



2022

IMPLEMENTATION REPORT: MULTI-SPECIES ACTION PLAN

for Bruce Peninsula National
Park and Fathom Five National
Marine Park of Canada
(2016-2021)



Parks
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For copies of the report, or for additional information on species at risk, including the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Status Reports, residence descriptions, recovery strategies, action plans and other related recovery documents, please visit the Species at Risk (SAR) Public Registry¹.

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Photo Credits: **Cover illustrations**, clockwise from top left: Bear's Rump Island, Jordan Howard; Lakeside Daisy, Tyler Miller; Common Nighthawk, iStock; Snapping Turtle, Tricia Robins. **This page:** Eastern Ribbonsnake, Spencer Bennett. **Page i:** Hill's Thistle, Spencer Bennett. **Page ii:** Tuberous Indian-plantain, Jordan Howard. **Page iii:** Lakeside Daisy, Tyler Miller. **Page 1, left to right:** Massasauga, Spencer Bennett; Tuberous Indian-plantain, Jordan Howard; Little Brown Myotis, Jordan Howard; Lakeside Daisy, Tyler Miller; Saugeen (Bruce) Peninsula shoreline, Jordan Howard; Lake Trout, Alex Duncan; Dwarf Lake Iris; Snapping Turtle, Tricia Robins; Milksnake, Matthew Goertz; Volunteer protecting a turtle nest with a nest protector. **Page 11, left to right:** Parks Canada Agency (PCA) employees holding a turtle nest protector; Cyprus nesting mound with nest protectors over turtle nests, Tricia Robins; Snapping Turtle travelling through an ecopassage. **Page 12, left to right:** SON harvesters conducting sampling for deepwater cisco species, Alex Duncan; SON harvesters conducting sampling for deepwater cisco species, Alex Duncan; Lake Herring, Alex Duncan. **Page 17:** Saugeen (Bruce) Peninsula shoreline, Tanya Markvart. **Page 18:** Singing Sands fen, Matthew Goertz. **Page 19:** PCA employee excavating a turtle nest. **Page 20:** Eastern Prairie Fringed-orchid, Tyler Miller.

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¹ <http://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>

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), action plans outline measures that will be taken to implement recovery strategies for SARA-listed Extirpated, Endangered and Threatened species. Parks Canada's multi-species action plans address a suite of species of conservation concern within one or more Parks Canada managed areas, including species that require an action plan under SARA.

The Minister responsible for the Parks Canada Agency (the Minister of the Environment and Climate Change) is the competent minister under SARA for species found in Bruce Peninsula National Park and Fathom Five National Marine Park of Canada, and in 2016 published the Multi-species Action Plan for Bruce Peninsula National Park and Fathom Five National Marine Park National Park of Canada.

Under section 55 of SARA, the competent minister must monitor the implementation of an action plan and the progress towards meeting its objectives, and assess and report on its implementation and its ecological and socio-economic impacts five years after the action plan comes into effect. A copy of the report must be included in the Species at Risk Public Registry. The Minister responsible for the Parks Canada Agency has prepared this Implementation Report: Multi-species Action Plan for Bruce Peninsula National Park and Fathom Five National Marine Park of Canada (2016-2021).

The achievement of population and distribution objectives identified within the recovery strategy or management plan for a species may require a long time frame. In these cases, a five-year reporting window may not be sufficient to show demonstrable progress towards meeting site-based population and distribution objectives identified for that species within a Parks Canada site-based action plan. Parks Canada monitors, evaluates and, as necessary, adapts measures taken to achieve species survival or recovery, and will report on progress towards meeting site-based population and distribution objectives every five years.

² <http://www.canada.ca/en/environment-climate-change/services/species-risk-act-accord-funding/protection-federal-provincial-territorial-accord.html>

Acknowledgments

Parks Canada would also like to acknowledge those who have contributed to the implementation of the Multi-species Action Plan for Bruce Peninsula National Park and Fathom Five National Marine Park National Park of Canada.

We acknowledge the Traditional Territory of the Anishinabek Nation: The People of the Three Fires known as Ojibway, Odawa, and Pottawatomie Nations. We further give thanks to the Chippewas of Saugeen, and the Chippewas of Nawash, now known as the Saugeen Ojibway Nation (SON), as the traditional keepers of this land. Parks Canada is grateful to have a close working relationship with SON as we care for Mother Earth together.

A number of key partners contributed to the Multi-species Action Plan and the Agency's improved understanding of these species at risk. The Chippewas of Nawash Fisheries Assessment Unit, Saugeen Ojibway Nation knowledge holders, the Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry, academic partners, and private citizens involved in citizen science activities have all made tremendous contributions.

Lastly, we would like to acknowledge all individuals who have played a role in helping to protect these special places through simple but important actions such as saving a turtle or snake crossing the road, or reporting species observations. Collectively, these actions make a big difference for conserving the rare species and habitats of Bruce Peninsula National Park and Fathom Five National Marine Park for future generations.

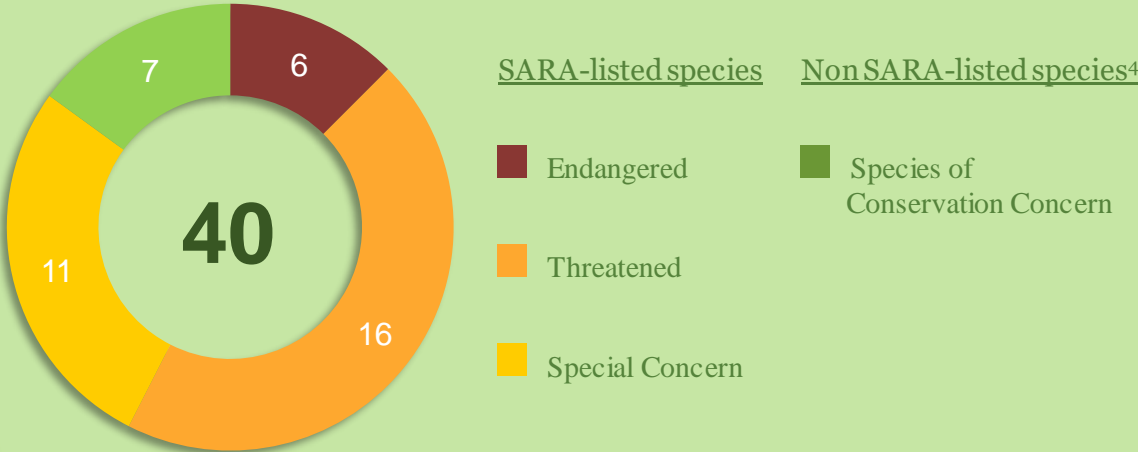
Miigwech, Merci, Thank you

EXECUTIVE SUMMARY

This document reports on implementation of the Multi-species Action Plan for Bruce Peninsula National Park and Fathom Five National Marine Park National Park of Canada between 2016 and 2021. It reports on the implementation of measures identified in the plan, assesses progress towards meeting site-based population and distribution objectives, and evaluates socio-economic impacts.

Species Addressed³

The action plan addressed 33 SARA-listed species and 7 species of conservation concern. Measures and site-based population and distribution objectives identified within the action plan were focused on 13 species, for which management actions within Bruce Peninsula National Park and Fathom Five National Marine Park could have a substantive impact on species survival or recovery: American Black Bear, Dwarf Lake Iris, Eastern Prairie Fringed-orchid, Eastern Ribbonsnake, Hill’s Pondweed, Hill’s Thistle, Lakeside Daisy, Massasauga, Eastern Milksnake, Monarch, Queensnake, Snapping Turtle and, Tuberous Indian-plantain.

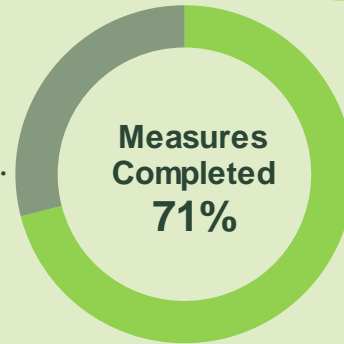


³ The SARA-listing classifications for the species in this report may differ from the Multi-species Action Plan due to changes made to Schedule 1 of the *Species at Risk Act* since the action plan was published.

⁴ Including non SARA-listed species of conservation concern (COSEWIC assessed, provincially listed, culturally significant species) in addition to SARA listed species provides the Parks Canada Agency with a comprehensive plan for species conservation and recovery at the site.

Implementation of the Action Plan

14 measures (recovery actions) were identified in the multi-species action plan. Implementation of the action plan is assessed by determining progress towards completing each measure, and is outlined in Section 2 of this report. During the five-year period, all 14 measures were initiated⁵ and 10 were completed. An additional 9 measures identified in the action plan were implemented because resources and/or partnerships became available to support the work.

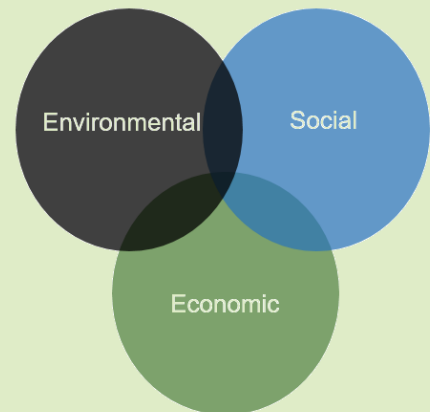


Ecological Impacts

13 site-based population and distribution objectives (PDOs) were developed in the action plan. Ecological impacts are assessed by measuring progress towards achieving each of the site-based population and distribution objectives and are outlined in section 3. Progress was made on all objectives⁶ including 5 that were fully achieved.

Socio-Economic Impacts

Direct costs of implementing this action plan were borne by Parks Canada. Indirect costs were mainly through visitor restrictions to certain areas of the park. Benefits included positive impacts on park ecological integrity, greater awareness of species and enhanced opportunities for engagement of visitors, local communities and First Nation and Indigenous groups.



⁵ Includes measures that are 100% completed.

⁶ Includes PDOs that are fully achieved.

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1. CONTEXT

This document reports on implementation of the [Multi-species Action Plan for Bruce Peninsula National Park and Fathom Five National Marine Park of Canada](#)⁷ between 2016 and 2021, assesses progress towards meeting its population and distribution objectives, and evaluates its socio-economic impacts. It addresses 40 species, including 22 SARA-listed Extirpated, Endangered, and Threatened species (for which an action plan is required) as well as 11 SARA-listed Special Concern species⁸ and 7 species of conservation concern. American Black Bear is included in this action plan as it is a culturally significant species for the Saugeen Ojibway Nation.

Site-based population and distribution objectives were developed for 13 species for which implementation measures within Bruce Peninsula National Park and Fathom Five National Marine Park could have a substantive impact on recovery: American Black Bear, Dwarf Lake Iris, Eastern Prairie Fringed-orchid, Eastern Ribbonsnake, Hill's Pondweed, Hill's Thistle, Lakeside Daisy, Massasauga, Eastern Milksnake, Monarch, Queensnake, Snapping Turtle and, Tuberous Indian-plantain.

2. IMPLEMENTATION OF THE ACTION PLAN

Implementation of the Multi-species Action Plan for Bruce Peninsula National Park and Fathom Five National Marine Park of Canada is assessed by measuring progress towards completing the recovery measures identified in the action plan (Table 1). Refer to the original action plan for a description of each measure, the desired outcomes, and the threats that each measure addresses.

In 2020, there were restrictions put in place regarding workplace activities at Bruce Peninsula National Park and Fathom Five National Marine Park to prevent the spread of COVID-19. As a result, some species surveys and action plan measures could not be completed during this time

⁷ Parks Canada Agency. 2016. [Multi-species Action Plan for Bruce Peninsula National Park and Fathom Five National Marine Park of Canada](#). Species at Risk Act Action Plan Series. Parks Canada Agency, Ottawa. v + 22 pp.

⁸ The status of these species may have changed over the reporting period.

Table 1. Progress towards completing recovery measures committed to by Bruce Peninsula National Park and Fathom Five National Marine Park (* indicates an ongoing measure that may continue into a future multi-species action plan).

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
1) All snakes and SAR turtles: Lower speed on park roads and raise awareness among park visitors using signs and speed bumps.	The rate of road mortality of snakes and turtles is reduced.	Speed bumps were installed in the Cyprus Lake Campground along with an electronic speed sign on Cyprus Lake Road. Wildlife crossing signs have been installed on the main roads in the park. Average speed measured on Cyprus Lake Road has been reduced by 1 km/hr.	100%
2) All snakes and SAR turtles: Mitigate road mortality through the installation of eco-passages and fencing.	The rate of road mortality of snakes and turtles is reduced.	Eight eco-passages and associated eco-fencing were installed along park roads to reduce road mortality of snakes and turtles; three were installed on Cyprus Lake and Emmett Lake Roads, and two on Dorcas Bay Road. Eco-fencing was also installed.	100%*
3) Massasauga: Work with other jurisdictions as opportunities arise to develop best management practices for activities that occur in the park and greater ecosystem.	Threats to the Massasauga from human activities are reduced.	Best management practices to mitigate road mortality have been developed, building on partners' work.	100%*

<p>4) Massasauga: Relocate snakes from private properties adjacent to the park when requested and use these opportunities to deliver stewardship messages.</p>	<p>Community members are more accepting of Massasauga and understand how to coexist with the species. Intentional killing of snakes is thereby reduced.</p>	<p>Parks Canada responded to requests from neighboring landowners, relocated Massasaugas and delivered stewardship messages.</p>	<p>100%</p>
<p>5) Queensnake: Implement the Aquatic Invasive Species Strategy for BPNP with associated communication outreach to target audiences.</p>	<p>Rusty crayfish does not become established in the inland lakes of BPNP.</p>	<p>A boat wash station was installed at Cyprus Lake, but still needs to be integrated into visitor reception. Signage was posted at Cyprus Lake and Emmett Lake.</p>	<p>75%*</p>
<p>6) All plants and reptiles: Implement measures to prevent illegal off-road vehicle activity in the park.</p>	<p>Direct and indirect impacts to species at risk due to off-road vehicles use are reduced.</p>	<p>Ten high risk access locations in the park were blocked to prevent illegal off-road activity.</p>	<p>100%*</p>
<p>7) All plants: Assess and control alien invasive plant risks adjacent to populations of the five SAR plants.</p>	<p>Invasive plant populations adjacent to populations of SAR plants are reduced.</p>	<p>Areas adjacent to or on access routes to SAR plants were monitored annually. All high priority sites, which includes all those adjacent to alien invasive species, were treated for invasive species.</p>	<p>100%*</p>
<p>8) Hill's Thistle: Perform experimental management to determine response of Hill's Thistle to fire and mechanical clearing.</p>	<p>Our understanding of the role of disturbance in maintaining populations of Hill's Thistle is improved.</p>	<p>There is limited suitable habitat to perform experimental management. Parks Canada worked with Gosling Research Institute of Plant Preservation (GRIPP) to determine suitability of using in vitro technologies to mass propagate Hill's Thistle and assess survival of wild transplants. A report was</p>	<p>50%*</p>

		prepared to address knowledge gaps related to alvars, including using fire as a management tool for alvar flora. The background work has been completed and our next step will be to implement management actions.	
9) Hill's Pondweed: Develop and implement a best management practice for road widening and maintenance to limit or prevent impacts to Hill's Pondweed.	Impacts to Hill's Pondweed are reduced.	A draft document has been completed and is currently undergoing internal reviews and approvals before finalization.	75%
10) Lakeside Daisy: Work with Ontario Access Coalition to increase awareness of Lakeside Daisy at Halfway Log Dump, including installing signs.	The rock climbing community is aware of Lakeside Daisy and therefore direct impacts from bouldering are reduced.	Signs were created and installed to reduce the direct impacts of bouldering through improved awareness and education of the rock climbing community.	100%
11) Monarch: Wherever possible, manage for milkweed through existing ecological restoration program, e.g. planting milkweed on sites that are being restored as alternative to maintained non-native grassed areas.	Existing habitat for Monarch in the two Parks is increased by opportunistic planting.	Milkweed was planted as part of multiple restoration and landscaping projects in BPNP, including those funded through the Federal Infrastructure Investment Program.	100%
12) All bat species: A) Implement best management practices for	Bat best management practices are in use, strategies to collaborate	A) Best management practices were implemented for the protection of individual bats and critical habitat, including the	75%

<p>maintenance of infrastructure used by roosting bats and restrict access to bat hibernacula.</p> <p>B) Monitor bat hibernacula for the presence of White-Nose Syndrome.</p>	<p>with private landowners to restrict access to known hibernacula are in place and accessible hibernacula are monitored for the presence of White-Nose Syndrome.</p>	<p>maintenance of infrastructure used by bats. A gate was installed on one of three important hibernacula.</p> <p>B) Capture study conducted at three known and important hibernacula (Little Stream, Rover's, and Root Cave) to monitor for White-nose Syndrome.</p>	<p>100%</p>
<p>13) American Black Bear: Work with partners to reduce human-induced mortality of bears by raising awareness in the local community about the uniqueness and vulnerability of this population.</p>	<p>Human-induced mortality is reduced as greater appreciation is realized for the importance of conserving the Bruce Peninsula population.</p>	<p>Assessment is based on a number of activities (e.g., presentations, workshops, papers, social media campaigns) completed raising the local community's awareness about the status and vulnerability of the peninsula Black Bear population.</p> <p>A Black Bear conservation strategy for the Saugeen (Bruce) Peninsula is being co-developed with the Saugeen Ojibway Nation.</p> <p>In 2020, the hunting regulations were changed in the region (Parks Canada supported) to reduce hunting mortality.</p>	<p>100%</p>
<p>14) All species: Engage the SON to collaboratively develop and implement methods to meaningfully incorporate Indigenous Knowledge systems into management practices for SAR at BPNP & FFNMP.</p>	<p>The SON is actively engaged in SAR management in BPNP and FFNMP and Indigenous Knowledge is incorporated.</p>	<p>Several SAR projects were co-developed with the SON and used a Two-Eyed Seeing approach (Etuaptmumk in Mi'kmaw) using both SON's knowledge and Western science to better understand and address key uncertainties.</p>	<p>100%</p>

Additional measures were identified in the action plan that would be beneficial to complete should resources become available. Table 2 describes the actions that Bruce Peninsula National Park and Fathom Five National Marine Park were able to initiate between 2016 and 2021. Measures from the action plan that were not initiated will be carried forward for consideration in a revised action plan.

Table 2. Progress towards completing additional recovery measures implemented because partnerships and/or resources became available (progress is influenced by the amount of funding/ support received); * indicates an ongoing measure that may continue into a future action plan.

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
15) Hill’s Pondweed Perform surveys in suitable habitat in BPNP to search for new populations.	Existing populations in BPNP are discovered.	Surveys conducted within BPNP to reconfirm historical locations also resulted in the discovery of previously unknown Hill’s Pondweed populations.	100%*
16) Eastern Prairie Fringed Orchid and Hill’s Thistle Collect seed and send to Gosling Institute for preservation.	Seeds of these two species are conserved for the long-term.	Seeds were collected from Hill’s Thistle and were successfully micropropagated. Seeds were collected from two orchid species (Yellow Ladyslipper and Ram’s Head Orchid) for a trial micropropagation prior to attempting this with the endangered Eastern Prairie Fringed Orchid.	50%*

<p>17) Monarch Maintain non-personal interpretive station (display with props) featuring the rearing of live Monarchs in the visitor centre.</p>	<p>Visitors have increased awareness of the plight of the monarch.</p>	<p>Outdoor education interpreters have developed outreach and public engagement activities to promote awareness of the Monarch including threats to its habitat. An interpretive station featuring the rearing of live Monarchs and tagging occurs annual at the park Visitor Centre.</p>	<p>100%*</p>
<p>18) Massasauga and other snake and turtle species Initiate a program using social media and mobile apps to make it easy for visitors, staff, and members of the local community to provide incidental observations of these sometimes cryptic species to PCA.</p>	<p>Incidental observations are increased, and thereby the number of management triggers is decreased.</p>	<p>Launch of iNaturalist project in 2018 has significantly increased incidental observations within the park and greater ecosystem.</p>	<p>100%</p>
<p>20) Common Nighthawk A) Perform surveys in suitable habitat to determine status in BPNP. B) Perform surveys in suitable habitat to determine status in FFNMP.</p>	<p>Status in BPNP and FFNMP is determined.</p>	<p>A) Assessments conducted using automated recording units in suitable Nighthawk habitats in BPNP during the breeding season. Presence of Nighthawks confirmed. B) Assessments conducted using automated recording units on Cove, Bear’s Rump, Russel, and Flowerpot Island during the breeding season. Presence of Nighthawks confirmed.</p>	<p>100% 100%</p>

<p>21) Eastern Whip-poor-will and Shortjaw Cisco A) Perform surveys in suitable habitat in FFNMP for Eastern Whip-poor-will.</p> <p>B) Perform surveys in suitable habitat in FFNMP for Shortjaw Cisco.</p> <p>C) Perform surveys in suitable habitat in FFNMP for Deepwater Sculpin.</p>	<p>Status in FFNMP is determined.</p>	<p>A) Assessments conducted using automated recording units on Cove, Bears Rump, Russell and Flowerpot Island during the breeding season. Presence confirmed.</p> <p>B) Surveys conducted in partnership with SON in 2019 and 2020. Presence not confirmed in FFNMP or the Greater Park Ecosystem.</p> <p>C) Surveys confirmed the species, presence, at multiple life stages (larval and adult), within FFNMP and the Greater Park Ecosystem.</p>	<p>100%</p> <p>100%</p> <p>100%</p>
<p>22) Western Chorus Frog Perform surveys in suitable habitat to determine status in BPNP.</p>	<p>Determination as to whether Boreal Chorus Frog, Western Chorus Frog, or both, occur in BPNP.</p>	<p>Surveys conducted in eight locations based on historic records in 2019. Presence not detected in BPNP.</p>	<p>100%</p>
<p>23) All turtles Identify and protect turtle nests from egg predation by human-subsidized predators.</p>	<p>Egg predation on turtle nests is reduced.</p>	<p>Nest identification and protection occurred through the <i>Turtle Trackers</i> citizen science volunteer program. Nests of Snapping Turtle and Midland Painted turtle are protected by a box structure or incubated if at-risk of disturbance.</p>	<p>100%</p>

24) All turtles and snakes
Engage in community outreach to raise awareness of the conservation importance of these species.

Human-induced mortality of snakes and turtles is reduced.

Local communities including the two communities of the Saugeen Ojibway Nation were engaged through presentations, workshops, and social media campaigns to raise awareness of reptiles and amphibian conservation.

100%

3. ACTION PLAN HIGHLIGHT

On the Road to Recovery

The *On the Road to Recovery* project was a success at protecting species at risk by making roads safer for wildlife, improving habitat connectivity, and raising awareness about the negative effects of roads on reptiles and amphibians. A lab incubator program was implemented, hatching over 500 turtles and returning them safely to their wetlands between 2017-2019. Eight eco-passages with 2.2 km of eco-fencing were installed in road mortality hotspots, and six nesting mounds were installed in roadside turtle nesting areas within the park. Over 2000 park visitors engaged in a bi-weekly interpretive program.





Shortjaw Cisco

Saugeen Ojibway Nation, in partnership with Parks Canada and Lakehead University, conducted a community-based research project on the ciscoes of Lake Huron. The goal was to gather knowledge from SON fish harvesters about ciscoes, and use that knowledge to inform monitoring, research, and mutual understanding. While no Shortjaw Cisco were found and many questions remain about Lake Huron ciscoes, the project led to the discovery of a new population of lake herring known as the shorthead cisco of the western Saugeen (Bruce) Peninsula. This discovery represents a new contribution to Western science; however, this population of lake herring has been known to the SON since time immemorial.



4. ECOLOGICAL IMPACTS

Ecological impacts of the action plan are assessed by measuring progress towards meeting the site-based population and distribution objectives described in the action plan (Table 3). See the original action plan for national Population and Distribution Objectives (where available) and General Information and Broad Park Approach for each species.

Table 3. Progress towards achieving site-based population and distribution objectives for species at risk in Bruce Peninsula National Park and Fathom Five National Marine Park of Canada.

Species	Site-based population & distribution objectives	Population monitoring	Progress towards site-based population and distribution objectives	Progress (% achieved)
American Black Bear	Maintain current population.	DNA mark-recapture protocol to provide population estimate every 5 years.	The frequency of DNA mark-recapture survey was changed to a 3-year cycle. A survey was completed in 2018, however, the 2021 survey was not completed due to COVID-19 workplace restrictions. The analysis for data from 2009 - 2018 was completed and shows the bear population within the park has significantly declined and is still trending	0%

			down (therefore the current population was not maintained and % achieved is 0%) while the trend across the entire Saugeen (Bruce) Peninsula is uncertain. Recent changes to local harvest regulations are expected to reduce hunting mortality.	
Dwarf Lake Iris	Maintain index of area of occupancy within the park of 25km ² .	Monitoring of presence across the 25 1x1 km NTS grid cells which captures the distribution of Dwarf Lake Iris at BPNP on a 5 year cycle.	Dwarf Lake Iris present in 24/25 1x1 km NTS grid cells, based primarily on incidental observations.	96%
Eastern Prairie Fringed-orchid	Maintain the area of occupancy in BPNP.	Perform a complete population census annually, but continue to correlate with high water levels to optimize survey efforts.	Surveys completed from 2016-2019 confirmed that the area of occupancy was maintained. Surveys were not completed in 2020 due to COVID-19 workplace restrictions. Despite not being surveyed in 2020, the area of occupancy may still be maintained, but is dependent on water level fluctuations.	100%
Eastern Ribbonsnake	Maintain occupancy in each of the 2x2 km NTS grid cells with recent records.	Monitor occurrences within grid cells. Data will be compiled on a 5 year cycle.	Eastern Ribbonsnake present in 24 out of 30 2x2 km NTS grid cells, based primarily on incidental observations.	80%

Hill's Pondweed	Maintain 8 known occurrences.	Monitor for presence of Hill's Pondweed at each of the eight known locations on a 5 year cycle.	Hill's Pondweed confirmed at each of the 8 locations.	100%
Hill's Thistle	Maintain index of area of occupancy within the park of 17 km ² .	Each of the one km grid squares containing Hill's Thistle will be visited at least once every 5 years to confirm occupancy.	Occupancy confirmed in 12 of 17 1x1 km grid cells.	88%
Lakeside Daisy	Maintain index of area of occupancy within the park of 11 km ² .	Each one of the one km grid squares containing Lakeside Daisy will be visited at least once every five years to confirm occupancy.	Occupancy confirmed at 7 of the 11 1x1 km grid cells.	81%
Massasauga	Maintain occupancy in the 46 2x2 km NTS grid cells within the boundary of BPNP and FFNMP.	Monitor occurrences with grid cells. Data will be compiled on a 5 year cycle for high, medium, and low priority grid cells.	Occupancy confirmed within 44 of the 46 priority grid cells.	95%
Eastern Milksnake	Maintain occupancy in each of the 2x2 km NTS grid cells with recent records.	Monitor occurrences within grid cells. Data will be compiled on a 5 year cycle.	Occupancy confirmed within 18 of 19 2x2 km grid cells.	94%
Monarch	Maintain extent of suitable habitat.	Measure extent of suitable habitat on a 5 year cycle.	Two of five areas have maintained suitable habitat for Monarchs, while the other three have not been successful in maintaining a milkweed population.	40%

Queensnake	Maintain occupancy in each of the currently occupied watersheds.	Monitor Queensnake occurrences within each watershed. Data will be compiled on a 5 year cycle.	Queensnake occupancy confirmed in the 2 identified watersheds.	100%
Snapping Turtle	Maintain occupancy in each of the 2x2 km NTS grid cells with recent records.	Monitor occurrences within grid cells. Data will be compiled on a 5 year cycle.	Snapping Turtle occupancy maintained in each of the 14 2x2 km grid cells.	100%
Tuberous Indian-plantain	Maintain index of area of occupancy within the park.	Each of the one km grid squares containing Tuberous Indian-plantain will be visited at least once every 5 years to confirm occupancy.	Tuberous Indian-plantain occupancy confirmed in all 8 1x1 km grid cells.	100%




5. SOCIO-ECONOMIC IMPACTS

The *Species at Risk Act* requires the responsible federal minister to report on the socio-economic costs of the multi-species action plan and the benefits derived from its implementation. The multi-species action plan only applies to protected lands and waters under the authority of the Parks Canada Agency, which are often subject to fewer threats (e.g., industrial activities) compared to other areas as the lands are managed to preserve ecological and commemorative integrity. This section does not include socio-economic impacts of existing permitted activities that may be occurring in Parks Canada places as those have been addressed through other processes (e.g., impact assessments). This socio-economic assessment is narrow in scope, as it is focused on the measures implemented within the action plan, and primarily focuses on Indigenous partners, leaseholders, licensees, residents and visitors. The overall socio-economic impacts of the multi-species action plan for Bruce Peninsula National Park and Fathom Five National Marine Park National Park, described as costs and benefits, are outlined below.

Costs

The total cost to implement the action plan was borne by Parks Canada out of existing salaries and goods and services dollars. This included incremental salary costs, materials, equipment, and contracting of professional services for measures outlined in Table 3 (Recovery measures that will be conducted by Bruce Peninsula National Park and Fathom Five National Marine Park) and Table 4 (Other recovery measures that will be encouraged through partnerships or when additional resources become available) of



the action plan. No major socio-economic costs to partners, stakeholders or First Nation and Indigenous groups were incurred as a result of this action plan. Additional resources or partnerships were sought to support the measures outlined in Table 4 of the multi-species action plan. For the Shortjaw Cisco research and surveys, the SON contributed funding and in-kind support through the Chippewas of Nawash Unceded First Nation Fisheries Assessment Unit.

The majority of proposed measures were addressed through the operational management activities of BPNP and FFNMP and prioritizing resource allocation, therefore additional costs to the public were not incurred.

The action plan applies only to lands and waters in Bruce Peninsula National Park and Fathom Five National Marine Park, and therefore did not result in restrictions to land use outside the national park. As such, this action plan placed no extraneous socio-economic costs on the public. However, minor restrictions were placed on visitor activities on park lands and waters to protect and recover species at risk. Superintendent's orders were used to: 1) Restrict access to dune habitat, which is important to many SAR, at Singing Sands; 2) Restrict the use of natural bait in the inland lakes of BPNP; 3) Protect critical bat habitat in FFNMP by restricting visitors from walking off trail.

Benefits

Measures presented in this action plan for BPNP and FFNMP contributed to meeting recovery strategy objectives for threatened and endangered species, and also contributed to meeting management objectives for species of special concern. These measures had an overall positive impact on ecological integrity and enhanced opportunities for appreciation of the sites and the species by visitors and the general public. This action plan included measures that result in benefits to Canadians, such as positive impacts on biodiversity and the value individuals place on preserving biodiversity.

The proposed measures sought a balanced approach to reducing or eliminating threats to SAR populations and habitats, and include protection of individuals and their habitat (e.g., restrictions to human activities within areas occupied by species, combined with ongoing research and monitoring), and increasing public awareness and stewardship (e.g., signage, visitor programs, and highlights in traditional and social media). Working with partners, staff contributed to




building awareness of reptile and amphibian populations, critical habitats and road mortality issues. Thousands of SAR observations have been submitted to the Ontario Reptile and Amphibian Atlas (ORAA) and through iNaturalist by park staff, volunteers, community members and the SON.

A bat capture study was conducted focusing on three known important hibernacula to determine if White-nosed Syndrome (WNS) is present, if the bat's population distribution and abundance has changed since the WNS epidemic, and what actions are necessary to improve protection of these critical habitats; analysis is pending.

The co-developed cisco project with the SON followed the Two-Eyed Seeing approach to better understand and address key uncertainties in Lake Huron's deepwater cisco community and has led to new collaborations looking at the decline in Lake Whitefish (Dikameg) in Lake Huron.

These and other measures have resulted in broader benefits to Canadians, such as positive impacts on biodiversity and the value individuals place on preserving biodiversity.

Potential economic benefits of the recovery of the species at risk found in Bruce Peninsula National Park and Fathom Five National Marine 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.



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Implementing this action plan had positive benefits for park visitors, local residents, and has provided unique opportunities for the Saugeen Ojibway Nation and Parks Canada to work together. Through interpretive programming, approximately 65,000 visitors, youth and community members received messaging related to the ecological and cultural importance of the species at risk in these parks. Some of the most popular programs with a strong SAR focus included:

- live Massasauga presentations
- *Forests in the Night* activity where visitors learn about and see bats
- the annual Orchid Festival
- the annual Monarch Festival.

The *On the Road to Recovery* program and the Federal Infrastructure Initiative (FII) installed six eco-passages within the park, improving road conditions and ensuring SAR are protected. A Turtle Trackers citizen science program was initiated with over 50 active volunteers protecting and monitoring turtle nests within the park and surrounding area. Turtle nest protection efforts were led by the Saugeen Ojibway Nation staff and members of the SON community in the Saugeen First Nation and the Chippewas of Nawash First Nation. Turtle nest box building workshops were held at Chippewas of Nawash Unceded First Nation and the Saugeen First Nation, as well as at Bruce Peninsula National Park. Students from the Municipality of Northern Bruce Peninsula and SON communities participated in workshops with the *On the Road to Recovery* team and the Ontario Turtle Conservation Centre.

Summary

Direct costs of implementing this action plan were borne by Parks Canada. Indirect costs were mainly through visitor restrictions to certain areas of the park. Benefits included positive impacts on park ecological integrity, greater awareness of species and enhanced opportunities for engagement of visitors, local communities and First Nation and Indigenous groups.