

Western Silvery Aster

Ontario Government Response Statement



Protecting and Recovering Species at Risk in Ontario

Species at risk recovery is a key part of protecting Ontario's biodiversity. The *Endangered Species Act, 2007* (ESA) is the Government of Ontario's legislative commitment to protecting and recovering species at risk and their habitats.

Under the ESA, the Government of Ontario must ensure that a recovery strategy is prepared for each species that is listed as endangered or threatened. A recovery strategy provides science-based advice to government on what is required to achieve recovery of a species.

Within nine months after a recovery strategy is prepared, the ESA requires the government to publish a statement summarizing the government's intended actions and priorities in response to the recovery strategy. The response statement is the government's policy response to the scientific advice provided in the recovery strategy. In addition to the strategy, the government response statement considered (where available) input from Indigenous communities and organizations, stakeholders, other jurisdictions, and members of the public. It reflects the best available local and scientific knowledge, including Traditional Ecological Knowledge where it has been shared by communities and Knowledge Holders, as appropriate and may be adapted if new information becomes available. In implementing the actions in the response statement, the ESA allows the government to determine what is feasible, taking into account social, cultural and economic factors.

The Recovery Strategy for the Western Silvery Aster (*Symphyotrichum sericeum*) in Ontario was completed on December 7, 2018.

Western Silvery Aster is a perennial wildflower that can grow up to 70 cm tall. It has many branched upright stems and produces flowers that are violet to pink (sometimes white) in colour. Its leaves are covered with silky hair, giving them a silvery appearance.

Protecting and Recovering Western Silvery Aster

Western Silvery Aster is listed as an endangered species under the ESA, which protects both the plant and its habitat. The ESA prohibits harm or harassment of the species and damage or destruction of its habitat without authorization. Such authorization would require that conditions established by the Ontario government be met.

Globally, the Western Silvery Aster occurs in central North America from Texas, north to Manitoba and as far east as Ohio, and has been reported as far as Tennessee and Georgia in the southeast. The species reaches the northern limit of its range in Manitoba, approximately 120 km north of the Canada-U.S. border. In Ontario it is known from only the northwestern part of the province. There are 23 known extant populations in Canada, three of which are in Ontario.

All extant Ontario populations are in the Lake of the Woods region; populations are found at Big Traverse Bay, French Portage Narrows and on Cliff Island. Two of these populations are located within provincial protected areas: the Lake of the Woods Island Conservation Reserve (Cliff Island) and Lake of the Woods Provincial Park (French Portage Narrows). The population at Big Traverse Bay is located on lands that are privately owned; stewardship actions by the landowner have increased the size of this population. The species was also formerly found at Ingolf; however, survey attempts have failed to find any individuals at this location since 1939, and therefore this population is considered extirpated. An additional population was also recorded at Rainy Lake in 1827, but the exact location of the observation is not known, and as the population has not been rediscovered despite survey efforts, the population is now considered extirpated. Although some population size estimates exist, the precise size and population trends of Ontario populations are currently unknown. Given the size and remoteness of the area where Western Silvery Aster occurs in Ontario, it is possible that additional populations remain undetected in the province.

Western Silvery Aster inhabits a range of open habitats such as prairies, fields, oak savannahs and open woodlands on well-drained calcium-rich soils. In Ontario, it grows in provincially rare Bur Oak (*Quercus macrocarpa*) savannah habitat over alkaline bedrock. The availability of habitat may limit the species' distribution within Ontario as suitable habitat often occurs in small patches and/or are isolated on islands. The species appears to be tolerant of natural levels of disturbance (such as grazing or fires) required to maintain habitat conditions.

Western Silvery Aster flowers from early August to mid-September and requires insect pollination to produce seed. In Manitoba, the main pollinators are the Two Form Bumble Bee (*Bombus bifarius*) and syrphid flies (*Toxomerus spp.*). Ontario pollinators have not been confirmed. Western Silvery Aster reproduces via seed but can also spread through underground rootstalks (rhizomes). As a stress tolerant plant, the species is thought to use more of its energy to grow than to produce seeds. This tendency combined with other limiting factors such as high seed predation and competition with other plants for pollinators may influence the species' ability to sustain its populations and increase abundance in the province.

Although some information can be gained from research in jurisdictions such as Manitoba, additional research about the species' ecology (including recruitment, seed bank dynamics, and Ontario pollinators) as well as its genetic variation and structure is required to better inform recovery efforts.

The most significant threats to Western Silvery Aster in Ontario are habitat loss and degradation. At French Portage and Cliff Narrows, the suppression of fires and other natural disturbances may impact habitat suitability by enabling the encroachment of woody shrubs and trees. These populations are also in areas that may be susceptible to storms and flooding, and habitat loss and degradation may occur as a result. At Big Traverse Bay, habitat loss and degradation may be caused by residential cottage and road development, inappropriately timed mowing, and the presence of non-native invasive species such as Common Tansy (*Tanacetum vulgare*) and Quackgrass (*Elymus repens*). Inappropriate use of pesticides to control invasive plants or insect pests may also negatively impact the Western Silvery Aster by reducing the availability of pollinators. Recreational activities such as hiking, camping and picnicking may impact the species and its habitat at all three locations. The long-term impact of these threats and the management practices that address them are not well understood.

While analyses of viability have not been completed for the species, available information suggests most extant Ontario populations are likely to be viable. As such, actions that reduce threats and maintain or enhance habitat within and adjacent to occupied areas are expected to help to support the species' recovery. Although two of five populations recorded in Ontario are now considered extirpated, it is possible that additional undetected populations exist. Given the above, provincial recovery efforts will focus on improving understanding of the species and undertaking actions to further improve the species' viability in the province. As further information is gathered about the species, including current locations and population viability in Ontario, the need for additional actions, including the potential need for population management actions (e.g., augmentation) may be re-evaluated.

Government's Recovery Goal

The government's goal for the recovery of Western Silvery Aster is to promote the viability of existing populations across the species' distribution in Ontario and where feasible, to facilitate natural expansion to adjacent habitat.

Actions

Protecting and recovering species at risk is a shared responsibility. No single agency or organization has the knowledge, authority or financial resources to protect and recover all of Ontario's species at risk. Successful recovery requires inter-governmental cooperation and the involvement of many individuals, organizations and communities. In developing the government response statement, the government considered what actions are feasible for the government to lead directly and what actions are feasible for the government to support its conservation partners to undertake.

Government-led Actions

To help protect and recover Western Silvery Aster, the government will directly undertake the following actions:

- Continue to monitor and manage habitat in provincial parks and protected areas.
- Work with partners and stakeholders to support pollinator health in Ontario through actions such as integrated pest management and education.
- Continue to implement the *Ontario Invasive Species Strategic Plan (2012)* to address the invasive species (e.g., Quackgrass and Common Tansy) that threaten Western Silvery Aster.
- Educate other agencies and authorities involved in planning and environmental assessment processes on the protection requirements under the ESA.
- Encourage the submission of Western Silvery Aster data to the Ontario's central repository through the citizen science project that they receive data from (i.e., iNaturalist.ca) and directly through the Natural Heritage Information Centre.
- Undertake communications and outreach to increase public awareness of species at risk in Ontario.
- Continue to protect Western Silvery Aster and its habitat through the ESA.
- Support conservation, agency, municipal and industry partners, and Indigenous communities and organizations to undertake activities to protect and recover Western Silvery Aster. Support will be provided where appropriate through funding, agreements, permits (including conditions) and/or advisory services.

- Encourage collaboration, and establish and communicate annual priority actions for government support in order to reduce duplication of efforts.
- Conduct a review of progress toward the protection and recovery of Western Silvery Aster within five years of the publication of this document.

Government-supported Actions

The government endorses the following actions as being necessary for the protection and recovery of Western Silvery Aster. Actions identified as “high” may be given priority consideration for funding under the Species at Risk Stewardship Program. Where reasonable, the government will also consider the priority assigned to these actions when reviewing and issuing authorizations under the ESA. Other organizations are encouraged to consider these priorities when developing projects or mitigation plans related to species at risk.

Focus Area: Research and Monitoring

Objective: Increase knowledge of the species’ distribution, population viability and ecology as well as threats and actions that can be taken to address them.

Standardized scientific techniques for surveys and long-term monitoring presently exist and should be implemented to improve understanding of population status, levels and trends as well as track progress toward the recovery goal for the species. As there are un-surveyed areas of suitable habitat in Ontario and some uncertainty as to the status of Rainy Lake population, additional surveys are warranted to better understand the species’ distribution in Ontario. In order to refine techniques to manage Western Silvery Aster habitat, further information is needed about the species’ habitat needs as well as its response to habitat management activities. Similarly, further research into the species’ ecology, genetics and population viability will help to inform recovery actions and management of habitat. As most of the Canadian populations of Western Silvery Aster are located outside of Ontario, and some aspects of research may already be underway in other jurisdictions, it is important to collaborate with partners and other jurisdictions on this research to maximize efficiency and avoid duplication of efforts. Collaborative efforts that address both research and monitoring priorities are encouraged where possible.

Actions:

1. **(High)** Develop and implement a standardized survey and monitoring program. The program should be designed and implemented in such a manner that it may contribute to research actions. The program should aim to:
 - monitor population trends, demographics, and associated reproductive biology (e.g., pollination rates, seed production);

- monitor habitat conditions, including the occurrence of processes that may influence population growth (e.g., flooding, fire); and,
 - assess and monitor threats to the species.
2. **(High)** Conduct research to increase understanding of the impacts of threats and existing habitat management practices on recruitment and population growth and determine the best management practices for the species, including:
 - appropriate timing and intensity of prescribed burns;
 - appropriate timing and frequency of mowing;
 - methods to remove invasive plants without harming Western Silvery Aster; and,
 - approaches to mitigate the effects of pesticide use in the vicinity of Western Silvery Aster.
 3. Conduct presence-absence surveys in areas where the species appears to have been extirpated or where it is likely to occur based on the availability of suitable habitat (e.g., as indicated by habitat suitability models).
 4. Collaborate with partners and other jurisdictions to increase understanding of Western Silvery Aster population viability and related biological processes, including how they may be influenced by environmental factors. This may include:
 - studying the species' reproductive biology, including germination, seed production, seed bank dynamics and Ontario pollinators; and,
 - conducting population viability analyses for known populations.
 5. Study genetic variation and structure of Ontario Western Silvery Aster relative to North American populations.

Focus Area: Habitat Management

Objective: Maintain and enhance habitat to promote Western Silvery Aster population viability in Ontario.

Given that habitat loss and degradation are thought to be the most significant threats impacting the species and that the number of populations within Ontario is limited, the current focus of recovery actions for Western Silvery Aster in Ontario are actions related to the protection and management of its habitat. In Ontario, private landowners have undertaken successful stewardship efforts that appear to have resulted in increased distribution and density of the species. Continued monitoring of the effectiveness of these types of effort on public and private lands are necessary to inform subsequent habitat management actions as well as to monitor the effects of these efforts on other native species.

Actions:

6. **(High)** Work collaboratively with land owners, land managers and researchers to develop, implement and evaluate strategies to maintain or enhance habitat within and adjacent to areas currently occupied by Western Silvery Aster. Actions should be adapted based on effectiveness at improving Western Silvery Aster population viability, and the effects on other native species should be considered prior to implementation. Actions may include best management practices such as:
 - controlling or preventing encroachment of vegetation that is reducing habitat quality (e.g., through use of appropriately timed mowing, prescribed burns, etc.); and,
 - removing or inhibiting invasive species posing a direct threat to Western Silvery Aster.

Focus Area: Awareness and Threat Management

Objective: Increase local awareness of the species and its habitat and actions that can be taken to minimize threats and to maintain or enhance habitat suitability.

In Ontario, Western Silvery Aster is found on public lands used for a variety of recreational purposes as well as on privately owned lands. As a result, the involvement of several groups and organizations will be necessary to implement recovery actions and promote awareness of the species, its threats, and the potential benefits of habitat management activities. Improved education and awareness about the species and associated management actions will help to ensure that appropriate best management practices are applied. Collaboration will support coordinated implementation of actions, improve efficiency and prevent duplication of efforts.

Actions:

7. Collaborate with organizations, land managers, land users and Indigenous communities and organizations to promote awareness of Western Silvery Aster among people engaged in development, recreation and stewardship activities in Ontario by sharing information on:
 - how to identify the species;
 - the species' habitat requirements;
 - actions that can be taken to maintain and enhance habitat suitability (e.g., prescribed burns);
 - the protection afforded to the species and its habitat under the ESA; and,
 - actions that can be taken to avoid or minimize impacts to the species and its habitat.

Implementing Actions

Financial support for the implementation of actions may be available through the Species at Risk Stewardship Program. Conservation partners are encouraged to discuss project proposals related to the actions in this response statement with the program staff. The Ontario government can also advise if any authorizations under the ESA or other legislation may be required to undertake the project.

Implementation of the actions may be subject to changing priorities across the multitude of species at risk, available resources and the capacity of partners to undertake recovery activities. Where appropriate, the implementation of actions for multiple species will be coordinated across government response statements.

Reviewing Progress

The ESA requires the Ontario government to conduct a review of progress towards protecting and recovering a species no later than the time specified in the species' government response statement, or not later than five years after the government response statement is published if no time is specified. The review will help identify if adjustments are needed to achieve the protection and recovery of Western Silvery Aster.

Acknowledgement

We would like to thank all those who participated in the development of the Recovery Strategy for the Western Silvery Aster (*Symphyotrichum sericeum*) in Ontario for their dedication to protecting and recovering species at risk.

For additional information:

Visit the species at risk website at ontario.ca/speciesatrisk
Contact the Ministry of the Environment, Conservation and Parks
1-800-565-4923
TTY 1-855-515-2759
www.ontario.ca/environment