objectives

The potential for PCA to undertake management actions at the site that will contribute to the recovery of each species was assessed. Site-specific population and distribution objectives were developed (Appendix A) to identify the contribution that the site can make towards achieving the national objectives presented in federal recovery strategies and management plans. Because they are directly linked to the site-based population and distribution objectives, monitoring activities are reported in Appendix A rather than in the tables of recovery measures (Appendices B and C). If there is little opportunity for the site to contribute to the recovery of a species, site-specific objectives and conservation measures may be limited to protection measures in place under the *Canada National Parks Act* and SARA, population monitoring, habitat maintenance and restoration through the existing management regime at the site. For some species, population and distribution objectives for PNP are not meaningful at the scale of this action plan for various reasons, including 1) threats cannot be controlled in the park or do not exist in the park (e.g., wide-spread disease, loss of overwintering habitat elsewhere); 2) species is only transient; 3) population within the site is a very small part of the Canadian distribution or is unknown or unconfirmed.

3. Conservation and Recovery Measures

PNP contributes to the conservation and protection of several regularly occurring species currently listed as special concern, threatened or endangered in Canada (Table 1). Largely intact unfragmented forest, the majority of the Park is managed as wilderness, providing 187,800 hectares of predominantly mixed-wood forest, 14 primary watersheds with abundant rivers and streams, 951 lakes, and numerous wetlands. PNP's coastal region also contributes to the largest stretch of undeveloped, contiguously forested shoreline on the Great Lakes.

Ecological impacts of past activities on species at risk in this area have resulted in altered predator-prey dynamics, an altered fire regime and contaminant exposure. These impacts have resulted in the decline and extirpation of several species (e.g. Woodland Caribou (*Rangifer tarandus caribou*), Common Nighthawk (*Chordeiles minor*), and Peregrine Falcon (*Falco peregrinus anatum/tundrius*)) highlighting the need for and importance of protected areas like PNP. Since the late 1980s, PNP has worked with stakeholders, partners and volunteers to monitor and improve the ecological health of the park, and increase opportunities to support the recovery of many listed species. In addition, the site has played an important role in promoting awareness and appreciation of species at risk, as well as providing opportunities for academic research and studies that inform management and restoration efforts.

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) and which measures will be encouraged through partnerships or when additional resources come available (Appendix C) 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 to 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.

Three themes emerge from these measures; habitat restoration, filling knowledge gaps, and working together.

Habitat Restoration

PNP will continue habitat improvements for species at risk which depend on recently burned habitat such as the Common Nighthawk, as well as certain young forests, such as the Olive-sided Flycatcher, Rusty Blackbird and Canada Warbler, by using prescribed fire and allowing wildfire to occur naturally when it is safe and desirable. Through mitigating the threat of a suppressed fire regime, PNP expects to ensure the persistence of habitat for many forest bird species at risk that are facing significant declines across their ranges. At the same time, the park is also respecting the need that Woodland Caribou have for large tracts of undisturbed forest habitat by ensuring that prescribed fires planned by the park are minimized in caribou habitat, and wildfires are monitored carefully, and suppressed when necessary, in order to achieve Recovery Strategy goals for maintaining habitat within the range (Environment Canada 2012).

Filling Knowledge Gaps

Research and monitoring is needed to fill gaps in the knowledge base necessary to build programs and ensure recovery for some species at risk. Many of these measures will require partnerships and/or additional funding and will benefit from the opportunity to work with the academic community, non-profit organizations as well as citizen scientists. Peregrine Falcon monitoring in PNP, a collaborative initiative between Parks Canada, Project Peregrine (Thunder Bay Field Naturalists), as well as citizen scientists, will contribute information to lake-wide monitoring efforts to determine if this species requires ongoing protection in the future. A study will be sought to evaluate the impact of fire on forest bird habitat for species that are limited by the suppression of this important natural disturbance process (e.g. Common Nighthawk (Environment Canada 2016a)). Educating visitors more about species at risk bats, species at risk forest birds dependent on fire, and Woodland Caribou are also planned, as well as receiving and contributing occurrence information to Ontario's Natural Heritage Information Centre and Fisheries and Oceans Canada from staff, visitors and citizen scientists (e.g. through special events like Bioblitz's).

Working Together

Visitor experience and outreach opportunities are key to the success of this multi-species action plan. Reporting of incidental sightings of species at risk, like Snapping Turtle and Woodland Caribou, will be promoted to visitors while in the park. While PNP

can increase some habitat for Monarch butterflies, the park is only one small stop for this migrating species. Through an education program – a live exhibit – the park can contribute to global Monarch conservation by building awareness and encouraging off-site action within the species' range through the planting of native nectaring plants and native milkweed. Furthermore, travelling exhibits will be developed for visitors and urban audiences on species at risk in Canada that will inform and educate the public on specific conservation actions. Finally, actions to support the recovery of the Pitcher Thistle through the development of signs at old and newly established colonies will inform and engage visitors in their sensitivity to trampling, and support their persistence in Pukaskwa National Park for future generations.

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 of this document it was not possible to identify additional critical habitat in PNP. Critical habitat has already been identified in PNP in recovery strategies for Woodland Caribou and Pitcher's Thistle and more 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 in this action plan and in other recovery documents within PNP will be legally protected from destruction as per section 58 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*”.

1.1. Costs

The total cost to implement the action plan will be borne by Parks Canada out of existing salaries and goods and services dollars. This includes incremental salary costs, materials, equipment, and contracting of professional services for measures outlined in Appendix B. No major socio-economic costs to partners, stakeholders or Indigenous Peoples are expected as a result of this action plan. Additional resources or partnerships will be sought to support the measures outlined in Appendix C.

Many of the proposed measures will be integrated into the operational management of the sites and there will be few new costs. These costs to the government will be

covered by prioritization of existing funds and salary dollars at the site and thereby will not result in additional costs to society.

The action plan applies only to lands and waters in PNP, and does not bring any restrictions to land use outside the sites. As such, this action plan will place no socio-economic costs on the public. However, minor restrictions may be placed on visitor activities on park lands and waters to protect and recover species at risk.

5.2. Benefits

Measures presented in this action plan for PNP 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 ecological integrity and enhance opportunities for appreciation of the sites 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.

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 (e.g., restrictions to human activities within areas occupied by the species, combined with ongoing research and monitoring), and increasing public awareness and stewardship (e.g., signage, visitor programs, and highlights in communication media).

Potential economic benefits of the recovery of the species at risk found in these sites 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 Peoples. Some activities in the plan may create opportunities for local residents to become involved in the recovery of species at risk and for cooperation and community partnerships in species at risk recovery. Benefits should be relatively evenly distributed across individuals in local communities, and opportunities for involvement will be available to all local residents. These include opportunities to learn about and take part in the recovery of culturally important species at risk, opportunities for visitors and local communities to be involved in conservation issues, opportunities for integration of Indigenous Traditional Knowledge into conservation approaches in PNP, and greater awareness of Indigenous Peoples values and culture among local residents and visitors to the parks. In doing so the plan supports the goals under the Species at Risk Act "*the traditional knowledge of the*

aboriginal peoples of Canada should be considered in the assessment of which species may be at risk and in developing and implementing recovery measures”.

6. Measuring Progress

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

7. References

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- COSEWIC. 2006. COSEWIC assessment and update status report on the Lake Sturgeon *Acipenser fulvescens* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 107 pp. (www.sararegistry.gc.ca/status/status_e.cfm).
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- Environment Canada. 2014. Management Plan for the Peregrine Falcon *anatum/tundrius* (*Falco peregrinus anatum/tundrius*) in Canada [Proposed]. *Species at Risk Act* Management Plan Series. Environment Canada, Ottawa. iv + 27 pp.
- Environment Canada. 2015a. Recovery Strategy for the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tri-colored Bat (*Perimyotis subflavus*) in Canada [Proposed]. *Species at Risk Act* Recovery Strategy Series. Environment Canada, Ottawa. ix + 110 pp.
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Environment Canada. 2016d. Management Plan for the Monarch (*Danaus plexippus*) in Canada. *Species at Risk Act Management Plan Series*. Environment Canada, Ottawa. iv + 45 pp.

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Pratt, T.C., Gorman, O.T., Mattes, W.P., Mayers, J.T., Quinlan, H.R., Schreiner, D.R. Seider, M.J., Sitar, S.P., Yule, D.L., and Yurista, P.M. 2016. The state of Lake Superior in 2011. *Gt. Lakes Fish. Comm. Spec. Publ.* 16-01.

Appendix A: Species information, objectives and monitoring plans for species at risk in Pukaskwa National Park (PNP).

Species	National objectives ³	Site-based Population & distribution objectives	Population Trend in PNP	Population monitoring ⁴	General information and broad park approach
Canada Warbler	Halt the decline of populations in next 10 years & ensure positive population growth for 10 years after 2025.	Increase the total area of breeding habitat using fire.	Unknown	Because the park is so inaccessible, monitoring populations is not feasible, therefore a habitat surrogate will be used. Total breeding habitat will be measured every 5 years.	Fire has been actively managed in the park since 1999. Prescribed fires will help increase breeding habitat for these species.
Common Nighthawk	Halt the decline of populations in next 10 years & ensure positive population growth for 10 years after 2025.				
Olive-sided Flycatcher	Halt the decline of populations in next 10 years & ensure positive population growth in the 10-year population trend in Canada. Maintain the current extent of occurrence in Canada.				
Peregrine Falcon (<i>anatum/tundrius</i>)	Population is self-sustaining throughout its Canadian range within next 10 years.	Average number of occupied territories over 5-years is ≥ 2.9 and the average breeding success is $\geq 47\%$ and that over a ten year period, the trend is stable or increasing for each ⁵ .	Increasing	Annual monitoring at each historically occupied territory and new territories as they arise.	Population is doing well and the park continues to monitor and provide education opportunities.

³ National objectives as per most recent versions of relevant recovery documents found in References section.

⁴ Where site-based population and distribution objectives have been established, monitoring is designed to directly measure success in achieving those goals.

⁵ Site-specific thresholds developed from monitoring Peregrine Falcon in PNP since 1999

Species	National objectives ³	Site-based Population & distribution objectives	Population Trend in PNP	Population monitoring ⁴	General information and broad park approach
Pitcher's Thistle	Maintain two existing populations (Oiseau Bay and Hattie Cove) at their current locations. Use existing populations to restore Pitcher's Thistle into suitable habitat at one new site by 2020. Populations will not exhibit declines that represent an increased extirpation risk	<ol style="list-style-type: none"> 1. Oiseau Bay & Hattie Cove populations are stable & restoration has begun by 2015. 2. Regional population size (3 sites) totals approximately 800 by 2021. 3. All populations are increasing or have acceptable fluctuations by 2021. 	Increasing (due to restoration efforts underway)	Number of plants tallied each year (by rosette, seedling, or flowering plant) per plot in each colony.	Three Pitcher's thistle colonies have been monitored annually since 1983. After a natural disturbance in 1985 (beaver dam explosion causing erosion), one colony was extirpated, and one is in decline (anticipated to be extirpated). The park has initiated restoration at two new sites to ensure three sites with 800 plants are maintained in the Park.
Lake Sturgeon	Maintain and rehabilitate spawning populations	Rehabilitate spawning populations so they become self-sustaining as per the Lake Superior Cooperative Science & Monitoring program goals (Pratt et al. 2016)	Unknown	Catch per unit effort (number/305 m gillnet)	Support Lake Superior's binational Cooperative Science & Monitoring program for rehabilitation and maintenance of Lake Sturgeon

Species	National objectives ³	Site-based Population & distribution objectives	Population Trend in PNP	Population monitoring ⁴	General information and broad park approach
Barn Swallow, Bank Swallow, Eastern Wood-pewee, Little Brown Myotis, Monarch, Rusty Blackbird, Shortjaw Cisco, Snapping Turtle, Woodland Caribou		No objective established because no threats known in park or no park-specific management actions can contribute to conservation within the park and/or PNP is of limited importance to the species' national recovery.	Unknown	Record incidental observations (additional monitoring for Woodland Caribou in Appendix B)	The Park will continue to protect individuals and protect suitable habitat on park lands and support partners where feasible on recovery and protection of these species.

Appendix B: Conservation and recovery measures that will be conducted by PNP

Species	Measure #	Measure	Desired Outcome	Threat or recovery measure addressed	Timeline
Pitcher's Thistle	1	Add new sites, increase the total number of plants, and ensure acceptable population fluctuations in Pukaskwa.	By 2021, two new sites have been seeded, total number of plants is at least 800 with populations not exhibiting long-term declines.	Succession, Erosion & Blow-out	2021
Woodland Caribou (boreal population)	2	Collect scat for genetic analysis and mark/recapture information in collaboration with OMNRF.	Information on the genetic similarity of animals occurring in Pukaskwa to surrounding animals is known by 2017.	Population Monitoring	2017
Woodland Caribou (boreal population)	3	Monitor use of calving habitat using wildlife cameras.	Historical calving habitat is monitored annually using wildlife cameras.	Population Monitoring	2021
Woodland Caribou (boreal population)	4	Monitor wildfires and minimize prescribed fires in critical habitat.	Protect critical habitat in the Park.	Habitat Alteration	2021
Woodland Caribou (boreal population)	5	Inform visitors about the status & reasons for decline of Woodland Caribou through a statue display outside of Visitor Centre in Pukaskwa National Park.	Visitors to Pukaskwa National Park will have an understanding of caribou status and reasons for population declines on an ongoing basis.	Knowledge gaps	Annually
All species	6	Encourage staff and visitors to record and report incidental sightings of species at risk (and share with Ontario Natural Heritage Information Centre and Fisheries and Oceans Canada).	Incidental sightings are reported annually to Ontario's Natural Heritage Information Centre and Fisheries and Oceans Canada.	Knowledge gaps around species occurrence and distribution	Annually
Peregrine Falcon anatum/tundrius	7	Engage paddlers with a citizen science program to contribute to annual monitoring program.	Citizen science program in place with annual contributions being made by visitors or volunteers.	Recreational activities, Population monitoring	Annually
Little Brown Myotis	8	Display audio recorder with information panel at Visitor Centre for education and awareness on declines of bats.	Bat audio recording device displayed and information available to visitors on the importance of bats to people, ecosystem, biodiversity and economies.	Education & awareness	Annually

Appendix C: Other conservation and recovery measures that will be encouraged through partnerships or when additional resources become available.

Species	Measure #	Measure	Desired Outcome	Threat or recovery measure addressed
Pitcher's Thistle	9	Develop and install interpretive signage about the Pitcher's Thistle restoration project.	Interpretive signs are installed at two Pitcher's Thistle populations in Pukaskwa National Park.	Accidental trampling, knowledge gaps
Pitcher's Thistle	10	Enhance knowledge of dune ecosystem impairment and restore dune ecosystem if necessary	Evidence that dune ecosystems have been impaired as a result of change in driftwood and subsequent restoration if warranted	Succession
Canada Warbler, Common Nighthawk, Olive-sided Flycatcher	11	Quantify and increase the amount of habitat for Species at Risk birds created from Fire Management Program (wildfire, prescribed fire).	The amount of SAR bird (Canada Warbler, Olive-sided Flycatcher, Common Nighthawk) habitat created through fire is known and has increased over time and been verified with ground truth surveys.	Removal of habitat (shrub-layer)
Monarch	12	Plant or encourage growth of native nectaring flowers & install interpretive signage where landscaping is required in day-use areas.	Nectaring flowers and interpretation of threats to species provided to visitors using a panel display on an ongoing basis (i.e. annually).	Nectaring habitat, education and awareness
Peregrine Falcon anatum/tundrius	13	Band Peregrine Falcon nestlings and deliver national media pitch to increase awareness.	Research and monitoring support of National Peregrine Falcon recovery goals and Canadians have an increased understanding of Peregrine Falcon.	Knowledge gaps, Population monitoring, education and awareness
Snapping Turtle	14	Conduct surveys in suitable habitat to confirm if species occurs regularly in the park	Occurrences/range in Pukaskwa National Park is known	Knowledge gaps
All species at risk	15	Establish a presence at Toronto Zoo (related to Species at Risk).	An exhibit or similar material is available related to species at risk in Pukaskwa National Park and Canada.	Outreach and Awareness
All species at risk	16	Create a species at risk mobile exhibit (i.e. Interactive sign that features SAR birds, sounds or similar), as well as ways to report incidentals sightings, that can be on display at the Visitor Centre or elsewhere (i.e. schools, etc).	An exhibit or similar material is available related to species at risk in Pukaskwa National Park is available in Pukaskwa and other engagements.	Outreach and Awareness

Appendix D: 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](#)'s⁶ goals and targets.

Recovery planning is intended to benefit species at risk and biodiversity in general. However, it is recognized that recovery actions 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 upon 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 PNP. This plan puts into practice recovery goals presented in recovery strategies already developed for some of the species at risk in this plan, which were subject to SEAs during the development of those documents. Further, this action plan was developed to benefit all species at risk that regularly occur in PNP; all of these species were considered in the planning process, any potential secondary effects were considered 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, 2014). Consequently activities outlined in this plan address key management priorities aimed at improving the broader ecological health of both sites. Finally, this plan outlines stewardship actions, educational programs, and awareness initiatives that will involve visitors, local residents, Indigenous Peoples, and the general public. This will lead to greater appreciation, understanding, and action towards the conservation and recovery of species at risk in general.

⁶ <http://www.ec.gc.ca/dd-sd/default.asp?lang=En&n=F93CD795-1>