



2022

**IMPLEMENTATION
REPORT:
MULTI-SPECIES ACTION
PLAN**

for Point Pelee National Park
of Canada and Niagara
National Historic Sites of
Canada (2016-2021)



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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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Cover illustrations, clockwise from top left: Least Bittern, J. Flynn, Parks Canada (PCA); Northern Map Turtle, K. Bicknell, PCA; Eastern Foxsnake, W. Lynch, PCA; Common Hoptree **This page:** Prothonotary Warbler, J. Flynn, PCA **Page i:** Eastern Red-cedars **Page ii:** Bobolink, J. Flynn, PCA **Page iii:** Monarch Butterfly on Woodland Sunflower, J. Flynn, PCA **Page 1, left to right:** Eastern Flowering Dogwood, J. Flynn, PCA; Beach at Point Pelee; Red-Headed Woodpecker, J. Flynn, PCA; Family at Fort George NHS, S. Munn, PCA; Monarch Butterflies, J. Flynn, PCA; Spotted Gar, B. Grafwicke, <https://creativecommons.org/licenses/by/4.0/>; The marsh at Point Pelee, L. Peters, PCA; Common Five-Lined Skink; Eastern Prickly-pear Cactus, J. Flynn, PCA; Beach at Point Pelee, S. Rupert, PCA **Page 17, left to right:** PCA team member filling an artificial snake nesting mound structure with nesting material; PCA team members collecting monitoring data from an Eastern Foxsnake **Page 27:** The shuttle bus at the Point Pelee visitor centre, S. Munn, PCA **Page 28:** Wild Hyacinth, J.R. Graham, PCA.

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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 (SAR) 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 Point Pelee National Park of Canada and Niagara National Historic Sites of Canada, and in 2016 published the Multi-species Action Plan for Point Pelee National Park of Canada and Niagara National Historic Sites 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 Point Pelee National Park of Canada and Niagara National Historic Sites 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 like to acknowledge those who have contributed to implementation of the Multi-species Action Plan for Point Pelee National Park of Canada and Niagara National Historic Sites of Canada.

Firstly, we acknowledge the caregivers of this land and all the moccasins that have travelled it over time.

Point Pelee National Park acknowledges that these lands are within the traditional territory of the Ojibwa, the Odawa, and the Potawatomi. Specifically, this is the home of Caldwell First Nation and part of the house of Walpole Island First Nation. The development of this action plan was strengthened by the participation of representatives of both First Nations and the accomplishments would not have been possible without their contributions and support. We acknowledge that the place now known as Niagara National Historic Sites are within the traditional territory of the Haudenosaunee and Anishinaabe peoples.

There were a number of key partners who contributed to the Multi-species Action Plan and our improved understanding of these species at risk. The Friends of Point Pelee, the Essex Region Conservation Authority, the Natural Heritage Information Centre, Environment and Climate Change Canada, the Niagara Parks Commission, the Ontario Ministry of Natural Resources and Forestry, the Canadian Food Inspection Agency, Birds Canada, the Municipality of Leamington, and Fisheries and Oceans Canada provided support for measures and added value to our objectives. We have valued the experience and advice provided by groups and individuals including the Red Mulberry Working Group, the Forest Gene Conservation Association, the University of Windsor, the University of Toronto, the University of Waterloo, McMaster University, Trent University, the University of Illinois, The University of New Brunswick, the Nature Conservancy of Canada, the Canadian Wildlife Service, Dougan & Associates, Savanta Inc., Ontario Beetles, Marcie Jacklin, Mary Gartshore, Jarmo Jalava, Scott Gillingwater, David Seburn, Janice Gilbert, Steve Marks, and Steve and Darlene Hecnar.

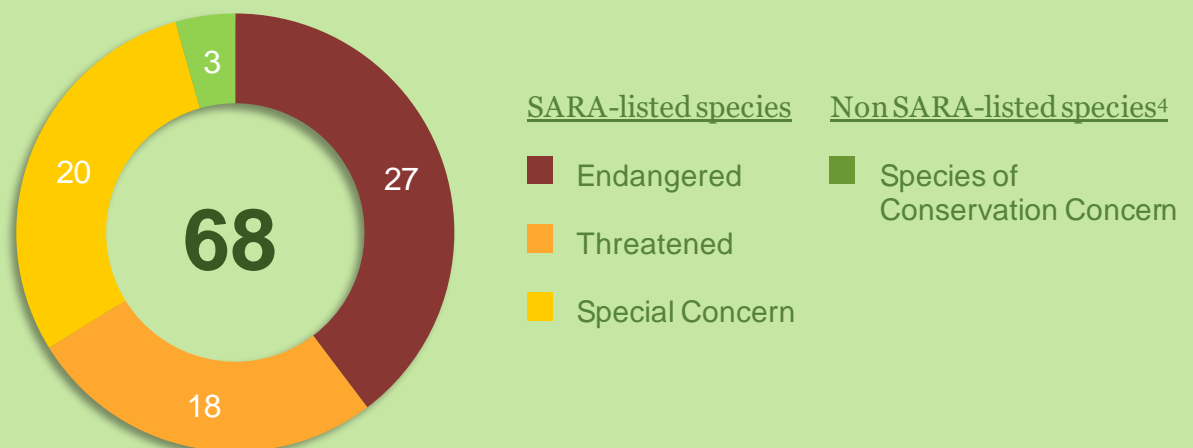
Finally, we would like to acknowledge the people who share our ecosystems, from those landowners who are stewards of natural habitat supporting species at risk on their property, to those who volunteer to plant milkweed in protected areas, to those who stop their car to help a turtle or snake cross the road. It is only through our combined understanding and efforts that the recovery of these species is possible.

EXECUTIVE SUMMARY

This document reports on implementation of the Multi-species Action Plan for Point Pelee National Park of Canada and Niagara National Historic Sites of Canada between 2016 and 2021. It reports on 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 65 SARA-listed species and three species of conservation concern. Measures and site-based population and distribution objectives identified within the action plan were focused on 35 species, for which management actions within Point Pelee National Park and Niagara National Historic Sites could have a substantive impact on species survival or recovery: American Water-willow, Blanding’s Turtle, Blue Ash, Bobolink, Climbing Prairie Rose, Clustered Sedge, Common Hoptree, Dwarf Hackberry, Eastern Foxsnake, Eastern Meadowlark, Eastern Musk Turtle, Eastern Prickly Pear Cactus, Eastern Whip-poor-will, Eastern Wood-pewee, Five-lined Skink, Grass Pickerel, Henslow’s Sparrow, Kentucky Coffee-tree, Lake Chubsucker, Least Bittern, Loggerhead Shrike, Northern Map Turtle, Prothonotary Warbler, Red Mulberry, Red-headed Woodpecker, Snapping Turtle, Spiny Softshell, Spotted Gar, Swamp Rose-mallow, Warmouth, Wild Hyacinth, Yellow-breasted Chat, Eastern Flowering Dogwood, Monarch and White Wood Aster.

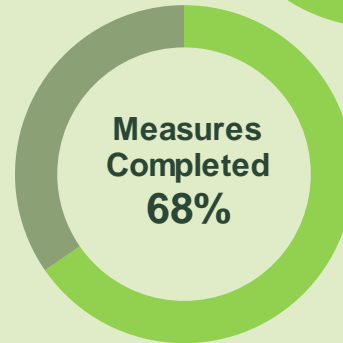


³ The SARA-listing classifications for the species in this report may differ from the Multi-species Action Plan due to changes made to Schedule 1 of the *Species at Risk Act* since the action plan was published.

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

26 measures (recovery actions) were identified in the multi-species action plan. One measure was excluded from reporting, as it fell outside the scope of the plan. Implementation of the action plan is assessed by determining progress towards completing 25 measures, and is outlined in Section 2 of this report. During the five-year period, all 25 measures were initiated⁵ and 17 were completed. An additional 7 measures identified in the action plan were implemented as resources and/or partnerships became available to support the work.



Ecological Impacts

37 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 PDOs and are outlined in Section 4. It was not possible to monitor the objectives for one species, so it was removed from this reporting. Overall, progress was made on all 36 remaining objectives⁶, including 34 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 during restoration activities. Benefits included positive impacts on park ecological integrity, greater awareness of species and enhanced opportunities for engagement.



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 Point Pelee National Park of Canada and Niagara National Historic Sites of Canada](#)⁷ between 2016 and 2021, assesses progress towards meeting its population and distribution objectives, and evaluates its socio-economic impacts. It addresses 68 species, including 45 SARA-listed Extirpated, Endangered, and Threatened species (for which an action plan is required) as well as 20 SARA-listed Special Concern species⁸. Hooded Warbler, Clustered Sedge and Shumard Oak are also included in this action plan as they are species of conservation concern.

Site-based population and distribution objectives were developed for 35 species for which implementation measures within Point Pelee National Park (PPNP) and Niagara National Historic Sites (NNHS) could have a substantive impact on recovery: American Water-willow, Blanding’s Turtle, Blue Ash, Bobolink, Climbing Prairie Rose, Clustered Sedge, Common Hoptree, Dwarf Hackberry, Eastern Flowering Dogwood, Eastern Foxsnake, Eastern Meadowlark, Eastern Musk Turtle, Eastern Prickly Pear Cactus, Eastern Whip-poor-will, Eastern Wood-pewee, Five-lined Skink, Grass Pickerel, Henslow’s Sparrow, Kentucky Coffee-tree, Lake Chubsucker, Least Bittern, Loggerhead Shrike, Monarch, Northern Map Turtle, Prothonotary Warbler, Red Mulberry, Red-headed Woodpecker, Snapping Turtle, Spiny Softshell, Spotted Gar, Swamp Rose-mallow, Warmouth, White Wood Aster, Wild Hyacinth, and Yellow-breasted Chat.

⁷ Parks Canada Agency. 2016. Multi-species Action Plan for Point Pelee National Park of Canada and Niagara National Historic Sites of Canada. Species at Risk Act Action Plan Series. Parks Canada Agency, Ottawa. iv + 39 pp.

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

2. IMPLEMENTATION OF THE ACTION PLAN

Implementation of the Multi-species Action Plan for Point Pelee National Park of Canada and Niagara National Historic Sites of Canada is assessed by measuring progress towards completing the recovery measures identified in the action plan (Tables 1 and 2). Overall, the average progress for the 36 reported measures was 87%. 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 several restrictions put in place at Point Pelee National Park and Niagara National Historic Sites to combat the spread of COVID-19, including temporary restriction of park management activities. This impacted the ability of the park to complete the implementation of some parts of the action plan. Education and outreach initiatives, including opportunities for volunteers to participate in conservation activities could not be undertaken. A number of conservation monitoring and management projects scheduled for 2020 and 2021 had to be delayed or canceled due to restrictions caused by the COVID-19 pandemic.

Table 1. Progress towards completing recovery measures committed to by Point Pelee National 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)
<p>1) Clustered Sedge, Red Mulberry, Wild Hyacinth, Kentucky Coffee-tree, Blue Ash: Double-crested Cormorant nest removal from and around SAR plants and the use of deterrents to protect SAR plants on Middle Island.</p>	<p>Remove direct threat from Double-crested Cormorant nests in and around SAR plants on Middle Island.</p>	<p>An average of 30 nests per year were removed and deterrents were placed or repaired in strategic areas to protect SAR plants during all years except 2020 due to COVID-19 restrictions. Clustered Sedge, Kentucky Coffee-tree and Wild Hyacinth all showed increases in abundance and distribution over the time period of the plan. Red Mulberry and Blue Ash populations remained stable.</p>	<p>100%*</p>
<p>2) Clustered Sedge, Red Mulberry, Kentucky Coffee-tree, Common Hoptree, Blue Ash, Eastern Wood Peewee, Wild Hyacinth, Lake Erie Watersnake: Management of hyperabundant nesting Double-crested Cormorants on Middle Island.</p>	<p>Double-crested Cormorant nest numbers are reduced to target densities (30-60 nests/ha) by 2020 to maintain a healthy ecosystem and sustain SAR.</p>	<p>Management took place annually and nest density was reduced from 143 nests/ha in 2015 to 99 nests/ha in 2021, despite the loss of one year of management due to COVID-19 restrictions in 2020 which resulted in an increase from 90 nests/ha to 137 nest/ha. Many areas of prime SAR habitat on the island showed greater than average decreases in nest density, resulting in significant population gains for most SAR.</p>	<p>53%*</p>

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>3) Red Mulberry, Blue Ash, Common Hoptree, Dwarf Hackberry, Eastern Wood Peewee: Reduce hyperabundant White-tailed Deer population in PPNP to allow for forest regeneration and direct protection of SAR.</p>	<p>Deer population density is reduced to target levels (6-8 deer per km²) by 2020 to maintain a healthy forest ecosystem and sustain species at risk. <i>Note: a correction has been made to target levels in deer per km²</i></p>	<p>White-tailed Deer management has taken place annually with Indigenous partners. Deer herd density in the park has been reduced from 21 deer per km² in 2016 to 11.5 deer per km² in 2021. <i>Note: Goal deer density is based on an analysis identifying approximately 4 km² of suitable habitat for deer in the park.</i></p>	<p>73%*</p>
<p>4) Prothonotary Warbler, Swamp Rose-mallow, all turtles, King Rail, Short-eared Owl, Least Bittern, American Water-willow: Strategically remove priority invasive, alien plants such as <i>Phragmites australis</i> in PPNP wetlands to protect species at risk and their critical habitat.</p>	<p>Reduce the amount of priority invasive alien plants in areas targeted for management to benefit SAR species.</p>	<p><i>Phragmites</i> removal and treatment took place annually in areas identified as important to SAR, such as areas of East Beach crucial to Northern Map Turtle, Painted Turtle and Snapping Turtle nesting, or areas immediately adjacent to the largest patches of American Water-willow in the park. In 2020-21 alone, over 1.46 ha of <i>Phragmites</i> was treated in priority marsh areas.</p>	<p>100%*</p>
<p>5) Blanding's Turtle - Great Lakes/St. Lawrence population, Eastern Musk Turtle, Northern Map Turtle, Snapping Turtle, Spiny Softshell: Protect SAR turtle nests from egg predation and hatchling road mortality through the placement of protection structures.</p>	<p>By 2020, monitoring of population shows increase in abundance and recruitment from previous 2005 study.</p>	<p>All the planned actions for this measure were undertaken from 2016 to 2021 with 137 nests and 1606 nestlings being protected in the park. The population survey planned for 2020 was delayed due to the COVID-19 pandemic, therefore the achievement of the long-term outcome of increased abundance and recruitment has not yet been evaluated.</p>	<p>100%*</p>

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>6) All fish and turtles, American Waterwillow, Least Bittern, Swamp Rose-mallow: Complete a marsh management plan to address major threats (hydrology, water quality, invasive plants and wildlife, lack of interspersions) and assess potential for re-introduction of Spotted Turtle.</p>	<p>An adaptive marsh management plan completed and approved by 2020.</p>	<p>Studies of SAR fish and pond bathymetry were undertaken. A Community of Practice fostered knowledge sharing through focused meetings with First Nations partners, wetland specialists and organizations with similar restoration challenges. An approved adaptive marsh management plan was developed, and put into action in 2020.</p>	<p>100%</p>
<p>7) Prothonotary Warbler: Protect and enhance nesting opportunities at PPNP.</p>	<p>Reduce threats to Prothonotary nesting: disturbance, predation, lack of nesting cavities.</p>	<p>Parks Canada staff, in collaboration with Birds Canada, installed 13 nest boxes with predator guards in the park which facilitate breeding success for this species. Collaboration with experts at Birds Canada is ongoing to improve nest box design, location, maintenance and monitoring.</p>	<p>100%*</p>
<p>8) Swamp Rose-mallow: Control spread and invasion of Purple Loosestrife.</p>	<p>Prevent increase in abundance and distribution of Purple Loosestrife.</p>	<p>Park staff controlled spread of the Purple Loosestrife population by removing seed heads from 2005 until 2018. In 2019, a biological control (<i>Neogalerucella spp.</i> beetle) was introduced and is being monitored annually for establishment and effectiveness. Surveys from 2016 to 2018 showed no increase in abundance or distribution of Purple Loosestrife. The next survey is scheduled for 2023 once the biological control beetle has had time to establish.</p>	<p>100%*</p>

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>9) Five-lined Skink: Protect and rehabilitate Five-lined Skink habitat through habitat augmentation and education programs.</p>	<p>Through partnership and education programs, ensure microhabitat exists to support skink populations in PPNP.</p>	<p>Annual surveys conducted to identify areas needing habitat augmentation and supplemental microhabitat material added to sites within the park. Volunteer support and educational programs were not possible in 2020/2021 due to COVID-19 restrictions, therefore augmentation program were conducted solely by park staff.</p>	<p>100%*</p>
<p>10) Piping Plover: Protect individuals and nesting locations of Piping Plover at PPNP. Includes areas closures in nest vicinity coupled with fencing, signage, and patrols to promote compliance.</p>	<p>Reduce threats to Piping Plover nesting, including predation and disturbance.</p>	<p>Monitoring and management protocol developed with expertise provided by Birds Canada. Parks Staff conducted monitoring annually, however no breeding activity was detected that warranted implementation of the full protocol (fencing, education, signage, patrols, etc.).</p>	<p>100%*</p>
<p>11) Yellow-breasted Chat: Consider and manage for Yellow-breasted Chat habitat during savannah restoration.</p>	<p>Effectively manage for a minimum of 4 hectares of suitable chat habitat in PPNP.</p>	<p>Suitable habitat is created by cutting old areas of thicket so that it may grow back to the young thickets preferred for nesting by Yellow-breasted Chat. 4.15 ha of suitable habitat was restored through savannah restoration efforts in 2017 and 2018.</p>	<p>100%*</p>
<p>12) Climbing Prairie Rose: Reintroduce Climbing Prairie Rose as part of increasing biodiversity of savannah habitat through restoration project.</p>	<p>Successful reintroduction of Climbing Prairie Rose in savannah habitat.</p>	<p>Feasibility study to assess appropriate habitat in park and source proper genetic material completed in 2017. Seed was acquired and propagated, with the first seedlings ready to be planted in the park in 2021.</p>	<p>100%</p>

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>13) Monarch: Continue annual volunteer monitoring and education program (tagging of reared monarchs), Monarch counts, formal education, and "Monarch Live" exhibit.</p>	<p>Monarch conservation messages are incorporated into park programming and education programs.</p>	<p>The Monarch Live visitor program ran from 2016 to 2019 but could not be implemented in 2020 or 2021 due to closure of the park Visitor Centre during the COVID-19 pandemic. In 2020, the Monarch was featured in many virtual presentations; and in 2020 and 2021, daily monarch counts were featured on social media.</p>	<p>80%*</p>
<p>14) Monarch: Develop a monitoring program and continue volunteer planting program for 4 Milkweed species in PPNP.</p>	<p>Increase abundance of native Milkweed species in park to provide food source for adult Monarchs and larvae. A minimum of 100 volunteers participating annually in planting Milkweed.</p>	<p>Volunteer programs successfully planted Milkweed from 2016 to 2019, however inclement weather prevented achieving the target of 100 volunteers at two events. A volunteer program to use citizen science to monitor Milkweed abundance was researched but could not be implemented due to the COVID-19 pandemic in 2020 and 2021.</p>	<p>30%</p>

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>15) Eastern Prickly Pear Cactus, Five-lined Skink, Common Hoptree, Bobolink, Dwarf Hackberry, Eastern Foxsnake (Carolinian population), Loggerhead Shrike (<i>migrans</i> subspecies), Eastern Meadowlark, Henslow's Sparrow, Red-headed Woodpecker, Eastern Whip-poor-will, Climbing Prairie Rose, Monarch: Continue savannah restoration project in PPNP: clear invading shrubs, remove invasive exotic species and keep habitat open through prescribed fire, investigate DDT remediation, savannah education and outreach programs.</p>	<p>Ensure that through restoration, savannah habitat is healthy and stable in PPNP to support the SAR that depend on this habitat.</p>	<p>Restored approximately 25 ha of savannah habitat through:</p> <ul style="list-style-type: none"> • Mechanical removal and herbicide treatment of invasive species • Application of prescribed fire over 9.5 ha • Collaboration with local schools to engage over 300 students and 98 volunteers to collect seeds, propagate seedlings and plant over 16,000 plugs of native grasses and wildflowers • Sharing new outreach items to educate both visitors and the public • Implementing a maintenance treatment regime for restoration sites • Conducting field and laboratory testing of 4 DDT remediation techniques • Completing a Quantitative Risk Assessment of Prescribed Fires in PPNP for burning in DDT areas <p>The 2018 PPNP State of the Park Report assessed the condition of the Lake Erie Sand Spit Savannah as fair and improving.</p>	<p>100%*</p>

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>16) Eastern Foxsnake - Carolinian population: Create artificial hibernacula and nesting mounds for Eastern Foxsnake at PPNP. Includes incorporating educational messaging into park programs.</p>	<p>Through partnership and education programs, improve hibernation and nesting opportunities to support the foxsnake population in PPNP.</p>	<p>Two artificial snake hibernacula and four artificial nesting mounds were constructed. Educational messaging was incorporated into social media posts, the Creature Feature interpretive program, a featured article in the Centennial Visitor Guide and various other park programs. A planned monitoring program involving volunteers was not initiated due to the COVID-19 pandemic.</p>	<p>100%*</p>
<p>17) All birds: Mitigate visitor disturbance to migrating individuals or nesting SAR birds at PPNP; communication, area closures, and patrols to promote compliance.</p>	<p>Reduce threat of human disturbance to SAR birds during migration and nesting periods, while promoting memorable visitor birding experience.</p>	<p>“Rare Bird Rush” protocol updated to guide Parks Canada staff to respond to situations where visitor disturbance could threaten SAR birds during migration or nesting.</p>	<p>100%*</p>
<p>18) Turtles, Eastern Foxsnake, Five-lined Skink: Conduct monitoring and mitigation measures during peak breeding and migration, including: signage, traffic direction and communication and in-park education products.</p>	<p>Reduce the threat of road mortality to SAR herptiles in PPNP.</p>	<p>An Integrated Wildlife Road Mortality Prevention Program was developed and implemented in the park. This includes the identification of peak conditions for wildlife road mortality events, communications protocols for staff, educational messages directed to visitors, response options prioritized and tools for response (e.g. signage, data sheets).</p>	<p>100%*</p>

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>19) Eastern Prickly Pear Cactus, Common Hoptree, Dwarf Hackberry, American Water-willow, Red Mulberry, all fish, all turtles, Swamp Rosemallow, Climbing Prairie Rose, Least Bittern, Yellow-breasted Chat, Redheaded Woodpecker, Five-lined Skink: Produce and implement invasive species management plan for PPNP to target priority species that would alter species at risk habitat.</p>	<p>Reduce threat of priority invasive species on SAR and their habitat by completing management plan. Goals, targets, objectives outlined in the plan are accomplished according to timelines outlined in plan.</p>	<p>An Invasive Alien Species Management Plan for PPNP was completed in 2020 which identifies high priority management areas and addresses control options. The plan targets hotspots for management using a prioritization method which includes the location of SAR and the habitats they need to support them.</p> <p>Completion of the plan accounts for 50% of the progress on this measure. Implementation steps of the plan have begun targeting approximately 15 of the 46 invasive alien species ranked as severe or high in the plan.</p>	<p>66%*</p>
<p>20) Red Mulberry, Dwarf Hackberry, Butternut, Common Hoptree, Blue Ash and Kentucky Coffee-tree: Reduce main threats and increase population viability of SAR trees; genetic mapping, controlled pollination and propagation, invasive species removal and habitat augmentation.</p>	<p>Reduce main threats to SAR tree populations in PPNP and for select species, increase health and population viability.</p>	<p>Major threats were reduced and significant gains achieved for all SAR trees through:</p> <ul style="list-style-type: none"> ● Surveying and genetic sampling ● Removal of hybridizing White Mulberry and hybrid Butternuts within the proximity of pure trees ● Genetically-pure Red Mulberry and Dwarf Hackberry seedlings were propagated and planted ● Select Blue Ash trees were treated with insecticide to reduce threat of the invasive Emerald Ash Borer ● Blue Ash seeds were contributed to the National Tree Seed Centre 	<p>100%*</p>

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>21) All species in this plan: Inclusion of Indigenous Traditional Knowledge (ITK) - Engage the Caldwell First Nation and the Walpole Island First Nation to Collaboratively develop and implement methods to meaningfully incorporate ITK into management practices for SAR at PPNP and NNHS.</p>	<p>Increased engagement and incorporation of ITK into management practices for SAR.</p>	<p>At PPNP, several initiatives took place to increase inclusion of Traditional Ecological Knowledge to better inform assessment, monitoring, and recovery of the ecosystems that support SAR including the Marsh Open Standards Workshop and forming of the Marsh Community of Practice in 2018; collaboration with Walpole Island First Nation for the reintroduction of Climbing Prairie Rose; and ongoing deer management planning with Caldwell First Nation.</p> <p>The desired outcome for this measure was not met at NNHS, however efforts to increase communication and engagement are ongoing.</p>	<p>80% *</p>

Table 2. Progress towards completing recovery measures committed to by Niagara National Historic Sites (* indicates an ongoing measure that may continue into a future multi-species action plan).

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>22) Butternut: Remove hybrid Butternut trees to mitigate threat to 9 pure-strain Butternut at west end of Lakeshore Property.</p>	<p>Hybrids (81 trees) removed from Lakeshore Property, in addition to the 19 removed to clear the footprint for the new Waste water Treatment Plant.</p>	<p>Research, planning, permitting, genetic testing of hybrid butternuts and public consultation/engagement complete.</p> <p>Removal of the hybrid butternut scheduled for fall 2020 could not be completed due to COVID-19 pandemic restrictions.</p>	<p>75%*</p>
<p>23) Eastern Flowering Dogwood: Assess and mitigate threat of overflow at southwest corner of north sewage lagoon at the Lakeshore Property.</p>	<p>Protect individuals from harm. Assess and if necessary, mitigate threat from invasive species, flooding and anthracnose fungus.</p>	<p>The property targeted in this measure is not under the authority of Parks Canada, therefore the original outcome could not be achieved and the site focussed activities to achieve the mitigation of threats to Eastern Flowering Dogwoods on the properties under its control as outlined in additional measure #40 (see Table 3).</p>	<p>100%</p>
<p>24) Bobolink: Install interpretive signage to recognize Bobolink reserve and PCA protection efforts at the Commons.</p>	<p>Increase public outreach and education in order to increase awareness about Bobolink at the Commons.</p>	<p>A management plan has been created for the Commons that includes monitoring protocols and maintenance guidelines for Bobolink habitat, however interpretive signage has not been installed.</p>	<p>66%*</p>

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>25) Bobolink: Encourage the implementation of a volunteer breeding bird survey at the Commons.</p>	<p>Information and support are available to the public to encourage monitoring. Increased partnering with local birding groups.</p>	<p>Two community open houses held in February 2019 and March 2020 to garner support and interest from community members for restoration and SAR recovery measures. A volunteer was recruited and trained to conduct the survey annually.</p>	<p>100%</p>
<p>26) Monarch: Plant milkweed as habitat for Monarchs as part of the site remediation actions on the old waste water treatment facility.</p>	<p>Monarch is functionally using the Lakeshore Property (e.g. egg-laying) and milkweed is planted and established at multiple sites post-extirpation at the new waste water plant facility (WWTF). These Monarch fields are incorporated into the design of the WWTF.</p>	<p>The property targeted in this measure is not under the authority of Parks Canada, therefore the actions proposed in this measure could not be achieved. A transfer of the property to Parks Canada ownership was anticipated during the time period of the plan, but did not occur.</p>	<p>Not applicable</p>

Additional measures were identified in the action plan that would be beneficial to complete should resources become available. Table 3 describes the actions that Point Pelee National Park and Niagara National Historic Sites 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 3. 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)
27) Clustered Sedge: Evaluate threat of invasive species to Clustered Sedge and begin recommended control efforts.	Studies/surveys completed and report produced to evaluate the threat of invasive species to clustered sedge on Middle Island and recommend control measures.	Survey completed through partnership with the Ontario Natural Heritage Information Centre. Threat analysis not completed due to shift in focus to priority eradication of Japanese Chaff-flower (in partnership with the Canadian Food Inspection Agency), a new invasive species for Canada, discovered on the island in 2018.	50%*

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>28) Little Brown Myotis, Northern Myotis and Tri-Colored Bat: Assess the distribution and relative abundance of SAR bats in PPNP, with emphasis on identifying hibernacula and any buildings used for roosting.</p>	<p>Baseline data on distribution and relative abundance of bats in PPNP is understood and a long-term monitoring protocol is developed.</p>	<p>Equipment and expertise for monitoring bat populations in the park have been acquired and a long-term monitoring protocol has been developed. Survey timing was delayed due to COVID-19 pandemic restrictions and therefore baseline data is not yet complete.</p>	<p>66%*</p>
<p>31) Eastern Pondmussel: Conduct standardized population survey in suitable habitat in PPNP marsh to determine if species is present in park.</p>	<p>Increased knowledge of Eastern Pondmussel distribution in the park.</p>	<p>In July 2016, targeted surveys of the park marsh were undertaken for SAR mussels. One live Eastern Pondmussel and some weathered shells were discovered.</p>	<p>100%</p>
<p>34) Eastern Foxsnake, Eastern Mole, Least Bittern, American Water-willow, Dwarf Hackberry, Broad-banded Forestsnail, all turtles and fish: Develop a standardized population, habitat survey and monitoring protocol for each species.</p>	<p>To develop and implement an established monitoring protocol for each species that is accurate and sustainable and shared with conservation partners.</p>	<p>Completed for American Water-willow, Dwarf Hackberry and for all SAR Fish (through partnership with Department of Fisheries and Oceans). Broad-banded Forestsnail and Eastern Foxsnake have monitoring protocols still in need of review as they have not yet proven to be effective.</p>	<p>50%*</p>

Species and measure	Desired outcome	Progress towards outcome	Progress (% complete)
<p>36) Turtles, Eastern Foxsnake, Five-lined Skink: Prevent wildlife road mortality through infrastructure improvements and habitat restoration - Research and implement options at PPNP to reduce traffic mortality for SAR reptiles. Where possible, link to future road improvement projects.</p>	<p>Clearly understand where or if there are priority locations and option analysis of optimal design for road mortality mitigation structures. Implement effective structures or restoration areas (i.e. turtle nesting areas).</p>	<p>Mitigation options were researched and resulted in the purchase of a mobile radar speed sign, the construction of a turtle nesting mound with protective barrier and road redesign elements to slow traffic in key hotspots for SAR species.</p>	<p>100%*</p>
<p>39) Butternut, White Wood Aster: Determine feasibility of restoration of Black Oak savannah at Oak Grove. If feasible, begin restoration.</p>	<p>Feasibility is determined and restoration initiated if feasible.</p>	<p>A restoration plan has been created to address the ecological concerns at Paradise Grove (Oak Grove). This includes actions and mitigations to support Butternut and White Wood Aster recovery. Restoration activities related to this plan have not been initiated.</p>	<p>50%*</p>
<p>40) Eastern Flowering Dogwood: Assess and if necessary, mitigate threat of anthracnose fungus.</p>	<p>Maintain existing population at the Lakeshore Property.</p> <p><i>Note: A new population was discovered at the Oak Grove property of NNHS and included in this Desired Outcome.</i></p>	<p>An expert was contracted to assist Parks Canada staff in surveying and assessing Eastern Flowering Dogwood in 2018-19. Several new trees were found at Oak Grove. In fall 2019, these trees were protected from the threat of surrounding invasive trees which promote anthracnose fungus.</p>	<p>100%</p>

3. ACTION PLAN HIGHLIGHT: Creating Crucial Habitat for Eastern Foxsnake



Research conducted at PPNP by Queen’s University showed that the Eastern Foxsnake (Endangered) is threatened by a lack of below-ground overwintering sites (hibernacula) in the park. Houses, outbuildings, old wells and septic tanks that were being decommissioned provided the perfect opportunity to build snake hibernaculum, by creating safe underground places where snakes can get below the frost line to survive the winter.

Park staff received advice from similar work being conducted nearby on the Herb Gray Parkway site in Windsor, Ontario. Since 2016, two new artificial snake hibernacula and four artificial nesting mounds were constructed. News of this initiative to help the Eastern Foxsnake was shared through many park programs, including the Creature Feature interpretive program, and a featured article in the park Visitor Guide.



Using fencing and funnel traps, park staff have been able to monitor several Eastern Foxsnakes emerging from the hibernacula sites. The artificial nesting mounds have not shown evidence of eggs yet, however time is needed to create the right combination of decomposing nesting materials, and park staff are optimistic that the mounds will be discovered and used in the near future.

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 4). See the original action plan for national Population and Distribution Objectives (where available) and General Information and Broad Park Approach for each species.

Table 4. Progress towards achieving site-based population and distribution objectives for species at risk (SAR) in Point Pelee National Park of Canada.

Species	Site-based population & distribution objectives	Population monitoring	Progress towards site-based population and distribution objectives	Progress (% achieved)
American Water-willow	Maintain occupancy in PPNP	Survey every 5 years and record incidental observations.	Complete survey of park marsh undertaken in 2020-21, confirming occupancy.	100%
Blanding's Turtle – Great Lakes - St. Lawrence Population	Maintain occupancy in PPNP.	Survey every 5 years and record incidental observations.	Incidental observations by park staff recorded as part of the turtle nest protection program.	100%

Species	Site-based population & distribution objectives	Population monitoring	Progress towards site-based population and distribution objectives	Progress (% achieved)
Blue Ash	Maintain occupancy on Middle Island and on the mainland of PPNP.	Determine the abundance of saplings and mature trees every 5 years.	Monitoring confirmed occupancy both on the mainland of PPNP and Middle Island.	100%
Bobolink	Increase savannah habitat by 10 ha in PPNP.	Determine amount of savannah habitat using air photos.	Aerial analysis showed an increase of 18.2 ha of savannah habitat in 2017 from the 2004 baseline.	100%
Climbing Prairie Rose	Establish occupancy in PPNP.	Survey annually to determine occupancy.	First seedlings from repatriation project planted in fall 2021.	100%
Clustered Sedge	Maintain occupancy at a minimum of 3 locations on Middle Island, PPNP.	Survey known locations and look for new locations in suitable habitat on Middle Island every 5 years.	Survey in 2019 confirmed 7 patches on Middle Island.	100%
Common Hoptree	Maintain a population of at least 1000 individuals in PPNP.	Determine the abundance of saplings and mature trees every 5 years.	Monitoring results from the mainland in 2020 recorded at least 7,700 stems and 1,067 stems were tallied on Middle Island in 2017.	100%

Species	Site-based population & distribution objectives	Population monitoring	Progress towards site-based population and distribution objectives	Progress (% achieved)
Dwarf Hackberry	To reverse population decline in PPNP documented in most recent survey which recorded 47 trees.	Survey every 5 years and record incidental observations.	A new monitoring protocol implemented in 2020 recorded at least 103 stems, suggesting that the Dwarf Hackberry population is stable to increasing within the park.	100%
Eastern Foxsnake - Carolinian Population	Maintain occupancy on the mainland of PPNP.	Record incidental observations and mark-recapture those individuals caught.	Eastern Foxsnakes captured and monitored opportunistically by park staff ranged from a low of approximately 12 in 2020 to a high of 33 in 2017.	100%
Eastern Meadow Lark	Increase savannah habitat by 10 ha in PPNP.	Determine amount of savannah habitat using air photos.	Aerial analysis showed an increase of 18.2 ha of savannah habitat in 2017 from the 2004 baseline.	100%
Eastern Musk Turtle	Maintain occupancy in PPNP.	Survey every 5 years and record incidental observations.	Occupancy confirmed by incidental observations.	100%
Eastern Prickly Pear Cactus	Maintain the current population (#of microsities and cladodes) at PPNP.	Number of cladodes and microsities will be counted in 32 plots every 5 years.	Monitoring from 2015-2017 showed a significant increase in the number of microsities and cladodes from the previous 2007 survey.	100%

Species	Site-based population & distribution objectives	Population monitoring	Progress towards site-based population and distribution objectives	Progress (% achieved)
Eastern Whip-poor-will	Maintain occupancy in PPNP.	Report on presence through incidental observations.	Occupancy confirmed from incidental observations by visitors and staff.	100%
Eastern Wood-Pewee	Maintain occupancy in PPNP.	Continue to conduct annual Forest Breeding Bird survey.	Forest Breeding Bird surveys confirmed occupancy annually.	100%
Five-lined Skink (Carolinian population)	Maintain a population capable of long-term viability and survival, determined to be 107 skinks during one monitoring season in PPNP.	Record number of skinks observed over 10 transects every year.	Annual monitoring indicated population above threshold (107 skinks), indicating “good” condition in all years.	100%
Grass Pickerel	Maintain occupancy in PPNP.	Survey every 5 years and record incidental observations.	Occupancy confirmed during 2019/2021 SAR fish monitoring by Dept. of Fisheries and Oceans.	100%
Henslow’s Sparrow	Increase savannah habitat by 10 ha in PPNP.	Determine amount of savannah habitat using air photos.	Aerial analysis showed an increase of 18.2 ha of savannah habitat in 2017 from the 2004 baseline.	100%

Species	Site-based population & distribution objectives	Population monitoring	Progress towards site-based population and distribution objectives	Progress (% achieved)
Kentucky Coffee-tree	Maintain population size as assessed in 2007 (268 trees, 29% were seedlings) on Middle Island, PPNP.	Determine the abundance of saplings and mature trees every 5 years.	A complete island survey in 2017 showed an increase to 857 stems with 65% being seedlings. Although protocols were not identical and survey effort was increased, the increase is still thought to be significant.	100%
Lake Chubsucker	Maintain occupancy in PPNP.	Survey every 5 years and record incidental observations.	Occupancy confirmed during 2019/2021 SAR fish monitoring by Dept. of Fisheries and Oceans.	100%
Least Bittern	Maintain occupancy in PPNP.	Survey every 5 years and record incidental observations.	Occupancy confirmed with discovery of an active nest by park staff in 2021.	100%
Loggerhead Shrike - Migrants subspecies	Increase savannah habitat by 10 ha in PPNP.	Determine amount of savannah habitat using air photos.	Aerial analysis showed an increase of 18.2 ha of savannah habitat in 2017 from the 2004 baseline.	100%
Northern Map Turtle	Maintain occupancy in PPNP.	Survey every 5 years and record incidental observations.	Occupancy confirmed through incidental observations by park staff and visitors.	100%

Species	Site-based population & distribution objectives	Population monitoring	Progress towards site-based population and distribution objectives	Progress (% achieved)
Prothonotary Warbler	Maintain occupancy in PPNP.	Record incidental observations and nesting success if breeding birds found.	Occupancy confirmed through monitoring of active nests in all years except 2020 when monitoring was not possible due to COVID-19 restrictions.	100%
Red Mulberry	Maintain occupancy at PPNP on the mainland and Middle Island.	Visit known individuals each year and assess their overall health and condition.	Occupancy confirmed by annual health assessments of all trees on mainland and Middle Island.	100%
Red-headed Woodpecker	Maintain occupancy in PPNP.	Record incidental observations.	Occupancy confirmed by incidental observations.	100%
Snapping Turtle	Maintain occupancy in PPNP.	Survey every 5 years and record incidental observations.	Incidental observations by park staff recorded as part of the turtle nest protection program every year from 2016-2021.	100%
Spiny Softshell	Maintain suitable habitat in PPNP.	Report on presence through incidental observations and nest protection. Monitor suitable habitat using aerial vegetation community assessments.	Optimal potential nesting sites have been cleared of invasive <i>Phragmites</i> on East Beach, however a complete analysis of other habitat needs has not been completed. No incidental observations confirmed.	50%

Species	Site-based population & distribution objectives	Population monitoring	Progress towards site-based population and distribution objectives	Progress (% achieved)
Spotted Gar	Maintain occupancy in PPNP.	Survey every 5 years and record incidental observations.	Occupancy confirmed during 2019/2021 SAR fish monitoring by Dept. of Fisheries and Oceans.	100%
Swamp Rosemallow	Maintain occupancy in PPNP.	Survey every 5 years and record incidental observations.	Occupancy confirmed annually by incidental staff observations in several areas of the marsh.	100%
Warmouth	Maintain occupancy at PPNP.	Survey every 5 years and record incidental observations.	Occupancy confirmed during 2019/2021 SAR fish monitoring by Dept. of Fisheries and Oceans.	100%
Wild Hyacinth	Maintain a population of not less than 500 individuals in at least two colonies on Middle Island, PPNP.	Survey every 5 years and record incidental observations.	Survey completed by park staff in 2018 recorded over 4,000 stems in 4 distinct areas of the island.	100%
Yellow-breasted Chat	Maintain at least 4 ha of suitable Yellow-breasted Chat habitat in PPNP.	The total amount of suitable habitat will be calculated using air photos at least every 5 years.	4.15 ha of suitable habitat was restored through savannah restoration efforts in 2017 and 2018.	100%

Table 5. Progress towards achieving site-based population and distribution objectives for species at risk (SAR) in Niagara National Historic Sites of Canada.

Species	Site-based population & distribution objectives	Population monitoring	Progress towards site-based population and distribution objectives	Progress (% achieved)
Bobolink	Maintain a breeding presence at the site at least once in a 5-year period at NNHS.	Breeding bird survey every spring at the Commons.	Surveys detected probable Bobolink breeding evidence in 2016 and 2019.	100%
Eastern Flowering Dogwood	Conserve the existing population of 36 stems at the known sites in NNHS.	Count individuals each spring.	48 trees were located in surveys with a species expert in 2018-2019.	100%
Monarch	Ensure habitat is available at NNHS.	Survey suitable milkweed habitat every 5 years.	Informal surveys mapped suitable habitat in 2020 and 2021 for areas of the Commons only.	20%
Snapping Turtle	Maintain occupancy at NNHS. <i>Note: This refers to observations at Two-mile Creek, based on an expectation that the property might be transferred to Parks Canada within the plan timeframe.</i>	Confirm occupancy by observing at least one individual each year.	The property targeted in this measure is not under the authority of Parks Canada and therefore monitoring was not possible.	Not applicable

Species	Site-based population & distribution objectives	Population monitoring	Progress towards site-based population and distribution objectives	Progress (% achieved)
White Wood Aster	Maintain 3 patches of individuals at Oak Grove and 4 patches at the Lakeshore Property of NNHS.	Count patches and individuals at least once every 5 years.	Monitoring in 2018 confirmed maintenance of patch numbers, however lower stem counts and increasing threats from invasive plants, trampling and herbivore browse noted.	100%



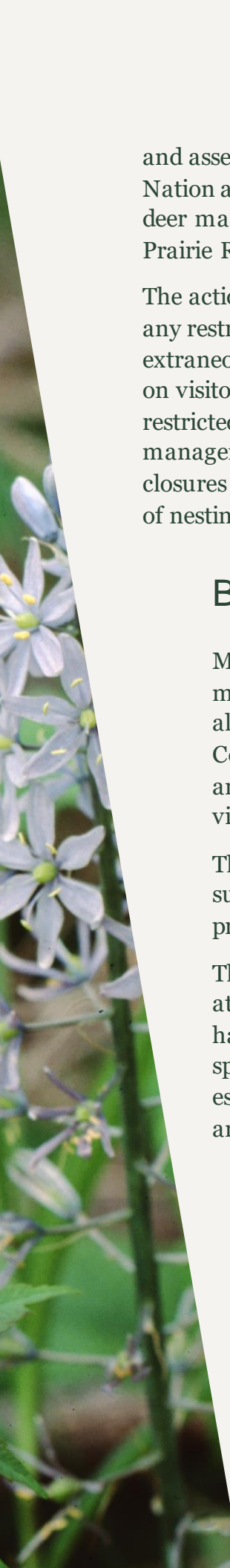
5. SOCIO-ECONOMIC IMPACTS

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 MSAP 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 MSAP for Point Pelee National Park of Canada and Niagara National Historic Sites of Canada, described as costs and benefits, are outlined below.

Costs

The total costs to implement this action plan were 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 C of the action plan (Recovery measures that will be conducted by PPNP and NNHS).

No major socio-economic costs to partners, stakeholders or Indigenous groups were incurred as a result of this action plan. Additional resources or partnerships were provided by the Natural Heritage Information Centre to complete Clustered Sedge monitoring on Middle Island. Progress for bat monitoring in PPNP was made possible through collaboration with other PCA sites conducting similar projects. The Niagara Parks Commission provided arborist services to assist in the collection of leaf samples from Butternut and the Forest Gene Conservation Association contributed time to locate



and assess health of Butternut at NNHS. Indigenous partners from Caldwell First Nation and Walpole Island First Nation contributed time to several measures including deer management, the marsh conservation plan and the reintroduction of Climbing Prairie Rose.

The action plan applies only to lands and waters in PPNP and NNHS, and did not bring any restrictions to land use outside of the sites. As such, this action plan placed no extraneous socio-economic costs on the public. However, some restrictions were placed on visitors to PPNP. To restore and protect SAR habitat in the park, access to PPNP was restricted for approximately two weeks annually to conduct White-tailed Deer management activities in partnership with Indigenous partners. In addition, temporary closures of some park trails was necessary in the immediate area of prescribed fires and of nesting/migrating SAR birds.

Benefits

Measures presented in this action plan for PPNP and NNHS 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 likely resulted in benefits to Canadians, such as positive impacts on biodiversity and the value individuals place on preserving biodiversity.

The measures sought a balanced approach to reducing or eliminating threats to at-risk populations and habitats, and included protection of individuals and their habitats (e.g., restrictions to human activities within areas occupied by the species, combined with ongoing research and monitoring), potential species re-establishment (Climbing Prairie-rose at PPNP), and increasing public awareness and stewardship (e.g., visitor programs and highlights in communication media).

Park staff protected nests of Blanding's Turtle, Eastern Musk Turtle, Northern Map Turtle and Snapping Turtle from predation and kept invasive *Phragmites* from overtaking prime nesting habitat, which is also critical for Spiny Softshell Turtle. Rare savannah habitat was restored with 25 ha cleared and thousands of native plants planted by volunteers and school groups, helping to recover Prickly Pear Cactus, Five-lined Skink, Yellow-breasted Chat and many more species dependant on this open, sunny habitat. Previously undiscovered

Eastern Flowering Dogwood trees were discovered through surveys at Oak Grove in NNHS and these endangered trees were then protected from invasive, exotic trees that threaten their survival. These and other measures taken may 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 SAR found in PPNP and NNHS 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.

Implementing this action plan had positive benefits for park visitors, local residents, and Indigenous groups. Community volunteers participated in planting Milkweed to support Monarch habitat needs in the savannah habitats of PPNP and hundreds of youth from local schools had the opportunity to become involved in savannah restoration activities to support SAR. Local residents participated in two open houses to learn about how they can get involved in the recovery of Bobolink and other SAR at NNHS. The participation of Indigenous partners in the establishment of the Marsh Community of Practice provided the opportunity to integrate traditional knowledge of marsh SAR recovery into the Marsh Conservation Plan.

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 during restoration activities. Benefits included positive impacts on park ecological integrity, greater awareness of species and enhanced opportunities for engagement.