

Eastern Sand Darter

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. Biodiversity – the variety of living organisms on Earth – provides us with clean air and water, food, fibre, medicine and other resources that we need to survive.

The *Endangered Species Act, 2007* (ESA) is the Government of Ontario's legislative commitment to protecting and recovering species at risk and their habitats. As soon as a species is listed as extirpated, endangered or threatened under the ESA, it is automatically protected from harm or harassment. Also, immediately upon listing, the habitats of endangered and threatened species are protected from damage or destruction.

Under the ESA, the Ministry of Natural Resources (the Ministry) 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.

GOVERNMENT RESPONSE STATEMENTS

Within nine months after a recovery strategy is prepared, the ESA requires the Ministry to publish a statement summarizing the government's intended actions and priorities in response to the recovery strategy. The recovery strategy for the Eastern Sand Darter (*Ammocrypta pellucida*) in Ontario was completed on May 31, 2013 (http://www.mnr.gov.on.ca/stdprodconsume/groups/lr/@mnr/@species/documents/document/mnr_sar_rs_e_sd_dtr_en.pdf).

The response statement is the government's policy response to the scientific advice provided in the recovery strategy. All recommendations provided in the recovery strategy were considered and this response statement identifies those that are considered to be appropriate and necessary for the protection and recovery of the species. In addition to the strategy, the response statement is based on input from stakeholders, other jurisdictions, Aboriginal communities and members of the public. It reflects the best available traditional, local and scientific knowledge at this time and may be adapted if new information becomes available. In implementing the actions in the response statement, the ESA allows the Ministry to determine what is feasible, taking into account social and economic factors.

The Eastern Sand Darter is a small translucent fish with an elongated body. Adults are a faint yellow to greenish colour on the back, with a thin gold to olive-gold stripe passing along a row of rounded green spots along the sides, and a white to silvery belly. It is generally found on the bottom of sandy streams and shorelines in southern Ontario.

MOVING FORWARD TO PROTECT AND RECOVER EASTERN SAND DARTER

The Eastern Sand Darter is listed as an endangered species under the ESA, which protects both the animal 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 Ministry be met.

The global range of the Eastern Sand Darter is limited to North America, occurring in Ontario and Quebec, and in nine American states. Its long-term global decline is estimated to be between 50 and 75 percent due to habitat loss and poor water quality. In Canada, the Eastern Sand Darter has declined or has been locally extirpated from 22 known locations down to 11. In Ontario, the Eastern Sand Darter can be found mainly in Lake Erie and Lake St. Clair, the Sydenham, Thames, and Grand Rivers, and Big Creek in Norfolk County. In 2013, a new population was discovered in West Lake in Prince Edward County. This recently discovered population represents a new location that is geographically separated from other known populations. Nonetheless, 45 percent of known populations in Ontario have been lost within the past 50 years.

Eastern Sand Darter has specialized habitat requirements and is associated with sand and fine gravel substrates, which allow it to bury itself, leaving only its eyes exposed. It is most abundant in the bends of small to medium sized rivers with slow currents and clean, sandy bottoms with little sediment. Lake-dwelling Eastern Sand Darters are most commonly found in sandy substrates along shorelines and shallow bays sheltered from wave action. It is one of few temperate fishes that are strongly associated with such a specific type of habitat. The greatest threat to Eastern Sand Darter is sedimentation of sand beds. Shoreline erosion and alteration of flow regimes can result in increased sedimentation and siltation of sand beds. Other major threats to Eastern Sand Darter include shoreline modifications, contaminants and toxic substances, and nutrient loading. Invasive species, disease, and barriers to movement have also been identified as threats.

More information is needed about the Eastern Sand Darter's ecological, biological, and habitat requirements as they have not been thoroughly studied in Canada. The recent discovery of the Eastern Sand Darter in West Lake, an area from which they were not previously known, highlights the potential value of further surveys and monitoring to better document its distribution in suitable habitat. An improved understanding of the specific habitat needs of Eastern Sand Darter will also assist in identifying potentially suitable habitat and priority sampling sites. Given the large geographic distance between the newly discovered West Lake population and other known Canadian populations, genetic studies will help to understand the genetic relationship between this new population and other known populations. A better understanding of Eastern Sand Darter population genetics will also assist in evaluating of the appropriateness of potential reintroductions.

Given the scale of habitat degradation at the species' current locations, recovery efforts at this time are focused on improving and rehabilitating habitat conditions to better enable the long-term persistence of Eastern Sand Darter in Ontario. As the species' habitat is improved at current and historical locations and more information about the species is obtained, the feasibility of reintroductions may be evaluated at a later date.

The government's goal for the recovery of the Eastern Sand Darter is to maintain and enable natural increases in existing populations, and to improve the quality of the species' habitat.

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 co-operation and the involvement of many individuals, organizations and communities.

In developing the government response statement, the Ministry 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 the Eastern Sand Darter, the government will directly undertake the following actions:

- Conduct surveys for Eastern Sand Darter in areas with suitable habitat in Lake Ontario and/or the Upper St. Lawrence River to provide a better understanding of its distribution and population status.
- Evaluate the genetic relationship of newly discovered Eastern Sand Darter populations to other known populations.
- Continue to implement the Ontario Invasive Species Strategic Plan to address the invasive species that threaten Eastern Sand Darter.
- Educate other agencies and authorities involved in planning and environmental assessment processes on the protection requirements under the ESA.
- Encourage the submission of Eastern Sand Darter data to the Ministry's central repository at the Natural Heritage Information Centre.
- Undertake communications and outreach to increase public awareness of species at risk in Ontario.
- Protect the Eastern Sand Darter and its habitat through the ESA. Develop and enforce the regulation identifying the specific habitat of the species.
- Support conservation, agency, municipal and industry partners, and Aboriginal communities and organizations to undertake activities to protect and recover the Eastern Sand Darter. Support will be provided where appropriate through funding, agreements, permits (including conditions) and/or advisory services.
- Establish and communicate annual priority actions for government support in order to encourage collaboration and reduce duplication of efforts.

GOVERNMENT-SUPPORTED ACTIONS

The government endorses the following actions as being necessary for the protection and recovery of the Eastern Sand Darter. Actions identified as “high” will be given priority consideration for funding under the ESA. Where reasonable, the government will also consider the priority assigned to these actions when reviewing and issuing authorizations under the Endangered Species Act. Other organizations are encouraged to consider these priorities when developing projects or mitigation plans related to species at risk. The government will focus its support on these high-priority actions over the next five years.

Focus Area: **Research and Monitoring**

Objective: Increase knowledge of the species’ population trends and habitat needs.

Actions:

1. **(HIGH)** Investigate and map seasonal habitat requirements for all life stages of Eastern Sand Darter with a priority on researching seasonal habitat use by juveniles.
2. Develop and implement a standardized monitoring program to monitor habitat conditions, population demographics and distribution trends over time at both current and historical locations.
 - Survey priority potential habitat sites to identify additional populations.

Focus Area: **Protection and Management**

Objective: Improve water quality and minimize threats to the species and its habitat.

Actions:

3. **(HIGH)** Work with landowners, land managers, and conservation authorities to minimize threats to the species’ habitat by encouraging:
 - the development and implementation of Environmental Farm Plans and Nutrient Management Plans;
 - incorporating best management practices (BMPs) around the species habitat for the maintenance and management of rural streams and drains, and to prevent or reduce siltation, altered flow regimes, and toxic substances and other contaminants; and,
 - sharing information about Eastern Sand Darter and its habitat.
3. **(HIGH)** Continue riparian and shoreline rehabilitation on a watershed basis in collaboration with existing aquatic ecosystem recovery efforts, with a particular focus on high priority areas.
4. Promote and implement BMPs for activities undertaken in and around the species habitat to maintain and manage suitable flow regimes, conditions for natural movement of substrates, and sand bed load.

Focus Area: Awareness

Objective: Improve overall awareness of the Eastern Sand Darter and its threats, and the importance of healthy aquatic ecosystems.

Actions:

5. Develop outreach materials that highlight the Eastern Sand Darter's habitat needs, threats, and the importance of implementing BMPs, and distribute these materials to conservation partners, Aboriginal communities, the fishing community, and other key stakeholders.
6. Increase awareness of methods and precautions to prevent the spreading of invasive species into new waters and encourage the use of existing invasive species reporting systems, such as the Invading Species Hotline at <http://www.invasivetrackingsystem.ca/index.php>

IMPLEMENTING ACTIONS

Financial support for the implementation of actions may be available through the Species at Risk Stewardship Fund, Species at Risk Research Fund for Ontario, or the Species at Risk Farm Incentive Program. Conservation partners are encouraged to discuss project proposals related to the actions in this response statement with the Ministry. The Ministry 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 co-ordinated across government response statements.

REVIEWING PROGRESS

The ESA requires the Ministry to conduct a review of progress towards protecting and recovering a species not later than five years from the publication of this response statement. The review will help identify if adjustments are needed to achieve the protection and recovery of the Eastern Sand Darter.

ACKNOWLEDGEMENT

We would like to thank all those who participated in the development of the "Recovery Strategy for Eastern Sand Darter (*Ammocrypta pellucida*) 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 your MNR district office
Contact the Natural Resources Information Centre
1-800-667-1940
TTY 1-866-686-6072
mnr.nric.mnr@ontario.ca
ontario.ca/mnr