Protection and Recovery of Ontario's Species at Risk

2019 Review of Progress Summary

Ontario

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Hill's Thistle
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Cover photo: Piping Plover
- Carol Kastner

Lakeside Daisy
- Wasyl Bakowsky

Introduction to the 2019 Review of Progress towards the Protection and Recovery of Ontario's Species at Risk

Overview

To fulfill a legislative requirement of the Endangered Species Act, 2007 (ESA), the Government of Ontario publishes a Review of Progress Towards the Protection and Recovery of Ontario's Species at Risk. The Review shows how the Government of Ontario and its partners are helping to protect and recover species at risk in Ontario. In 2019, the Review included the following 16 species at risk:

- American Columbo
- Bird's-foot Violet
- Butternut
- Common Hoptree
- Cutlip Minnow
- Dwarf Hackberry
- Eastern Sand Darter
- Hill's Thistle
- Lakeside Daisy
- Northern Madtom
- Piping Plover
- Pitcher's Thistle
- Pugnose Shiner
- Slender Bush-clover
- Virginia Goat's-rue
- Willowleaf Aster

This document is a summary of the progress made from 2007 to 2018 for the 16 species listed above. Full-length chapters on each species are found in the 2019 Review of Progress Towards the Protection and Recovery of Ontario's Species at Risk, which is available on the Government of Ontario website at www.ontario.ca/page/review-progress-towards-protection-and-recovery-ontarios-species-risk

Review of Progress Towards the Protection and Recovery of American Columbo

American Colombo
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The recovery goal in the Government Response Statement (GRS) for American Columbo in Ontario is to "maintain the current population levels at existing locations in Ontario, and enable natural increases." Progress has been made towards implementing all government-led actions listed in the GRS. Progress has also been made towards achieving all government-supported recovery objectives, and implementing the majority of associated actions. Examples of progress include:

- Improving the suitability of habitat for American Columbo by improving the ground cover, understory, and canopy conditions, and providing increased light penetration to the forest floor;
- Managing trail systems to restrict access to areas with species at risk, including American Columbo, and restoring trail heads by installing barriers and plantings to discourage unauthorized use;
- Monitoring sites with American Columbo and noting the presence of flowers and the general health of each plant; and,
- Providing outreach materials and engaging with private landowners who supported surveys to be conducted for American Columbo on their properties.

In alignment with the GRS, more work is required to "develop and implement a standardized monitoring protocol for all existing populations and to research the life history characteristics of American Columbo to inform the species' recovery."

Provincial Status

American Columbo has been classified as a species at risk in Ontario since 2004. It was originally classified as a special concern species (in 2004) and was up-listed to endangered (in 2008). It retained its 'endangered' status under the ESA, when it came into force in June 2008.

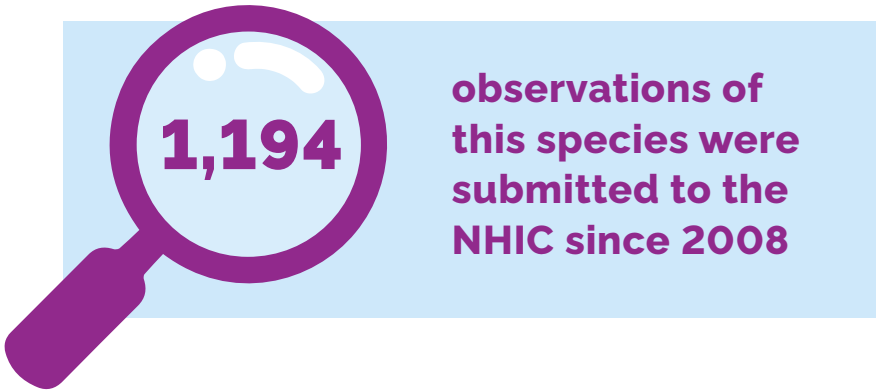
As an endangered species, American Columbo has been protected from being killed, harmed, harassed, captured or taken, under the ESA, since 2008.

In addition, its habitat has been protected from being damaged or destroyed since June 30, 2013, based on the general definition of habitat in the ESA.

Occurrence and distribution

Twenty populations[1] of American Columbo have been documented in southern Ontario, of which ten are extant, eight are considered historical[2], and two are considered extirpated.

Since 2008, the status of one population changed from extant to historical, and another population changed from historical to extirpated based on (i) the dates that these populations were last observed, and (ii) negative results during surveys at previously-documented locations. Nine extant populations have been re-confirmed since 2008.



Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct 14 projects ($596,098) that have supported the protection and recovery of American Columbo. One project focused exclusively on American Columbo, while the other 13 projects focused on multiple species at risk, including American Columbo.

The government's support helped its stewardship partners to involve 997 individuals who volunteered 10,859 hours of their time towards protection and recovery activities for species at risk, including American Columbo. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $1,410,598.

Stewardship partners reported that through their actions 241 hectares of habitat were enhanced for American Columbo and other species at risk that inhabit the same ecosystem.

Stewardship partners reported providing outreach on multiple species at risk, including American Columbo, to 600,930 individuals.

1 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., American Columbo) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

2 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist, but updated information is not available.

Species at Risk Stewardship Program

BY THE NUMBERS:

14

projects included American Columbo

1

project for American Columbo exclusively

$596,098

for multi-species projects that included American Columbo

$1,410,598

in additional funding and in-kind support

997

volunteers

10,859

volunteer hours

600,930

people received outreach

241

hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

The Government of Ontario has issued one 'protection and recovery' permit for this species under clause 17(2)(b) of the ESA.

Twenty-four activities have been registered for the species, under 'Drainage works' (section 23.9), 'Pits and quarries' (section 23.14), and 'Threats to health and safety, not imminent' (section 23.18) sections of Ontario Regulation 242/08, under the ESA.

1

protection or recovery permit

24

registrations

Species-specific documents and guidance published by the government:

Recovery Strategy for American Columbo (2013)

American Columbo Government Response Statement (2014)

Review of Progress Towards the Protection and Recovery of Bird's-foot Violet and Virginia Goat's-rue

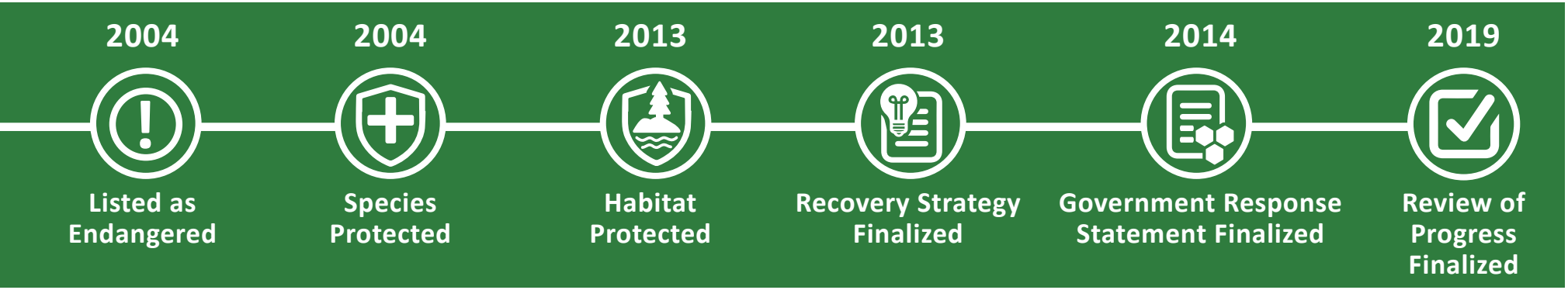
The recovery goal for Bird's-foot Violet and Virginia Goat's-rue in Ontario, as stated in the Government Response Statement (GRS), is to "maintain the provincial population of each species at, or enable natural increases to, sustainable levels, and re-establish the species at sites they have historically occupied if feasible and appropriate." Progress has been made towards implementing all GRS government-led actions. Progress has also been made towards achieving all government-supported recovery objectives, and implementing associated actions. Examples of progress include:

- Restoring habitat, species monitoring, and research to determine best methods to achieve sustainable, or naturally increasing, populations of Bird's-foot Violet or Virginia Goat's-rue in St. Williams Conservation Reserve;
- Testing optimal fuel loads and predicting fire behaviour to determine best conditions for conducting prescribed burns, an important tool for restoring habitat for tallgrass prairie species;
- Enhancing the habitat of Bird's-foot Violet through invasive species control and prescribed burns on two private properties; and,
- Engaging landowners at the community level to encourage local stewardship of the species' habitat.

In alignment with the GRS, more work is required to investigate whether it is feasible and appropriate to re-establish Bird's-foot Violet and Virginia Goat's-rue at sites historically occupied by the species, and conduct surveys on additional private lands using a consistent, standardized methodology.

Bird's-foot Violet
- © Samuel Brinker CC BY-NC 4.0

Virginia Goat's-rue
- © J. Burke Korol CC BY-NC 4.0

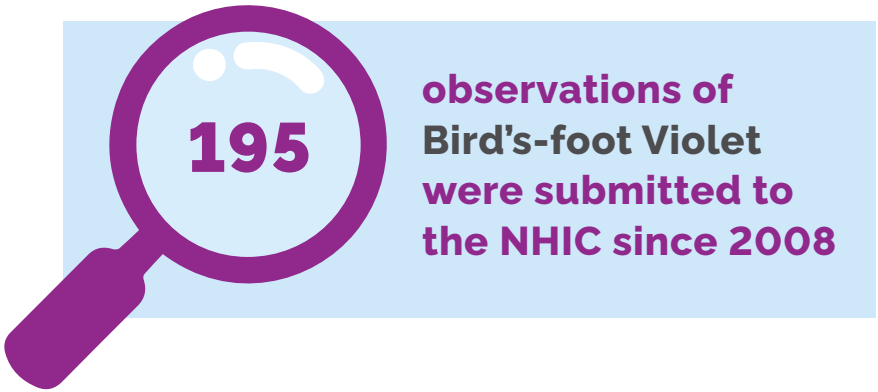


Provincial Status

Bird's-foot Violet and Virginia Goat's-rue have been classified as species at risk in Ontario since 2004. They were originally classified as endangered species (in 2004), and retained their 'endangered' status under the Endangered Species Act, 2007 (ESA).

As endangered species, Bird's-foot Violet and Virginia Goat's-rue have been protected from being killed, harmed, harassed, captured or taken, under the ESA, since 2004.

In addition, the species' habitats have been protected from being damaged or destroyed since June 30, 2013, based on the general definition of habitat in the ESA.



Occurrence and distribution

Fourteen populations[3] of Bird's-foot Violet have been documented in Ontario, of which four are considered extant, one is considered historical[4], and nine are considered extirpated. The extant populations are located in the area of Turkey Point Provincial Park and three other sites on private lands near Brantford, Forestville and Vittoria.

Six populations of Virginia Goat's-rue have been documented in Ontario. One population is considered extant, two are considered historical and three are considered extirpated. The extant population is located within Turkey Point Natural Area (including St. Williams Conservation Reserve).

3 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., Bird's-foot Violet) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

4 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist but updated information is not available.

117 observations of Viginia Goat's-rue were submitted to the NHIC since 2008

Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct 11 projects ($691,256) that have supported the protection and recovery of Bird's-foot Violet and/or Virginia Goat's-rue. One project focused exclusively on Bird's-foot Violet, while the other 10 projects focused on multiple species at risk, including Bird's-foot Violet and/or Virginia Goat's-rue.

The government's support helped a stewardship partner involve 5 individuals who volunteered 44 hours of their time towards protection and recovery activities focused exclusively on Bird's-foot Violet. The government's support also helped stewardship partners involve 1,014 individuals who volunteered 17,627 hours of their time towards protection and recovery activities for species at risk, including Bird's-foot Violet and/or Virginia Goat's-rue. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $931,430.

Stewardship partners reported that, through their actions, 5,426 hectares of habitat were enhanced for Bird's-foot Violet and/or Virginia Goat's-rue as well as other species at risk that inhabit the same ecosystem.

Stewardship partners reported providing outreach on multiple species at risk, including Bird's-foot Violet and/or Virginia Goat's-rue, to 626,400 individuals.

Species at Risk Stewardship Program

BY THE NUMBERS:

11
projects included Bird's-foot Violet and/or Virginia Goat's rue

1
project for Bird's-foot Violet exclusively

$691,256
for multi-species projects that included Bird's-foot Violet and Virginia Goat's rue

$931,430
in additional funding and in-kind support

1,014
volunteers

17,627
volunteer hours

626,400
people received outreach

5,426
hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

The Government of Ontario has issued one 'protection and recovery' permit for Bird's-foot Violet under clause 17(2)(b) of the ESA.

One activity has been registered for Bird's-foot Violet under the 'Threats to health and safety, not imminent' section (s. 23.18) of Ontario Regulation 242/08.

1

protection or recovery permit

1

registrations

Species-specific documents and guidance published by the government:

Recovery Strategy for Bird's-foot Violet (2013)

Recovery Strategy for Virginia Goat's-rue (2013)

Bird's-foot Violet and Virginia Goat's-rue Government Response Statement (2014)

Bird's-foot Violet
- © J. Burke Korol CC BY-NC 4.0

Review of Progress Towards the Protection and Recovery of Butternut

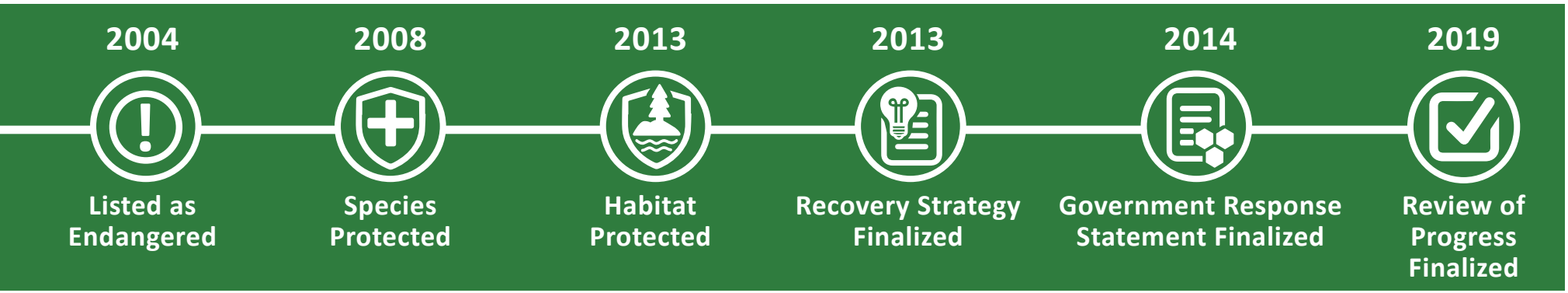
Butternut
- © darlingtonpp CC BY-NC 4.0

The long-term recovery goal for Butternut in Ontario, as stated in the Government Response Statement (GRS), is to "maintain existing populations, or increase them, such that they are self-sustaining throughout the species' current range in Ontario." Progress has been made towards implementing all government-led actions listed in the GRS. Progress has also been made towards meeting all government-supported recovery objectives, and implementing the majority of the associated actions. Examples of progress include:

- Developing and expanding the Butternut Assessment Guidelines: Assessment of Butternut Tree Health for the Purposes of the Endangered Species Act, 2007 in 2011 and 2014, respectively, to provide more detailed guidance;
- Establishing the Butternut Health Assessor (BHA) workshop training and evaluation materials and assessment reporting tools, and maintaining the list of assessors in good standing up to date;
- Having designated BHAs evaluate the health of Butternut trees across the species' range in southern Ontario, and identify trees that may be resistant to Butternut Canker; and,
- Establishing facilities to archive genetic material from healthy (possibly resistant to canker) Butternut trees with funding support from the Species at Risk Stewardship Program, and collecting and propagating seeds from healthy trees, to produce Butternut seedlings for planting.

In alignment with the GRS, more work is required to:

- Develop and implement a standardized survey and monitoring protocol for Butternut;



- Continue to investigate whether there is genetic or environmental basis to Butternut Canker resistance; and,
- Determine whether Butternut hybrids have a genetic resistance to Butternut Canker and whether this information may assist Butternut recovery in Ontario.

Provincial Status

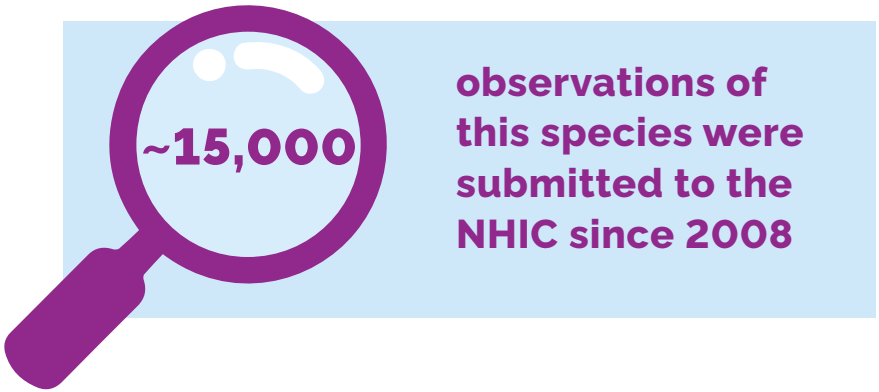
Butternut has been classified as a species at risk in Ontario, since 2004. It was originally classified as endangered (in 2004), and retained its 'endangered' status under the Endangered Species Act, 2007 (ESA), when it came into force in 2008.

As an endangered species, Butternut has been protected from being killed, harmed, harassed, captured or taken, under the ESA, since 2008.

The species' habitat has been protected from being damaged or destroyed since June 30, 2013, based on the general definition of habitat in the ESA.

Occurrence and distribution

Butternut is widely distributed across southern and eastern Ontario, with an estimated range of approximately 76,100 square kilometres based on recent observations of the species, and an additional 5,900 square kilometres based on historical observations.



The Natural Heritage Information Centre (NHIC) has received approximately 15,000 records of Butternut, based on observations made between 1820 and 2018.

Since 2008, the species has been observed in locations where the species was previously not known to occur, and at locations which were previously thought to be historical. The status of some local populations[5] or occurrences changed from extant to historical[6] based on the dates that these populations were last observed. Based on up to date information, the species' extant distribution is estimated to encompass a greater area (enlarged by 33,100 square kilometres) than was known in 2008.

Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct 74 projects that have supported the protection and recovery of Butternut. Eight projects ($237,960) focused exclusively on Butternut, while the other 66 projects ($2,620,483) focused on multiple species at risk, including Butternut.

The government's support helped its stewardship partners to involve 4,274 individuals who volunteered 68,887 hours of their time towards protection and recovery activities for species at risk, including Butternut. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $4,955,417.

5 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., Butternut) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

6 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist but updated information is not available.

Stewardship partners reported that through their actions 5,747 hectares of habitat were enhanced for Butternut and other species at risk that inhabit the same ecosystem.

Stewardship partners reported providing outreach on multiple species at risk, including Butternut, to 586,585 individuals.

Species at Risk Stewardship Program

BY THE NUMBERS:

74

projects included Butternut

$237,9960

for Butternut exclusively

$2,620,483

for multi-species projects that included Butternut

$417,390

in additional funding and in-kind support

4,274

volunteers

68,887

volunteer hours

576,673

people received outreach

5,747

hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

The Government of Ontario has issued 86 permits (as of October 2019) for this species. Of the 86 permits, four 'human health or safety' permits were issued under clause 17(2)(a), seven 'protection or recovery' permits were issued under clause 17(2)(b), and 75 'overall benefit' permits were issued under clause 17(2)(c), of the ESA.

Seventy-one agreements were entered into for Butternut. These agreements were enabled through Ontario Regulation 242/08 (prior to the July 1, 2013 amendment).

Four-hundred and seventy-one activities have been registered for the species. Most of the activities were registered under the 'Butternut' (section 23.7) and 'Threats to health and safety, not imminent' (section 23.18) sections of Ontario Regulation 242/08, under the ESA.

4

health or safety permits

7

protection or recovery permit

75

overall benefit permits

71

agreements

471

registrations

Species-specific documents and guidance published by the government:

Recovery Strategy for Butternut (2013)

Butternut Government Response Statement (2014)

Review of Progress Towards the Protection and Recovery of Common Hoptree and Dwarf Hackberry

The recovery goal for Common Hoptree in Ontario, as stated in the Government Response Statement for Common Hoptree and Dwarf Hackberry (GRS), is to "maintain suitable habitat conditions and populations with a sustainable number of mature individuals in its seven core areas, and where feasible, increase the reproductive capacity of smaller populations." The recovery goal for Dwarf Hackberry in Ontario, as stated in the GRS, is to "maintain stable populations and improve habitat conditions at its six existing locations." Progress has been made towards implementing all government-led actions listed in the GRS for both species. Progress has also been made towards achieving all government-supported recovery objectives, and implementing the majority of associated actions. Examples of progress include:

- Conducting extensive presence/absence surveys to determine the occurrence and distribution of the species and their habitats;
- Using computer models to predict suitable habitat for forest plant species including Dwarf Hackberry;
- Removing invasive plant species and undertaking prescribed burns to enhance and restore the species' habitat;
- Providing outreach materials and engaging with private landowners; and,
- Developing a seed dispersal protocol for augmenting populations of these species.

Common Hoptree
- © J. Burke Korol CC BY-NC 4.0

Dwarf Hackberry
- © Samuel Brinker CC BY-NC 4.0

In alignment with the GRS, more work is required to mitigate the impacts of altered coastal processes in and around the species' habitats in certain areas, evaluate potential impacts from aggregate extraction activities and promote ways to minimize these impacts on Dwarf Hackberry, and assess the significance of threats to both species from snails and insects.

Provincial Status

Common Hoptree

Common Hoptree has been classified as a species at risk in Ontario, since 2004. It was originally classified as a threatened species (in 2004) and retained its 'threatened' status when the Endangered Species Act, 2007 (ESA) came into force, in 2008. However, based on a re-assessment by the Committee on the Status of Species at Risk in Ontario (COSSARO 2016), the species was down-listed from threatened to special concern, in 2017.

As a threatened species, Common Hoptree was protected from being killed, harmed, harassed, captured or taken from 2008 to 2017, under the ESA.

Its habitat was protected from being damaged or destroyed from June 30, 2013 to 2017, based on the general definition of habitat under the ESA. Since June 2017, as a special concern species, it no longer receives species or habitat protection. However, Common Hoptree is the larval host for an endangered moth species, called the Hoptree Borer. As such, Common Hoptrees that are used by Hoptree Borer to carry out their life processes are protected under the ESA as the habitat of Hoptree Borer.

Dwarf Hackberry

Dwarf Hackberry has been classified as a species at risk in Ontario, since 2004. It was originally classified as threatened (in 2004) and retained its 'threatened' status when the ESA came into force, in 2008.

As a threatened species, Dwarf Hackberry has been protected from being killed, harmed, harassed, captured or taken, under the ESA, since 2008.

In addition, its habitat has been protected from being damaged or destroyed since June 30, 2013, based on the general definition of habitat in the ESA.

observations of Common Hoptree were submitted to the NHIC since 2008

observations of Dwarf Hackberry were submitted to the NHIC since 2008

Occurrence and distribution

Twenty-nine populations[7] of Common Hoptree have been documented in southern Ontario. Twenty-four populations, of which two were discovered in 2011, are considered extant, four are considered historical[8], and one is considered extirpated. An increase in population levels and the identification of new occurrence locations since 2002 resulted in the down-listing of the species from threatened to special concern in 2017.

Seven populations of Dwarf Hackberry have been documented in southern Ontario; all seven are considered extant. One of the extant populations was first discovered in 2009 in the Niagara Gorge, increasing the number of known populations from six to seven since the ESA came into force.

Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct 25 projects ($780,091) that have supported the protection and recovery of Common Hoptree and/or Dwarf Hackberry. All 25 projects focused on multiple species at risk, including Common Hoptree and/or Dwarf Hackberry.

The government's support helped its stewardship partners to involve 364 individuals who volunteered 14,804 hours of their time towards protection and recovery activities for multiple species at risk, including Common Hoptree and/or Dwarf Hackberry. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $1,149,915.

Stewardship partners reported that, through their actions, 69 hectares of habitat were enhanced for Common Hoptree and/or Dwarf Hackberry and other species at risk that inhabit the same ecosystems.

Stewardship partners reported providing outreach on multiple species at risk, including Common Hoptree and Dwarf Hackberry, to more than 7,000 individuals.

7 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., Common Hoptree) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

8 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist, but updated information is not available.

Species at Risk Stewardship Program

BY THE NUMBERS:

25

projects included Common Hoptree and/or Dwarf Hackberry

$780,091

for multi-species projects that included Hoptree and/or Dwarf Hackberry

$1,149,915

in additional funding and in-kind support

364

volunteers

14,804

volunteer hours

7,000+

people received outreach

69

hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

Under the ESA, the Government of Ontario has issued one 'protection of human health or safety' permit under clause 17(2)(a), four 'protection or recovery' permits under clause 17(2)(b), five 'overall benefit' permits under clause 17(2)(c), and one 'social and economic benefit' permit under clause 17(2)(d) for Common Hoptree and/or Dwarf Hackberry.

Eleven agreements for Common Hoptree and one agreement for Dwarf Hackberry were entered into and enabled through Ontario Regulation 242/08 (prior to the July 1, 2013 amendment).

Nine activities that may affect Common Hoptree or its habitat have been registered under various sections of Ontario Regulation 242/08, under the ESA. The activities were registered under 'Drainage works' (section 23.9), 'Species protection, recovery activities' (section 23.17), and 'Threats to health and safety, not imminent' (section 23.18). Five activities that may affect Dwarf Hackberry or its habitat have been registered under various sections of Ontario Regulation 242/08, under the ESA. The activities were registered under 'Pits and quarries' (section 23.14), 'Species protection, recovery activities' (section 23.17), and 'Threats to health and safety, not imminent' (section 23.18).

4 protection or recovery permits

5 overall benefit permits

1 social and economic benefit permit

11 agreements

9 registrations

Species-specific documents and guidance published by the government:

Recovery Strategy for Common Hoptree (2013)

Recovery Strategy for Dwarf Hackberry (2013)

Common Hoptree and Dwarf Hackberry Government Response Statement (2014)

Common Hoptree
- © Colin Chapman CC BY-NC 4.0

Review of Progress Towards the Protection and Recovery of

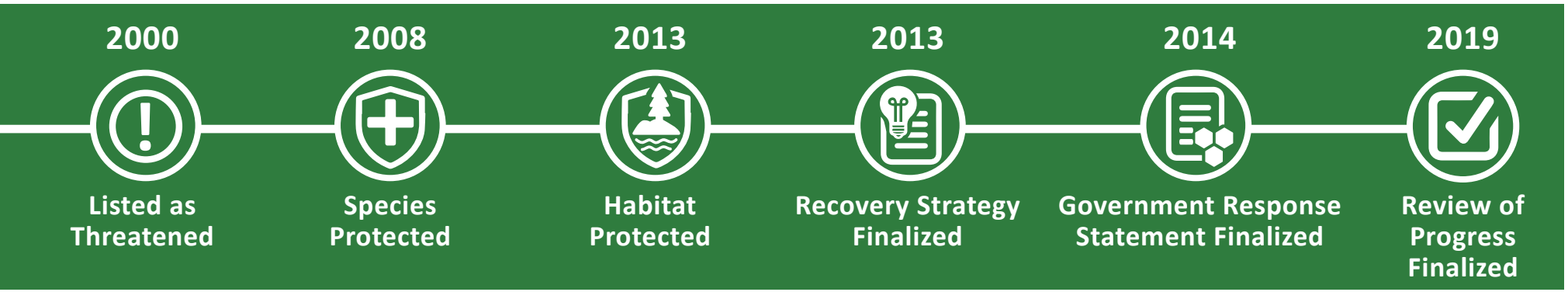
Cutlip Minnow

Cutlip Minnow
- New York State Department of Environmental Conservation

The recovery goal stated in the Government Response Statement (GRS) for Cutlip Minnow in Ontario is to "maintain and increase numbers in existing populations, and where feasible, to restore habitat quality in formerly occupied locations that have the potential for natural recolonization." Progress has been made towards implementing all government-led actions in the GRS. Progress has also been made towards achieving all government-supported recovery objectives, and implementing associated actions. Examples of progress include:

- Conducting inventory and monitoring at known and historical locations to improve understanding of the status of populations and habitat requirements;
- Supporting partners to undertake activities to protect and recover Cutlip Minnow and its habitat; and,
- Increasing awareness about Cutlip Minnow and its habitat through education and outreach.

In alignment with the GRS, further work is required to investigate the movements for all life stages of Cutlip Minnow, evaluate the potential impacts of other aquatic species (e.g., Common Shiner (Luxilus cornutus) and Round Goby (Neogobius melanostomus)) on populations, and restore degraded habitat at current and historical locations to support the recovery of the species.



Provincial Status

Cutlip Minnow has been classified as a species at risk in Ontario since 2000. It was originally classified as threatened, and retained its 'threatened' status under the Endangered Species Act, 2007 (ESA), when it came into force in 2008.

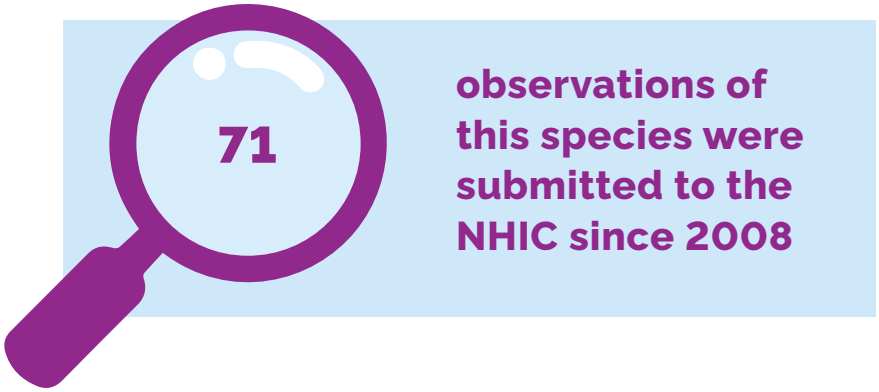
As a threatened species, Cutlip Minnow has been protected from being killed, harmed, harassed, captured or taken, under the ESA, since 2008.

In addition, its habitat has been protected from being damaged or destroyed, since 2013, based on the general definition of habitat in the Act.

Occurrence and distribution

Ten populations[9] of Cutlip Minnow have been documented in the St. Lawrence and lower Ottawa River drainage areas. Currently, eight of these populations are extant, whereas the remaining two are considered historical[10].

Since 2008, two populations of Cutlip Minnow have been newly-identified, and one population changed from historical to extant as its existence was confirmed through monitoring efforts.



Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct 14 projects that have supported the protection and recovery of Cutlip Minnow. Five projects ($112,150) focused exclusively on Cutlip Minnow, while the other nine projects ($278,261) focused on multiple species at risk, including Cutlip Minnow.

The government's support helped its stewardship partners to involve 389 individuals who volunteered 7,382 hours of their time towards protection and recovery activities for species at risk, including Cutlip Minnow. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $599,604.

Stewardship partners reported providing outreach on multiple species at risk, including Cutlip Minnow, to more than 21,000 individuals.

9 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., Cutlip Minnow) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

10 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist, but updated information is not available.

Species at Risk Stewardship Program

BY THE NUMBERS:

14

projects included Cutlip Minnow

$112,150

project for Cutlip Minnow exclusively

$278,261

for multi-species projects that included Cutlip Minnow

$120,900

in additional funding and in-kind support

389

volunteers

7,382

volunteer hours

21,000

people received outreach

Supporting human activities while ensuring appropriate support for species recovery

The Government of Ontario has issued eight 'protection or recovery' permits under clause 17(2)(b) of the ESA.

Three agreements were entered into for Cutlip Minnow. These agreements were enabled through Ontario Regulation 242/08 (prior to the July 1, 2013 amendment).

Twenty-four activities have been registered for the species, under the 'Aquatic species' (section 23.4), 'Drainage works' (section 23.9), 'Species protection, recovery activities' (section 23.17), and 'Threats to health and safety, not imminent' (section 23.18) sections of Ontario Regulation 242/08, under the ESA.

8

protection or recovery permits

3

agreements

24

registrations

Species-specific documents and guidance published by the government:

Recovery Strategy for Cutlip Minnow (2013)

Cutlip Minnow Government Response Statement (2014)

Review of Progress Towards the Protection and Recovery of Eastern Sand Darter

The recovery goal in the Government Response Statement (GRS) for Eastern Sand Darter in Ontario is to "maintain and enable natural increases in existing populations, and to improve the quality of the species' habitat." Progress has been made towards implementing all GRS government-led actions. Progress has also been made towards achieving all government-supported recovery objectives, and implementing the associated actions. Examples of progress include:

- Conducting inventory and monitoring at known and historical locations to improve understanding of the status of populations and habitat requirements;
- Supporting partners to undertake activities to protect and recover Eastern Sand Darter and its habitat; and,
- Increasing awareness about Eastern Sand Darter and its habitat through education and outreach.

Eastern Sand Darter
- Alan Dextrase

In alignment with the GRS, further work needs to be done to investigate the seasonal habitat requirements for all life stages of Eastern Sand Darter, particularly juveniles.

Provincial Status

Eastern Sand Darter has been classified as a species at risk since 2004. It was originally classified as a threatened species, and retained its 'threatened' status under the Endangered Species Act, 2007 (ESA), when it came into force in 2008. Based on a 2010 re-assessment by the Committee on the Status of Species at Risk in Ontario (COSSARO), Eastern Sand Darter was up-listed to endangered in 2010.

As a threatened, and later endangered species, Eastern Sand Darter has been protected from being killed, harmed, harassed, captured or taken, under the ESA, since 2008.

In addition, its habitat has been protected from being damaged or destroyed since 2010. The habitat of Eastern Sand Darter is now protected through a habitat regulation that came into force in 2015.

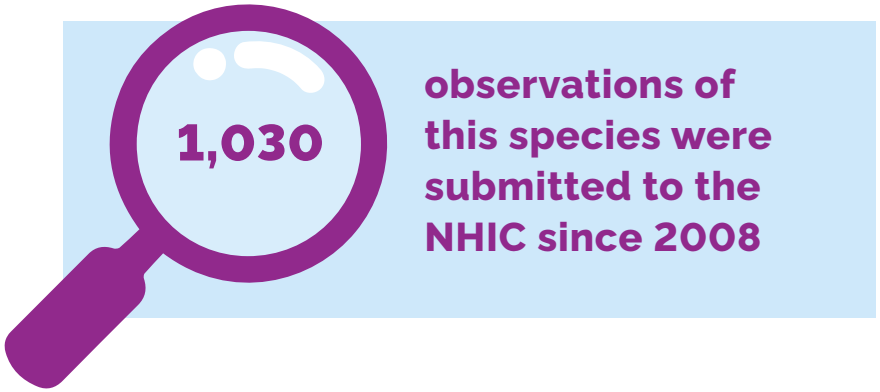
Occurrence and distribution

Thirteen populations[11] of Eastern Sand Darter have been documented in southern Ontario. Currently, seven of these populations are extant, three are historical[12], and three are considered extirpated.

Since 2008, the status of one population changed from extant to historical based on the date that it was last observed, while three populations changed from either extirpated or historical to extant as their existence was confirmed through monitoring efforts. One population of Eastern Sand Darter has been newly identified in Ontario since 2008, which represents the first detection of Eastern Sand Darter in the Lake Ontario basin.

11 For the purposes of this report, population is defined as an area of land and/or water on/in which an element (e.g., Eastern Sand Darter) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

12 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist, but updated information is not available.



Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct 37 projects ($1,721,247) that have supported the protection and recovery of multiple species at risk, including Eastern Sand Darter.

The government's support helped its stewardship partners to involve 1,175 individuals who volunteered 6,524 hours of their time towards protection and recovery activities for species at risk, including Eastern Sand Darter. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $2,941,233.

Stewardship partners reported that, through their actions, 279 hectares of habitat were enhanced for Eastern Sand Darter and other species at risk that inhabit the same ecosystem.

Stewardship partners reported providing outreach on multiple species at risk, including Eastern Sand Darter, to more than 500,500 individuals.

Through the Species at Risk Research Fund for Ontario, the Government of Ontario supported research partners to investigate the spread and impact of the invasive species Round Goby (Neogobius melanostomus) on Eastern Sand Darter populations, and to conduct an environmental DNA (eDNA) study to detect the presence of multiple species at risk, including Eastern Sand Darter.

Species at Risk Stewardship Program

BY THE NUMBERS:

37

projects included Eastern Sand Darter

$1,721,247

for multi-species projects that included Eastern Sand Darter

$2,941,233

in additional funding and in-kind support

1,175

volunteers

6,524

volunteer hours

500,500

people received outreach

279

hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

The Government of Ontario has issued 16 permits for this species: 1 'health or safety' permit issued under clause 17(2)(a), 14 'protection or recovery' permits issued under clause 17(2)(b), and 1 'overall benefit' permit issued under clause 17(2)(c) of the ESA.

Twenty-three drainage agreements were entered into for Eastern Sand Darter. These agreements were enabled through Ontario Regulation 242/08 (prior to the July 1, 2013 amendment).

Twenty-seven activities have been registered for the species under various sections of Ontario Regulation 242/08, under the ESA, including 'Drainage works' (section 23.9), 'Ecosystem protection' (section 23.11), 'Species protection, recovery activities' (section 23.17), 'Threats to health and safety, not imminent' (section 23.18), and 'Incidental trapping' (section 23.19).

1

health or safety permit

14

protection or recovery permits

1

overall benefit permit

23

agreements

27

registrations

Species-specific documents and guidance published by the government:

Recovery Strategy for Eastern Sand Darter (2013)

Eastern Sand Darter Government Response Statement (2014)

Eastern Sand Darter Habitat Regulation: Ontario Regulation 242/08, Section 25.1 (2015)

Review of Progress Towards the Protection and Recovery of Hill's Thistle and Lakeside Daisy

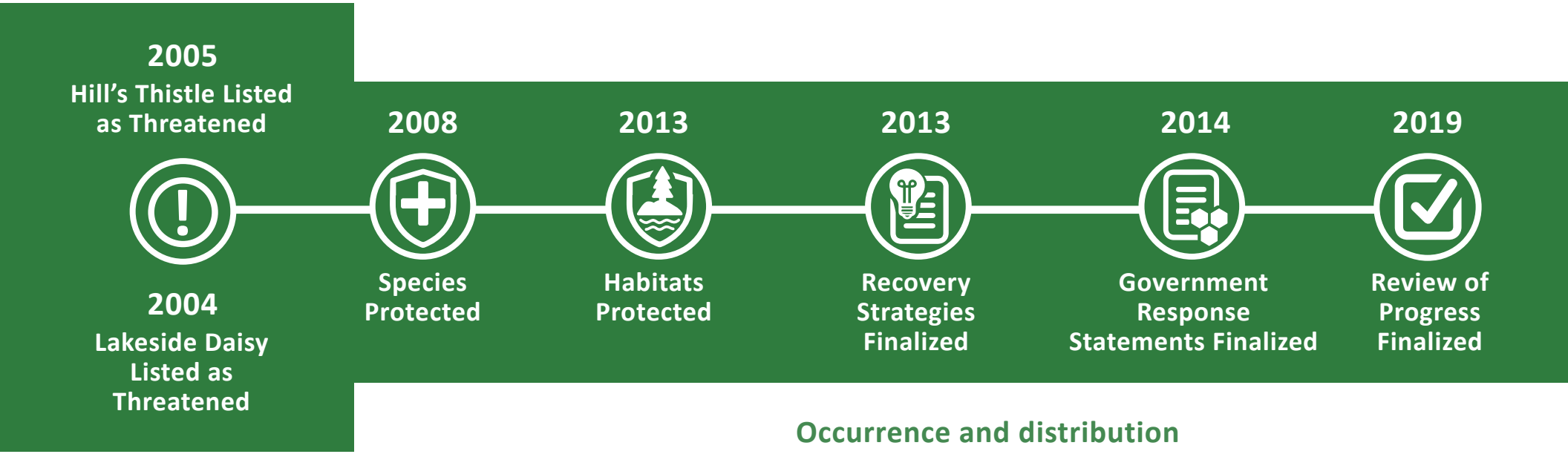
The recovery goal for Hill's Thistle and Lakeside Daisy in Ontario, as stated in the Government Response Statement (GRS), is to "halt the declines in population size for each species, and enable population increases to self-sustaining levels across each of the regions where the species are found." Progress has been made towards implementing all government-led actions, achieving all government-supported recovery objectives, and implementing the majority of associated actions. Examples of progress include:

- Developing and establishing a long-term monitoring program for Lakeside Daisy to identify population trends and assess threats;
- Conducting research on the genetic diversity of Hill's Thistle populations in Ontario;
- Erecting a boardwalk and interpretative signage to minimize trampling of alvar habitat, where Lakeside Daisy grows; and,
- Presenting to local elementary schools on Manitoulin Island about threats to species at risk, reasons behind habitat loss, and general information about species protection.

However, work is required towards supporting the securement of Hill's Thistle and Lakeside Daisy habitat through existing land securement and stewardship programs.

Hill's Thistle
- Wasyl Bakowsky

Lakeside Daisy
- © Andy Fyon CC BY-NC 4.0



Provincial Status

Hill's Thistle and Lakeside Daisy have been classified as species at risk in Ontario, since 2005 and 2004, respectively. They were originally classified as threatened species (in 2004 and 2005, respectively), and retained their 'threatened' status when the Endangered Species Act, 2007 (ESA) came into force in 2008.

As threatened species, Hill's Thistle and Lakeside Daisy have been protected from being killed, harmed, harassed, captured or taken, under the ESA, since 2008.

In addition, their habitats have been protected from being damaged or destroyed since June 30, 2013, based on the general definition of habitat in the ESA.

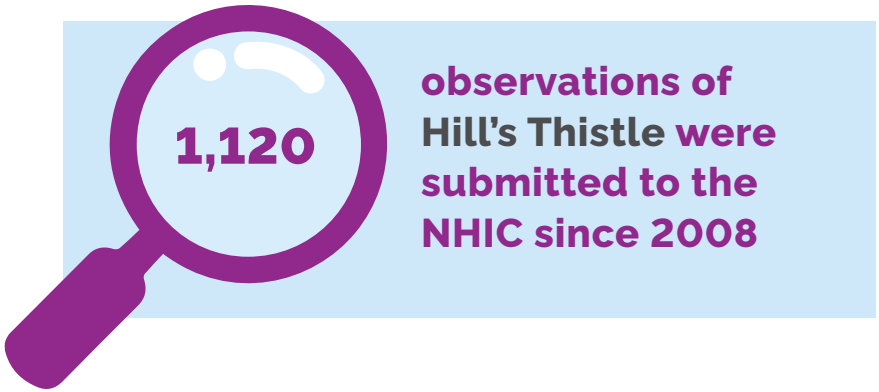
Occurrence and distribution

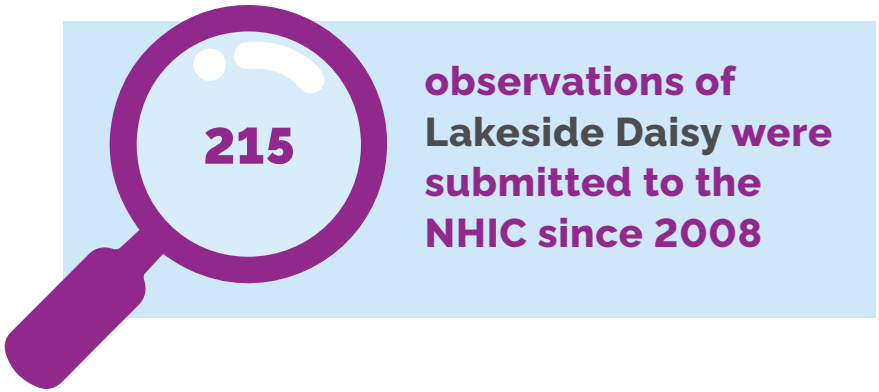
Sixty-four populations[13] of Hill's Thistle have been documented in Ontario, of which 47 are extant, 16 are considered historical[14], and one is considered extirpated. Twenty-eight populations of Lakeside Daisy have been documented in Ontario of which 26 are extant, and two are considered historical.

Since 2008, 24 populations of Hill's Thistle and 13 populations of Lakeside Daisy were re-confirmed, and two Hill's Thistle and four Lakeside Daisy populations were newly documented. New populations are likely the result of increased search effort and education about Hill's Thistle and Lakeside Daisy, and may not represent actual population increases, but rather increased knowledge about the distribution of the species.

13 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., Hill's Thistle) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

14 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist, but updated information is not available.





Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct 14 projects that have supported the protection and recovery of Hill's Thistle and/or Lakeside Daisy. Two projects ($32,937) focused exclusively on Hill's Thistle or Lakeside Daisy, while the other twelve projects ($492,012) focused on multiple species at risk, including Hill's Thistle and/or Lakeside Daisy.

The government's support helped its stewardship partners to involve 278 individuals who volunteered 4,420 hours of their time towards protection and recovery activities for species at risk, including Hill's Thistle and/or Lakeside Daisy. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $352,373.

Stewardship partners reported that through their actions eight hectares of habitat were enhanced for Hill's Thistle and/or Lakeside Daisy and other species at risk that inhabit the same ecosystem.

Stewardship partners reported providing outreach on multiple species at risk, including Hill's Thistle and/or Lakeside Daisy, to 1,352 individuals.

Through the Species at Risk Research Fund for Ontario, the Government of Ontario supported a research partner to conduct research on the genetic diversity and population connectivity of Hill's Thistle, as well as for another species at risk, Pitcher's Thistle.

Species at Risk Stewardship Program

BY THE NUMBERS:

14

projects included Hill's Thistle and/or Lakeside Daisy

$32,937

for Hill's Thistle or Lakeside Daisy exclusively

$492,012

for multi-species projects that included Hill's Thistle and/or Lakeside Daisy

$352,373

in additional funding and in-kind support

278

volunteers

4,420

volunteer hours

1,352

people received outreach

8

hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

The Government of Ontario has issued two permits for Hill's Thistle, both of which were 'protection or recovery' permits under clause 17(2)(b) of the ESA.

One agreement, enabled through Ontario Regulation 242/08 (prior to the July 1, 2013 amendment), was entered into for Hill's Thistle.

Fourteen activities have been registered for Hill's Thistle or Lakeside Daisy, under the 'Drainage works' (section 23.9), 'Ecosystem protection' (section 23.11), and 'Threats to health and safety, not imminent' (section 23.18) sections of Ontario Regulation 242/08 under the ESA.

2

protection or recovery permits

1

agreement

14

registrations

Species-specific documents and guidance published by the government:

Recovery Strategy for Hill's Thistle (2013)

Recovery Strategy for Lakeside Daisy (2013)

Hill's Thistle and Lakeside Daisy Government Response Statement (2014)

Review of Progress Towards the Protection and Recovery of Northern Madtom

The recovery goal in the Government Response Statement (GRS) for Northern Madtom in Ontario is to "maintain existing populations at current locations in the Lake Erie-Huron corridor (St. Clair River, Lake St. Clair, the Detroit River), and Thames River (the reach of river from Littlejohn Rd. upstream to an area near Tate Corners)." Progress has been made towards implementing all government-led actions. Progress has also been made towards achieving all government-supported recovery objectives, and implementing all associated actions. Examples of progress include:

- Conducting inventory and monitoring at known and historical locations to improve understanding of the status of populations and habitat requirements;
- Supporting partners to undertake activities to protect and recover Northern Madtom and its habitat; and,
- Promoting awareness of best management practices (BMPs) to improve habitat conditions and water quality in areas with Northern Madtom through education and outreach.

Northern Madtom
- Joseph R. Tomelleri

In alignment with the GRS, further work is needed to evaluate the seasonal habitat requirements for all life stages of Northern Madtom and investigate the effects of potential threats (e.g., chemical pollutants, physical habitat loss, and invasive species) on Northern Madtom populations.

Provincial Status

Northern Madtom has been classified as a species at risk since 2000. It was originally classified as threatened in 2000, and then endangered in 2004, and retained its 'endangered' status under the Endangered Species Act, 2007 (ESA), when it came into force in 2008.

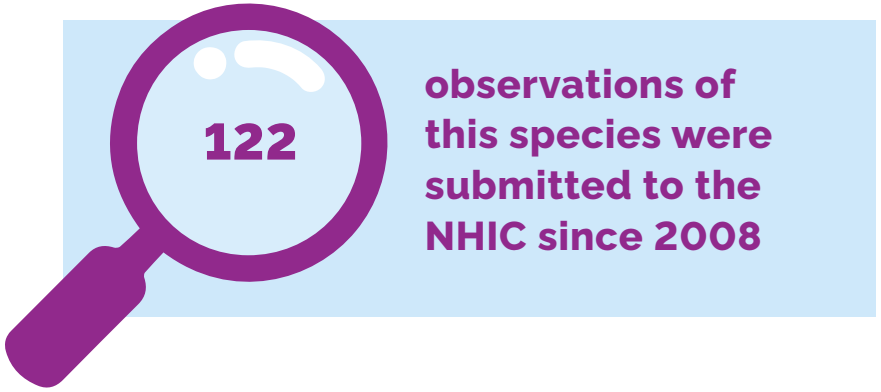
As an endangered species, Northern Madtom has been protected from being killed, harmed, harassed, captured or taken, under the ESA, since 2008.

In addition, its habitat has been protected from being damaged or destroyed since 2013, under the general definition of habitat in the Act.

Occurrence and distribution

Five populations[15] of Northern Madtom have been documented in Ontario in Lake St. Clair and the St. Clair, Detroit, Sydenham and Thames rivers. Currently, four of these populations are extant, whereas one population is considered historical[16].

Since 2008, the status of one population changed from extant to historical based on the date that it was last observed, and the status of three populations have been re-confirmed through monitoring efforts.



Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct 12 projects ($703,115) that have supported the protection and recovery of multiple species at risk, including Northern Madtom.

The government's support helped its stewardship partners to involve 77 individuals who volunteered 405 hours of their time towards protection and recovery activities for species at risk, including Northern Madtom. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $1,110,688.

Stewardship partners reported that through their actions 167 hectares of habitat were enhanced for Northern Madtom and other species at risk that inhabit the same ecosystem.

Stewardship partners reported providing outreach on multiple species at risk, including Northern Madtom to 190,475 individuals.

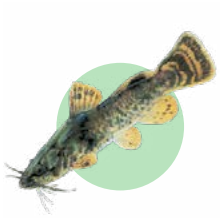
Through the Species at Risk Research Fund for Ontario, the Government of Ontario supported a research partner to conduct an environmental DNA (eDNA) study to detect the presence of multiple species at risk, including Northern Madtom.

15 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., Northern Madtom) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

16 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist, but updated information is not available.

Species at Risk Stewardship Program

BY THE NUMBERS:



12

projects included Northern Madtom

$703,115

for multi-species projects that included Northern Madtom

$1,110,688

in additional funding and in-kind support

77

volunteers

405

volunteer hours

190,475

people received outreach

167

hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

The Government of Ontario has issued nine permits for this species, all of which were 'protection or recovery' permits, issued under clause 17(2)(b) of the ESA.

Eight drainage agreements were entered into for Northern Madtom, as enabled through Ontario Regulation 242/08 (prior to the July 1, 2013 amendment).

Twelve activities have been registered for the species under the 'Drainage works' (section 23.9), 'Species protection, recovery activities' (section 23.17), 'Threats to health and safety, not imminent' (section 23.18), and 'Incidental trapping' (section 23.19) sections of Ontario Regulation 242/08, under the ESA.

9

protection or recovery permits

8

agreements

12

registrations

Species-specific documents and guidance published by the government:

Recovery Strategy for Northern Madtom (2013)

Northern Madtom Government Response Statement (2014)

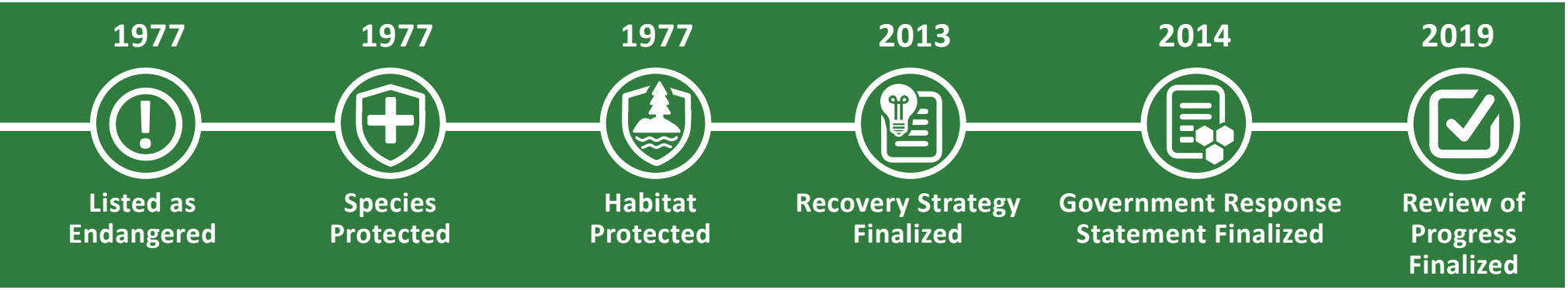
Review of Progress Towards the Protection and Recovery of Piping Plover

Piping Plover
- © bkinder832 CC BY-NC 4.0

The recovery goal in the Government Response Statement (GRS) for Piping Plover in Ontario is to "ensure its persistence along the coasts of the Great Lakes and Lake of the Woods, encourage increases in the number of breeding pairs, and support the expansion of the species to additional suitable breeding habitat in Ontario, where feasible." Progress has been made towards implementing all government-led actions. Progress has also been made towards achieving all government-supported recovery objectives, and implementing all associated actions. Examples of progress include:

- Developing and/or implementing beach management plans that minimize human disturbance to Piping Plover habitat;
- Participating in the International Piping Plover Census in collaboration with federal partners and volunteers; and,
- Surveying and monitoring at each breeding site including nest counts, evidence of breeding, documenting threats, predators, and human disturbance.

In alignment with the GRS, further research and analysis is required to fully implement the action to improve knowledge on reproductive success and overall health of Piping Plovers in relation to invertebrate food supply, human disturbance, and predator populations. Research to carry out this action is currently underway.



Provincial Status

Piping Plover has been classified as a species at risk in Ontario since 1977. It was originally classified as endangered, and retained its 'endangered' status under the Endangered Species Act, 2007 (ESA), when it came into force in 2008.

Piping Plover has been protected from being killed, harmed, harassed, captured or taken, under provincial endangered species legislation, since 1977.

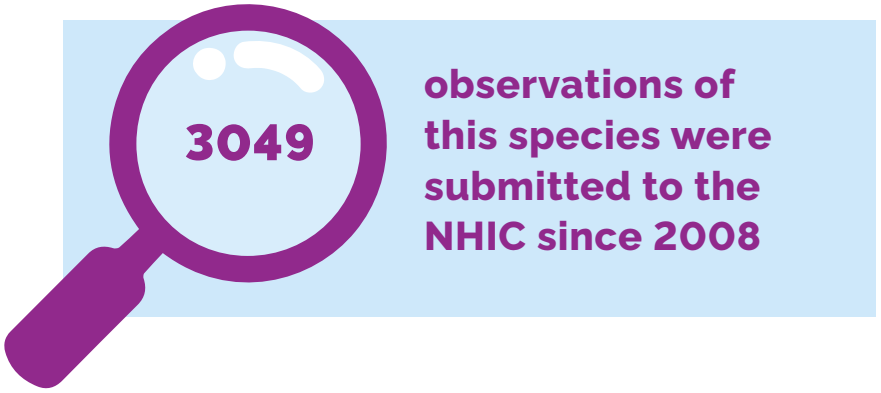
In addition, its habitat has been protected from being damaged or destroyed, since 1977. A general habitat description for Piping Plover, developed in 2013, provides clarity on the area of habitat protected, based on the general definition of habitat in the Act.

Occurrence and distribution

Historically, Piping Plovers were found along the Great Lakes shorelines in Ontario with estimates of approximately 70 to 90 breeding pairs in the early 1900s. With rapid increases in shoreline development and recreation, combined with natural weather events and predation, populations severely declined and by 1986, Piping Plovers were considered extirpated in Ontario.

Following international efforts in Piping Plover recovery work, in 2007, the first nest was found in Ontario for the first time in 30 years at Sauble Beach, and by 2017, Piping Plovers nested along all five of the Great Lakes for the first time in decades.

Twenty-four populations[17] of Piping Plover have been documented in Ontario. Eleven are considered extant (i.e., observed within the past 20 years) and thirteen are considered extirpated. Extant populations



are located along the shores of the Great Lakes (Tiny Township, Sauble Beach, Manitoulin Island, Toronto Island, Port Elgin, and Wasaga Beach, Darlington, North Beach, Presqu'ile, and Limestone Islands Provincial Parks and at Lake of the Woods (Sable Islands Provincial Park) in northwestern Ontario.

Since 2008, three new populations were identified and seven populations that were previously considered extirpated or historical[18] in Ontario are now considered extant.

Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct 19 projects that have supported the protection and recovery of Piping Plover. Eight projects ($283,695) focused exclusively on Piping Plover, while the other 11 projects ($402,704) focused on multiple species at risk, including Piping Plover.

The government's support helped its stewardship partners to involve 3,112 individuals who volunteered 50,200 hours of their time towards protection and recovery activities for species at risk, including Piping Plover. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $1,450,071.

17 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., Piping Plover) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

18 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist, but updated information is not available.

Stewardship partners reported that through their actions 126 hectares of habitat were enhanced for Piping Plover and other species at risk that inhabit the same ecosystem.

Stewardship partners reported providing outreach on multiple species at risk, including Piping Plover, to 115,711 individuals.

Species at Risk Stewardship Program

BY THE NUMBERS:

19

projects included Piping Plover

$283,695

for Piping Plover exclusively

$402,704

for multi-species projects that included Piping Plover

$1,450,071

in additional funding and in-kind support

3,112

volunteers

50,200

volunteer hours

115,711

people received outreach

126

hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

Five activities have been registered for the species under Ontario Regulation 242/08 - two under 'Notice of drainage works' (section 23.9), one under 'Ecosystem protection' (section 23.11), and two under 'Threats to human health or safety, non-imminent' (section 23.18).

registrations

Species-specific documents and guidance published by the government:

Recovery Strategy for Piping Plover (2013)

Piping Plover Government Response Statement (2014)

Piping Plover General Habitat Description (2013)

Review of Progress Towards the Protection and Recovery of Pitcher's Thistle

Pitcher's Thistle
- © Brian Popelier CC BY-NC 4.0

The recovery goal for Pitcher's Thistle in Ontario, as stated in the Government Response Statement (GRS), is to "maintain the current distribution and abundance of the Ontario population and enable natural population increases." Progress has been made towards implementing all government-led actions listed in the GRS. Progress has also been made towards achieving all government-supported recovery objectives, and implementing all associated actions. Examples of progress include:

- Annual inventorying and monitoring of populations at Pinery Provincial Park and installation of boardwalks and signage to identify designated routes to the beach to prevent trampling and dune erosion;
- Removing invasive plant species (e.g., Phragmites (European Common Reed) (Phragmites australis ssp. australis)) that threaten the survival of Pitcher's Thistle; and,
- Developing and distributing best management practices (BMPs) on ways to manage dunes for the benefit of Pitcher's Thistle.

In alignment with the GRS, continued effort to remove invasive species is needed at sites where Phragmites presents a threat to the Pitcher's Thistle, and implementation of BMPs to prevent trampling of Pitcher's Thistle and erosion of dunes by redirecting all-terrain vehicle use and pedestrian trails away from Pitcher's Thistle habitat.

Provincial Status

Pitcher's Thistle has been classified as a species at risk in Ontario, since 2004. It was originally classified as an endangered species (in 2004) and retained its 'endangered' status under the Endangered Species Act, 2007 (ESA), when it came into force in June 2008. Based on a re-assessment by the Committee on the Status of Species at Risk in Ontario (COSSARO) in 2011, the species was down-listed to 'threatened' in 2011.

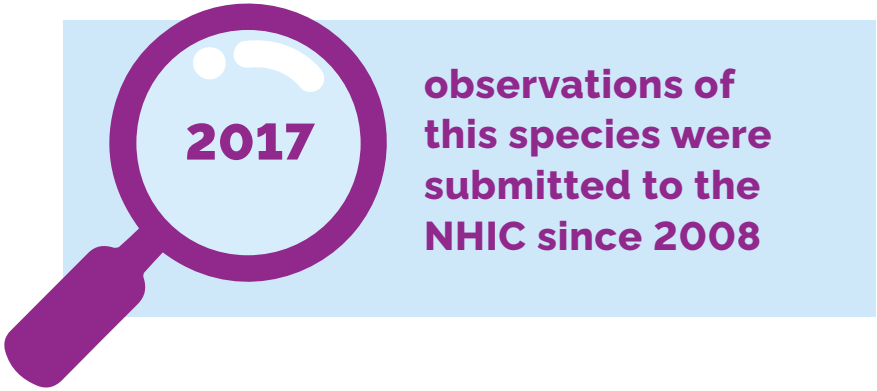
First as an endangered species and then as a threatened species, Pitcher's Thistle has been protected from being killed, harmed, harassed, captured, or taken, under the ESA, since 2008.

In addition, the habitat of Pitcher's Thistle was protected from being damaged or destroyed from 2011 to 2015, based on the general definition of habitat in the ESA. Since 2015, Pitcher's Thistle habitat has been protected through a habitat regulation.

Occurrence and distribution

Thirty-seven populations[19] of Pitcher's Thistle have been documented in Ontario, specifically in the Manitoulin Island area, along the Lake Huron shoreline south of the Bruce Peninsula, and along the Lake Superior shoreline. Currently, 33 of these populations are extant, one is considered historical[20], and three are considered extirpated.

Since 2008, the status of one population changed from extant to historical based on the date that it was last observed. Six populations of Pitcher's Thistle have been newly identified in Ontario since 2008.



Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct six projects ($163,633) that have supported the protection and recovery of multiple species at risk, including Pitcher's Thistle.

The government's support helped its stewardship partners to involve 202 individuals who volunteered 3,220 hours of their time towards protection and recovery activities for species at risk, including Pitcher's Thistle. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $207,526.

Stewardship partners reported that through their actions 312 hectares of habitat were enhanced for Pitcher's Thistle and other species at risk that inhabit the same ecosystem.

Stewardship partners reported providing outreach on multiple species at risk, including Pitcher's Thistle, to 72,365 individuals.

19 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., Pitcher's Thistle) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

20 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist, but updated information is not available.

Species at Risk Stewardship Program

BY THE NUMBERS:

6

projects included Pitcher's Thistle

$163,633

for multi-species projects that included Pitcher's Thistle

$207,526

in additional funding and in-kind support

202

volunteers

3,220

volunteer hours

72,365

people received outreach

312

hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

The Government of Ontario has issued two permits for this species. Of the two permits, one 'protection or recovery' permit was issued under clause 17(2)(b) and one 'overall benefit' permit was issued under clause 17(2)(c) of the ESA.

1

protection or recovery permit

1

overall benefit permit

Species-specific documents and guidance published by the government:

Recovery Strategy for Pitcher's Thistle (2013)

Pitcher's Thistle Government Response Statement (2014)

Pitcher's Thistle Habitat Regulation: Ontario Regulation 242/08, Section 28.3 (2015)

Review of Progress Towards the Protection and Recovery of

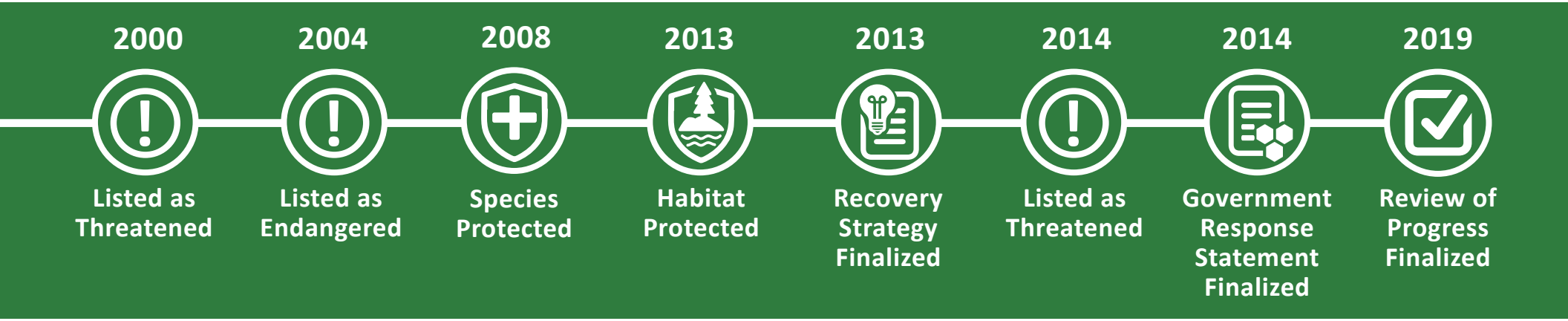
Pugnose Shiner

Pugnose Shiner
- New York State Department of Environmental Conservation

The recovery goal in the Government Response Statement (GRS) for Pugnose Shiner in Ontario is to "maintain self-sustaining populations at existing locations, and promote natural expansion and increases in populations." Progress has been made towards implementing all government-led actions. Progress has also been made towards achieving all government-supported recovery objectives, and implementing all associated actions. Examples of progress include:

- Conducting inventory and monitoring at known and historical locations to improve understanding of the status of populations and habitat requirements;
- Supporting partners to undertake activities to protect and recover the Pugnose Shiner and its habitat; and,
- Increasing awareness about Pugnose Shiner and its habitat through education and outreach.

In alignment with the GRS, further action is needed to determine the tolerance of Pugnose Shiner to various water quality parameters (e.g., dissolved oxygen, turbidity, nutrients) and compare against existing standards to support the species' recovery.



Provincial Status

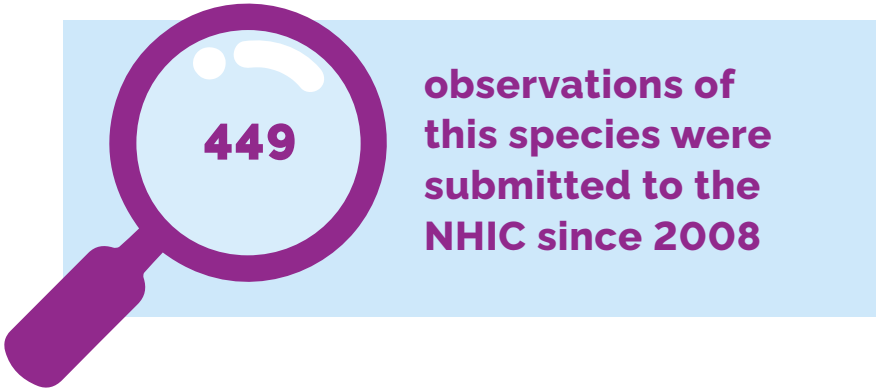
Pugnose Shiner has been classified as a species at risk since 2000. It was originally classified as threatened, in 2000, and then endangered in 2004, and retained its 'endangered' status under the Endangered Species Act, 2007 (ESA), when it came into force in 2008. Based on a 2014 re-assessment by the Committee on the Status of Species at Risk in Ontario (COSSARO), Pugnose Shiner was down-listed to threatened in 2014.

As a threatened species, Pugnose Shiner has been protected from being killed, harmed, harassed, captured or taken, under the ESA, since 2008.

In addition, its habitat has been protected from being damaged or destroyed since 2013, under the general definition of habitat in the Act.

Occurrence and distribution

Eighteen populations[21] of Pugnose Shiner have been documented in southern Ontario, of which fifteen of are extant, and three are considered historical[22]. Nine populations of Pugnose Shiner have been newly identified since 2008.



Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct 43 projects ($1,863,403) that have supported the protection and recovery of multiple species at risk, including Pugnose Shiner.

The government's support helped its stewardship partners to involve 1,771 individuals who volunteered 13,813 hours of their time towards protection and recovery activities for species at risk, including Pugnose Shiner. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $2,869,014.

Stewardship partners reported that through their actions 417 hectares of habitat were enhanced for Pugnose Shiner and other species at risk that inhabit the same ecosystem.

Stewardship partners reported providing outreach on multiple species at risk, including Pugnose Shiner, to 450,019 individuals.

Through the Species at Risk Research Fund for Ontario, the Government of Ontario supported two research partners to assist in the development of a monitoring protocol for wetland species at risk and to conduct an environmental DNA (eDNA) study to detect the presence of multiple species at risk, including Pugnose Shiner.

21 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., Pugnose Shiner) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

22 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist, but updated information is not available.

Species at Risk Stewardship Program

BY THE NUMBERS:

43

projects included Pugnose Shiner

$1,863,403

for multi-species projects that included Pugnose Shiner

$2,869,014

in additional funding and in-kind support

1,771

volunteers

13,813

volunteer hours

450,019

people received outreach

417

hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

The Government of Ontario has issued 18 permits for this species, of which were 'protection or recovery' permits issued under clause 17(2)(b) of the ESA.

Eight drainage agreements were entered into for Pugnose Shiner, as enabled through Ontario Regulation 242/08 (prior to the July 1, 2013 amendment).

Twenty-four activities have been registered for the species under the 'Aquatic species' (section 23.4), 'Drainage works' (section 23.9), 'Ecosystem protection' (section 23.11), 'Species protection, recovery activities' (section 23.17), and 'Threats to health and safety, not imminent' (section 23.18) sections of Ontario Regulation 242/08, under the ESA.

18

protection or recovery permits

8

agreements

24

registrations

Species-specific documents and guidance published by the government:

Recovery Strategy for Pugnose Shiner (2013)

Pugnose Shiner Government Response Statement (2014)

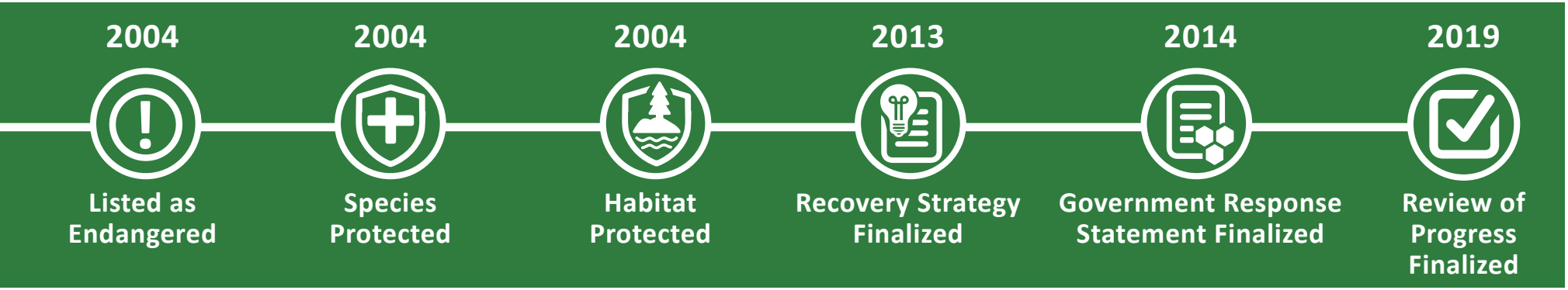
Review of Progress Towards the Protection and Recovery of Slender Bush-clover

The recovery goal in the Government Response Statement (GRS) for Slender Bush-clover in Ontario is to "maintain the population at, or increase it to, a sustainable level at existing sites." Progress has been made towards implementing all government-led actions. Progress has also been made towards achieving all government-supported recovery objectives, and implementing several of the associated actions. Examples of progress include:

- Surveying for Slender Bush-clover and inventorying to determine patch size;
- Removing invasive species and native woody vegetation at occupied sites; and,
- Prescribed burning at occupied sites to improve habitat suitability for Slender Bush-clover.

Slender Bush-clover

In alignment with the GRS, work on the following action has yet to be undertaken – "determine the viability and condition of the population at Ojibway Park and whether viable seed remains at Tallgrass Heritage Park and Black Oak Heritage Park." Research is also needed to "evaluate opportunities to establish or re-establish the species in existing suitable habitat within the Ojibway Prairie Complex."



Provincial Status

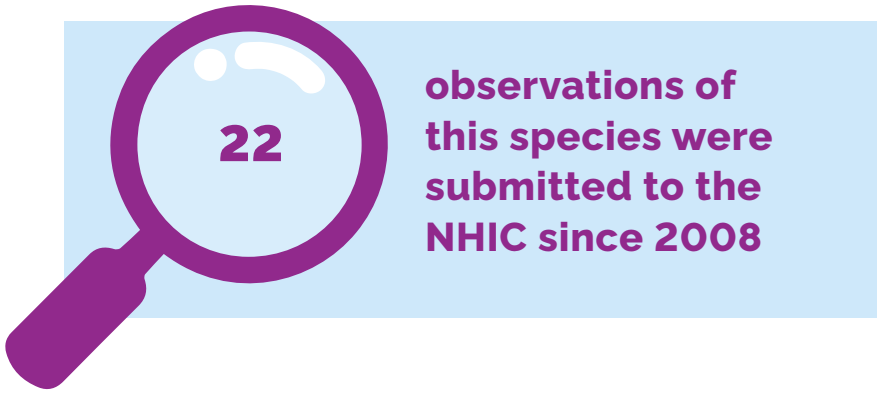
Slender Bush-clover has been classified as a species at risk in Ontario, since 2004. It was originally classified as an endangered species, and retained its 'endangered' status under the Endangered Species Act, 2007 (ESA), when it came into force in 2008.

As an endangered species, Slender Bush-clover has been protected from being killed, harmed, harassed, captured, or taken, under the ESA, since 2004.

In addition, its habitat has been protected from being damaged or destroyed since 2004, under the general definition of habitat in the ESA.

Occurrence and distribution

Two populations[23] of Slender Bush-clover have been documented in southwestern Ontario, of which one is extant, and the other is considered extirpated because it has not been recorded since 1892. No populations of Slender Bush-clover have been newly identified since 2008, but recent surveys have re-confirmed the extant population.



Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to five projects ($117,507) that have supported the protection and recovery of multiple species at risk, including Slender Bush-clover.

The government's support helped its stewardship partners to involve 10 individuals who volunteered 619 hours of their time towards protection and recovery activities for species at risk, including Slender Bush-clover. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $93,582.

Stewardship partners reported that through their actions 13 hectares of habitat were enhanced for Slender Bush-clover and other species at risk that inhabit the same ecosystem.

23 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., Slender Bush-clover) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

Species at Risk Stewardship Program

BY THE NUMBERS:

5

projects included Slender Bush-clover

$117,507

for multi-species projects that included Slender Bush-clover

$93,582

in additional funding and in-kind support

10

volunteers

619

volunteer hours

13

hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

One activity has been registered for the species, under the 'Species protection and recovery activities' section (section 23.17) of Ontario Regulation 242/08, under the ESA.

1

registrations

Species-specific documents and guidance published by the government:

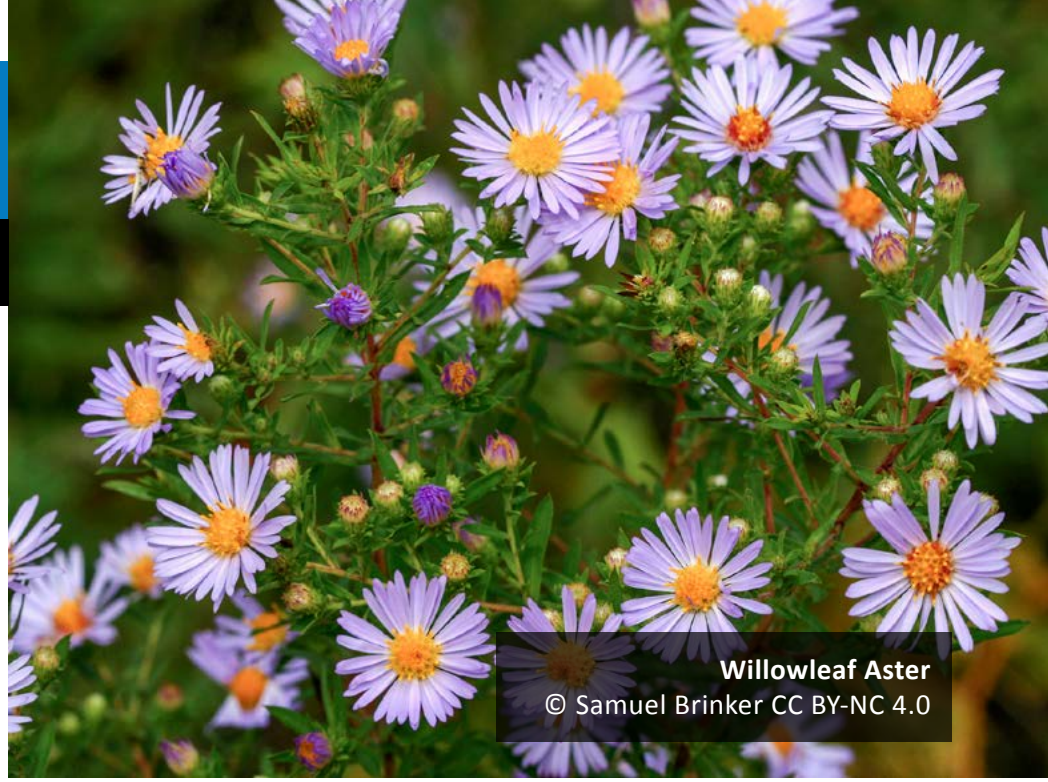
Recovery Strategy for Slender Bush-clover (2013)

Slender Bush-clover Government Response Statement (2014)

Review of Progress Towards the Protection and Recovery of Willowleaf Aster

The recovery goal in the Government Response Statement (GRS) for Willowleaf Aster is to "maintain populations and sub-populations at, or enable them to increase to, sustainable levels at sites where the species occurs in Ontario." Progress has been made towards implementing all GRS government-led actions. Progress has also been made towards achieving all government-supported recovery objectives, and implementing associated actions. Examples of progress include:

- Developing and implementing site-specific management strategies to manage and improve Willowleaf Aster habitat and reduce threats at sites where the species occurs;
- Conducting prescribed burns and removing invasive plant species to improve habitat for the species; and,
- Working with landowners to inform them about the species and manage habitat on their properties.



Willowleaf Aster

In alignment with the GRS, more work is required to "research factors influencing successful reproduction and dispersal of Willowleaf Aster, and gather Indigenous traditional knowledge and community knowledge about the species."

Provincial Status

Willowleaf Aster has been classified as a species at risk in Ontario, since 2000. It was originally classified as vulnerable (in 2000), and then as threatened (in 2004), under the previous Endangered Species Act. It retained its 'threatened' status under the Endangered Species Act, 2007 (ESA), when it came into force in 2008.

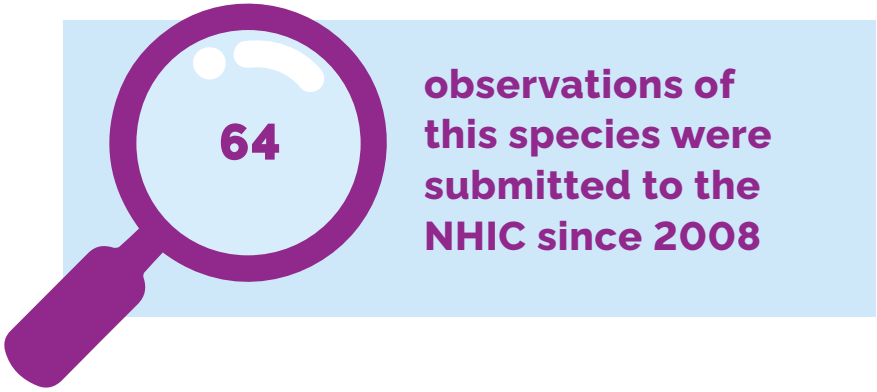
As a threatened species, Willowleaf Aster has been protected from being killed, harmed, harassed, captured, or taken, under the ESA, since 2008.

In addition, its habitat has been protected from being damaged or destroyed since June 30, 2013, based on the general definition of habitat in the ESA.

Occurrence and distribution

Eighteen populations[24] of Willowleaf Aster have been documented in Ontario, of which seven are considered extant, ten are considered historical[25], and one is considered extirpated.

Three of the extant populations were identified for the first time since 2008, with additional observations submitted between 2008 and 2017. Records for another population have existed since 1994, but were not reported to the Natural Heritage Information Centre (NHIC) until 2009.



Government-supported stewardship projects:

Through the Species at Risk Stewardship Program, the Government of Ontario has enabled its stewardship partners to conduct 11 projects ($315,983) that have supported the protection and recovery of Willowleaf Aster. All of these projects focused on multiple species at risk, including Willowleaf Aster.

The government's support helped its stewardship partners to involve 130 individuals who volunteered 1,529 hours of their time towards protection and recovery activities for species at risk, including Willowleaf Aster. The estimated value of these voluntary contributions, as well as additional funding and in-kind support, is $259,927.

Stewardship partners reported that, through their actions, 201 hectares of habitat were enhanced for Willowleaf Aster and other species at risk that inhabit the same ecosystem.

Stewardship partners reported providing outreach on multiple species at risk, including Willowleaf Aster, to 148 individuals.

24 For the purposes of this report, a population is defined as an area of land and/or water on/in which an element (e.g., Willowleaf Aster) is or was present. They are comprised of one or more observations and the area has a practical conservation value as it is important to the conservation of the species. An element occurrence is the technical term used to describe this.

25 A population is considered historical if it has not been recorded within the last 20 years. Historical populations may still exist, but updated information is not available

Species at Risk Stewardship Program

BY THE NUMBERS:

11

projects included Willowleaf Aster

$315,983

for multi-species projects that included Willowleaf Aster

$259,927

in additional funding and in-kind support

130

volunteers

1,529

volunteer hours

148

people received outreach

201

hectares of habitat enhanced

Supporting human activities while ensuring appropriate support for species recovery

Under the ESA, the Government of Ontario has issued one 'protection of human health or safety' permit under clause 17(2)(a), two 'protection or recovery' permits under clause 17(2)(b), two 'overall benefit' permits under clause 17(2)(c), and one 'social and economic benefit' permit under clause 17(2)(d), for Willowleaf Aster.

Four agreements for Willowleaf Aster were entered into and enabled through Ontario Regulation 242/08 (prior to the July 1, 2013 amendment).

Eighteen activities have been registered for Willowleaf Aster, under the 'Drainage works' (section 23.9), 'Ecosystem protection' (section 23.11), 'Species protection, recovery activities' (section 23.17), and 'Threats to human health or safety, not imminent' (section 23.18) sections of Ontario Regulation 242/08 under the ESA.

1 health or safety permit

2 protection or recovery permits

3 overall benefit permits

1 social and economic benefit permit

4 agreements

18 registrations

Species-specific documents and guidance published by the government:

Recovery Strategy for Willowleaf Aster (2013)

Willowleaf Aster Government Response Statement (2014)