



[Species at risk \(https://www.ontario.ca/speciesatrisk\)](https://www.ontario.ca/speciesatrisk) →

Bald eagle

Scientific name: *Haliaeetus leucocephalus*



Cover photos credit: [iStockPhoto.com \(https://www.istockphoto.com/ca\)](https://www.istockphoto.com/ca) (left), Bill Dalton (middle-left), David Gibson (middle-right), and John Stephens (right)

Status

Special Concern

“Special Concern” means the species lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

Date added to the Species at Risk in Ontario List

What it looks like

Where it lives

Where it's been found in Ontario

Bald Eagle in Ontario

as recorded by the Ontario Natural Heritage Information Centre as of February 26, 2012

* Communities
 — Roads
 ● Species occurrence

Note: Yellow dots represent communities and roads. The yellow dots represent the locations of the species occurrence data. The yellow dots represent the locations of the species occurrence data. The yellow dots represent the locations of the species occurrence data.

The following table lists the communities and roads shown on the map:

Community	Road
Barrie	Highway 7
Bradford	Highway 10
Brantford	Highway 26
Burlington	Highway 10
Cambridge	Highway 1
Chatham	Highway 26
Collingwood	Highway 1
Georgetown	Highway 10
Grimsby	Highway 10
Hamilton	Highway 403
Kitchener	Highway 10
London	Highway 1
Markham	Highway 7
Mississauga	Highway 10
North York	Highway 7
Oakville	Highway 10
Orillia	Highway 1
Oshawa	Highway 1
Peterborough	Highway 1
Richmond Hill	Highway 7
Scarborough	Highway 7
Simcoe	Highway 1
St. Catharines	Highway 26
Stratford	Highway 1
Sudbury	Highway 1
Toronto	Highway 7
Windsor	Highway 1

Note: The map is a simplified representation of the actual data. The yellow dots represent the locations of the species occurrence data. The yellow dots represent the locations of the species occurrence data. The yellow dots represent the locations of the species occurrence data.

The following table lists the species occurrence data shown on the map:

Species	Location
Bald Eagle	Barrie
Bald Eagle	Bradford
Bald Eagle	Brantford
Bald Eagle	Burlington
Bald Eagle	Cambridge
Bald Eagle	Chatham
Bald Eagle	Collingwood
Bald Eagle	Georgetown
Bald Eagle	Grimsby
Bald Eagle	Hamilton
Bald Eagle	Kitchener
Bald Eagle	London
Bald Eagle	Markham
Bald Eagle	Mississauga
Bald Eagle	North York
Bald Eagle	Oakville
Bald Eagle	Orillia
Bald Eagle	Oshawa
Bald Eagle	Peterborough
Bald Eagle	Richmond Hill
Bald Eagle	Scarborough
Bald Eagle	Simcoe
Bald Eagle	St. Catharines
Bald Eagle	Stratford
Bald Eagle	Sudbury
Bald Eagle	Toronto
Bald Eagle	Windsor

Note: The map is a simplified representation of the actual data. The yellow dots represent the locations of the species occurrence data. The yellow dots represent the locations of the species occurrence data. The yellow dots represent the locations of the species occurrence data.

[View a Larger version of this map \(PDF\) \(http://files.ontario.ca/environment-and-energy/species-at-risk/bald_eagle_map_eng.pdf\)](http://files.ontario.ca/environment-and-energy/species-at-risk/bald_eagle_map_eng.pdf)

What threatens it

Historically Bald Eagles were shot as pests or trophies, and many shoreline areas where they bred were developed for housing or industry. Their largest decline came with the introduction of pesticides such as DDT that resulted in thin egg shells that broke as the adults tended to them. Although most of these threats have been reduced or eliminated, current Bald Eagle populations are impacted by the continued development of shoreline habitat and pollution.

Action we are taking

Special concern species do not receive species or habitat protection.

Management plan

A management plan advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [management plan \(https://www.ontario.ca/page/bald-eagle-management-plan\)](https://www.ontario.ca/page/bald-eagle-management-plan) (September 10, 2014).

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/document/bald-eagle-government-response-statement\)](https://www.ontario.ca/document/bald-eagle-government-response-statement) (June 10, 2015).

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. If you find a Bald Eagle nesting on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPS-MNR (847-7667).

Quick facts

- Both Bald Eagle parents share the duty of incubating eggs and looking after their young.
- Bald eagles were once a common sight in the skies of North America but by the 1950's the population began to drastically decline because of the accumulation of DDT and other chemicals in their food chain. Use of these chemicals was restricted in the early 1970's and eagle populations have started to rebound.
- The raspy scream of the Bald Eagle that is often heard on movies and TV programs is, in fact, the call of a Red-tailed Hawk. The Bald Eagle actually gives a sort of watery, gurgling trill that doesn't sound like it suits the bird.
- Nesting begins up to three months earlier in the southern portion of their range compared to pairs that settle in the north.

Updated: October 12, 2018

Published: July 18, 2014

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Climbing prairie rose

Scientific name: *Rosa setigera*



Cover photos credit: Allen Woodliffe (all photos)

Status

Special Concern

“Special Concern” means the species lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

Date added to the Species at Risk in Ontario List

The Climbing Prairie Rose was already assessed as a species of special concern when the Endangered Species Act took effect in 2008.

What it looks like

Climbing Prairie Rose is a perennial vine-like shrub in the rose family. Its arching or climbing branches are often several metres long. Arching branches that touch the ground may root at the tips where new plants then develop.

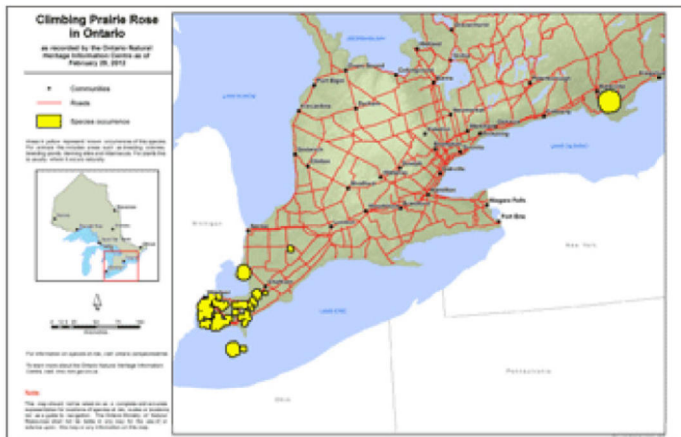
This shrub has alternate compound leaves. The leaflets are opposite and number three to five per leaf. The large flowers have five petals, each two to three centimetres long. The petals are pink and many

yellow stamens occur at the flower center. Flowers bloom from late June through July. The fruit (hips) are orange to red in colour.

Where it lives

The Climbing Prairie Rose is typically found in open habitats with moist heavy clay to clay-loam soils such as old fields, abandoned agricultural land, as well as prairie remnants and shrub thickets. This rose depends on areas being kept open by periodic fire or other disturbances.

Where it's been found in Ontario



http://files.ontario.ca/environment-and-energy/species-at-risk/climbing_prairie_rose_map_eng.pdf

[View a larger version of this map \(PDF\) \(http://files.ontario.ca/environment-and-energy/species-at-risk/climbing_prairie_rose_map_eng.pdf\)](http://files.ontario.ca/environment-and-energy/species-at-risk/climbing_prairie_rose_map_eng.pdf)

What threatens it

Since Climbing Prairie Rose colonizes clearings and edge habitats, it will always have a patchy and changing distribution. It is possible that with the increased fragmentation of forests and resulting increases in edge habitats, the species has benefited in some areas. However, only 68 of over a hundred recorded occurrences in Ontario are believed to still exist, and many of these are not considered viable.

Threats include land development, intensive agricultural practices, inappropriate management of conservation areas and roadsides, unrestricted recreational use of all-terrain vehicles, and invasive exotic shrubs (i.e. Autumn Olive).

Action we are taking

Special concern species do not receive species or habitat protection.

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. You may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.
- Climbing Prairie Roses are pollinated by flying insects. Pollinators are in steep decline across the globe and they play a key role in the survival of many of Ontario's rare plants. For information on how you can help scientists monitor pollinator populations in Ontario visit: www.seeds.ca/proj/poll.
- The Carolinian forests of southern Ontario support an amazing diversity of plants and wildlife, including many species at risk. Carolinian Canada is working to help recover species at risk and their habitats. For more information, visit: www.carolinian.org/SpeciesHabitats.htm (<http://www.carolinian.org/SpeciesHabitats.htm>).

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPS-MNR (847-7667).

Quick facts

- Climbing Prairie Rose is dioecious (having male and female reproductive structures on separate plants), which is unusual for rose species.
- Climbing Prairie Rose is a component of the open habitats of the Carolinian Zone, Ontario's most threatened ecological region with over 125 species that are considered vulnerable, threatened or endangered.
- Climbing Prairie Rose is the only native climbing rose in Canada.

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Common five-lined Skink

Scientific name: *Plestiodon fasciatus*



Cover photos credit: Wasyl Bakowsky (left), Ken Cornelisse (middle), Rob Tervo (right)

Status

Endangered (Carolinian population)

“Endangered” means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Special Concern (Southern Shield population)

“Special Concern” means the species lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

Date added to the Species at Risk in Ontario List

September 10, 2009

What it looks like

The Common Five-lined Skink is a small (up to 8.6 cm) black or grey coloured lizard with five cream-coloured stripes along its back and a blue tail in juveniles.

The stripes and blue tail fade with age. During the breeding season, males have orange colouration around the jaws and chin. Common Five-lined Skinks feed on insects, worms and other invertebrates. They are very agile hunters.

Where it lives

Common Five-lined Skinks like to bask on sunny rocks and logs to maintain a preferred body temperature (28-36°C). During the winter, they hibernate in crevices among rocks or buried in the soil.

There are two populations of Common Five-lined Skink in Ontario and they each occupy different types of habitat.

The Southern Shield population can be found underneath rocks on open bedrock in forests. The Carolinian population can be found under woody debris in clearings with sand dunes, open forested areas, and wetlands.

Where it's been found in Ontario

In North America, the Common Five-lined Skink occurs throughout hardwood forests from the Atlantic seaboard to Texas and Minnesota and from southern Ontario to the Gulf of Mexico.

In Canada, the species is limited to two distinct areas, along the southern margin of the Canadian Shield, and in the Carolinian Zone where it is found near the shores of Lakes Erie, St. Clair and Huron.

What threatens it

The Common Five-lined Skink faces many threats to their habitat from urban sprawl and agriculture, especially in southwestern Ontario. In the Carolinian population, woody debris that Common Five-lined Skinks use for cover may be cleared from beaches for aesthetic reasons or collected for firewood.

In the Canadian Shield population, the flipping of rocks (by humans or Black Bears) and removal of rocks for landscaping take away important skink habitat. Other threats include illegal collection for the pet trade and ATVs.

Action we are taking

Recovery strategy / Management Plan

Recovery strategies that are developed for more than one population of a species, meet the requirements for a management plan for those populations that are classified as Special Concern (e.g. Common Five-lined Skink and Lake Sturgeon).

Read the [executive summary \(https://www.ontario.ca/page/common-five-lined-skink-recovery-strategy-executive-summary\)](https://www.ontario.ca/page/common-five-lined-skink-recovery-strategy-executive-summary) (September 10, 2010)

Read the [recovery strategy \(https://www.ontario.ca/page/common-five-lined-skink-recovery-strategy\)](https://www.ontario.ca/page/common-five-lined-skink-recovery-strategy) (September 10, 2010)

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/common-five-lined-skink-government-response-statement\)](https://www.ontario.ca/page/common-five-lined-skink-government-response-statement) (June 15, 2011)

Five-Year Review of Progress

A five-year review reports on progress made toward protecting and recovering a species, within five years of publishing a species' government response statement.

Read the [report \(https://www.ontario.ca/document/five-year-review-progress-towards-protection-and-recovery-ontarios-species-risk-2016\)](https://www.ontario.ca/document/five-year-review-progress-towards-protection-and-recovery-ontarios-species-risk-2016) on progress towards the protection and recovery of 27 species at risk, including Common Five-lined Skink (2016)

Habitat protection

A habitat regulation defines a species' habitat and many describe features (e.g. a creek, cliff, or beach), geographic boundaries or other unique characteristics.

Read the [habitat regulation \(https://www.ontario.ca/laws/regulation/080242#BK49\)](https://www.ontario.ca/laws/regulation/080242#BK49) (July 1, 2012)

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. If you find Common five-lined-skink on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.
- Never buy Common Five-lined Skinks that have been caught in the wild and never buy a native species of any kind that's being sold as a pet.

- The Carolinian Zone of southern Ontario supports an impressive diversity of plants and wildlife, including many species at risk. Carolinian Canada Coalition is working to protect and restore the natural heritage in this important area. For more information, visit: www.carolinian.org (<http://www.carolinian.org>).
- Register with the Herpetofaunal Atlas program to receive e-mail newsletters, event notifications, and other important updates about the Herpetofaunal Atlas project as it develops. Visit their website to see how you can participate and learn more about Ontario's reptiles and amphibians. www.ontarionature.org/herpetofaunal_atlas.html (http://www.ontarionature.org/herpetofaunal_atlas.html).

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- When attacked by a potential predator, a skink's tail can "autotomize": spontaneously break off and thrash for several minutes, distracting the predator so the lizard can escape. The tail is able to grow back at a rate of about 6 millimetres a week.
- The scales of the Common Five-lined Skink are un-ridged, giving it a smooth, shiny appearance.

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Eastern meadowlark

Scientific name: *Sturnella magna*



Cover photo credit: Mark Peck

Status

Threatened

“Threatened” means the species lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.

Date added to the Species at Risk in Ontario List

January 13, 2012

Read the [Assessment Report \(https://www.ontario.ca/page/eastern-meadowlark-evaluation\)](https://www.ontario.ca/page/eastern-meadowlark-evaluation)

What it looks like

The Eastern Meadowlark is a medium-sized, migratory songbird (about 22 to 28 centimetres long) with a bright yellow throat and belly, a black "V" on its breast and white flanks with black streaks. Their backs are mainly brown with black streaks.

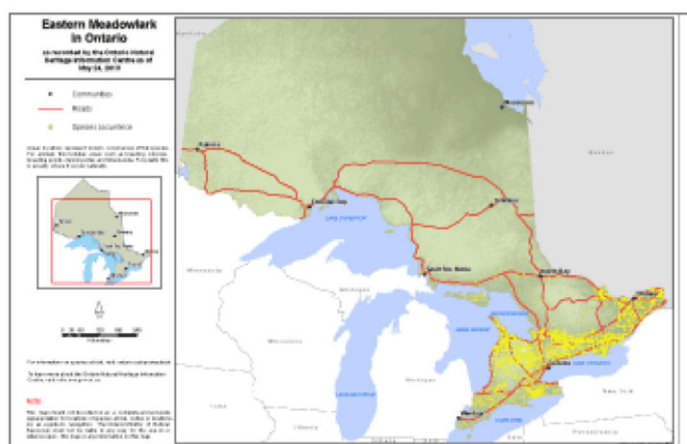
They have pinkish legs, a long, pointed bill and a light brown and black striped head. The Eastern Meadowlark's song is composed of a series of two to eight clear, flutelike whistles, often slurred together and descending in pitch.

Where it lives

Eastern Meadowlarks breed primarily in moderately tall grasslands, such as pastures and hayfields, but are also found in alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Small trees, shrubs or fence posts are used as elevated song perches.

Where it's been found in Ontario

In Ontario, the Eastern Meadowlark is primarily found south of the Canadian Shield but it also inhabits the Lake Nipissing, Timiskaming and Lake of the Woods areas.



(http://files.ontario.ca/environment-and-energy/species-at-risk/mnr_sar_es_me_lrk_map_en.pdf)

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What threatens it

This species increased when forests were cleared in eastern North America. However, as with many grassland birds, Eastern Meadowlark numbers are shrinking due to changes in land use and the loss of suitable habitat that has resulted from development, changes in farming practices, over-grazing of pasturelands by livestock, grassland fragmentation, reforestation and the use of pesticides.

Eastern Meadowlarks are also subject to predators, including foxes, domestic cats and dogs, coyotes, snakes, skunks, raccoons and other small mammals. In Ontario, the number of Eastern Meadowlarks has decreased by almost 65 per cent during the past 40 years.

Action we are taking

Threatened Species and their general habitat are automatically protected

Recovery strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/bobolink-and-eastern-meadowlark-recovery-strategy-executive-summary\)](https://www.ontario.ca/page/bobolink-and-eastern-meadowlark-recovery-strategy-executive-summary) (May 31, 2013)

Read the [recovery strategy \(https://www.ontario.ca/page/bobolink-and-eastern-meadowlark-recovery-strategy\)](https://www.ontario.ca/page/bobolink-and-eastern-meadowlark-recovery-strategy) (May 31, 2013)

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/bobolink-and-eastern-meadowlark-government-response-statement\)](https://www.ontario.ca/page/bobolink-and-eastern-meadowlark-government-response-statement) (December 15, 2015)

Habitat protection

General habitat descriptions are technical, science-based documents that provide greater clarity on the area of habitat protected for a species.

Read the [general habitat description \(https://www.ontario.ca/page/eastern-meadowlark-general-habitat-description\)](https://www.ontario.ca/page/eastern-meadowlark-general-habitat-description) (July 2, 2013)

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. If you find an Eastern meadowlark nesting on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.
- As with all wildlife, don't disturb or harass the birds or nesting sites. Be respectful and observe from a distance.

- The Canada-Ontario Farm Stewardship Program is available to eligible farmers to encourage greater protection and conservation of habitat for species at risk. Find more information at: www.omafra.gov.on.ca/english/environment/efp/efp.htm (<http://www.omafra.gov.on.ca/english/environment/efp/efp.htm>).

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- Undertaking an activity near or affecting Eastern Meadowlark? Your activity may qualify for streamlined approval and registration. [Read more \(https://www.ontario.ca/environment-and-energy/bobolink-and-eastern-meadowlark-habitats-and-land-development\)](https://www.ontario.ca/environment-and-energy/bobolink-and-eastern-meadowlark-habitats-and-land-development).
- Eastern Meadowlarks can be beneficial in hayfields since they eat large numbers of insects that could otherwise be harmful to crops.
- This bird forages on the ground or in low vegetation, probing with its bill and mainly eating insects, but also seeds and berries.
- Eastern Meadowlarks can nest from early May to mid-August, in nests that are built on the ground and well-camouflaged with a roof woven from grasses.

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Eastern mole

Scientific name: *Scalopus aquaticus*



Cover photo credit: Tim Gibb

Status

Special Concern

“Special Concern” means the species lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

Date added to the Species at Risk in Ontario List

The Eastern Mole was already assessed as a species of special concern when the *Endangered Species Act* took effect in 2008.

[Assessment report \(https://www.ontario.ca/page/eastern-mole-evaluation\)](https://www.ontario.ca/page/eastern-mole-evaluation)

What it looks like

The Eastern Mole is a small mammal, about 16 centimetres long from nose to tail. It has velvety grey fur, large scoop-shaped front paws for digging, a slim pointed nose, tiny eyes and a short hairless tail. The mole eats worms, insect larvae, ants, plant tubers and seeds that it finds in the tunnels it digs.

The Eastern Mole is secretive and rarely seen, but leaves clear signs of its activity - raised earth tunnels and mounds of excavated dirt ("push ups" or molehills) that it builds in lawns, gardens and fields.

Eastern Moles live about three years. They breed and reproduce once a year with litters of two to five young.

Where it lives

The Eastern Mole lives in a range of habitats, including forests, open woodlands, meadows, pastures and fields. It is also found in urban settings such as parks, cemeteries and residential yards. Its preferred habitat is stone-free sand and sandy loam soil with a cover of woody plants.

Where it's been found in Ontario

Widespread and common in eastern and central North America, the range of the Eastern Mole is restricted to the extreme southwestern part of Ontario. It was never common in the province.



(http://files.ontario.ca/environment-and-energy/species-at-risk/eastern_mole_map_eng.pdf)

[View a larger version of this map \(PDF\) \(http://files.ontario.ca/environment-and-energy/species-at-risk/eastern_mole_map_eng.pdf\)](http://files.ontario.ca/environment-and-energy/species-at-risk/eastern_mole_map_eng.pdf)

What threatens it

Much of the suitable habitat for Eastern Moles has been converted to farmland. Fragmented, small populations can disappear at any time and are very slow to return.

Action we are taking

Special concern species do not receive species or habitat protection.

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.
- The Carolinian forests of southern Ontario support an amazing diversity of plants and wildlife, including many species at risk. Carolinian Canada is working to help recover species at risk and their habitats. For more information, visit: www.carolinian.org/SpeciesHabitats.htm (<http://www.carolinian.org/SpeciesHabitats.htm>).

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. You may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- Eastern Moles can dig more than a metre in an hour, and their tunnels can be up to a kilometre long.
- Young Eastern Moles are cared for and nursed by their mother in her nest and tunnel system until they are weaned. They continue to share her tunnel system until they are able to forage on their own, when they leave and establish their own tunnel systems.
- Although these moles have no vision, they may be able to detect the presence or absence of light. Their ears are also covered by a layer of skin but they may be able to detect sounds and vibrations. Eastern Moles probably find their way around and detect prey by their acute senses of smell and touch.
- Eastern Moles spend 99 per cent of their time in their underground tunnels, where there are few predators that can find and catch them.

Updated: October 18, 2018

Published: July 17, 2014

Related

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Eastern wood-pewee

Scientific name: *Contopus virens*



Cover photo credit: © Josh Vandermeulen CC BY-NC

Status

Special Concern

“Special Concern” means the species lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

Date added to the Species at Risk in Ontario List

June 27, 2014

[Read the report \(http://cossaroagency.ca/wp-content/uploads/2017/06/Final-COSSARO-Evaluation-Eastern-Wood-Pewee-23-Sep-2013_GFM-FINAL-s.pdf\)](http://cossaroagency.ca/wp-content/uploads/2017/06/Final-COSSARO-Evaluation-Eastern-Wood-Pewee-23-Sep-2013_GFM-FINAL-s.pdf) (PDF)

What it looks like

The eastern wood-pewee is a small forest bird that grows to about 15 cm long. Adults are generally greyish-olive on their upper parts and pale on the under parts with pale bars on their wings. Males and females are similar in appearance.

The eastern wood-pewee has a distinctive, clear, three-part song, usually recorded as “pee-ah-wee.”

This bird is often observed perched in an upright position. It eats mostly small, flying insects.

Where it lives

The eastern wood-pewee lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-age mature forest stands with little understory vegetation.

Where it's been found in Ontario

The eastern wood-pewee is found across most of southern and central Ontario, and in northern Ontario as far north as Red Lake, Lake Nipigon and Timmins.

 [map of Eastern wood-pewee range \(http://files.ontario.ca/environment-and-energy/species-at-risk/estrn_wd_pw_map_eng.pdf\)](http://files.ontario.ca/environment-and-energy/species-at-risk/estrn_wd_pw_map_eng.pdf)

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What threatens it

Possible threats to the eastern wood-pewee are poorly known but may include:

- loss and degrading of habitat due to urban development and/or changes in how forests are managed
- reductions in the availability of the flying insects they eat, the cause of which is not known
- loss of eggs and fledgling birds from increasing numbers of predators such as blue jays and red squirrels
- changes to the make-up of forests due to white-tailed deer over-browsing, which may reduce the number of insects available to eat

These birds may also face other threats during their migration and in their wintering habitat in South America.

Action we are taking

Special concern species do not receive species or habitat protection.

What you can do

Report a Sighting

- The Ministry of Natural Resources tracks species at risk such as the eastern wood-pewee. You can use a handy online form to report your sightings to the [Natural Heritage Information Centre \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants). Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. You may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.
- Bird Studies Canada is working to advance the understanding, appreciation and conservation of wild birds and their habitat in Ontario and elsewhere. For more information on how you can help, visit: www.bsc-eoc.org.
- As with all wildlife, don't disturb or harass the birds or nesting sites. Be respectful and observe from a distance.

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPS-MNR (847-7667).

Quick facts

- When several species of “flycatchers” – birds that eat flying insects – live in the same forest, they each find their niche. The eastern wood-pewee tends to forage higher in the trees than the least and Acadian flycatchers, but lower than the great crested flycatcher.
- The eastern wood-pewee's nest is so well camouflaged that it often just seems like a knot on the tree's branch.
- The eastern wood-pewee is almost impossible to tell apart from the western wood-pewee by sight, but can be distinguished by its different call.
- The breeding ranges of the eastern and western wood-pewee overlap in a small region in the American Great Plains, but the two species do not appear to interbreed.

Updated: October 26, 2018

Published: July 18, 2014

Related

[How Ontario protects species at risk \(https://www.ontario.ca/page/how-species-risk-are-protected\)](https://www.ontario.ca/page/how-species-risk-are-protected)

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[Species at risk \(https://www.ontario.ca/speciesatrisk\)](https://www.ontario.ca/speciesatrisk) →

King rail

Scientific name: *Rallus elegans*



Cover photos credit: Brian E. Small

Status

Endangered

"Endangered" means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

The King Rail was already assessed as endangered when the *Endangered Species Act* took effect in 2008.

[Assessment Report \(https://www.ontario.ca/page/king-rail-evaluation\)](https://www.ontario.ca/page/king-rail-evaluation)

What it looks like

The King Rail is Ontario's largest rail, standing at 40 centimetres tall. It looks much like a giant version of the much more common Virginia Rail.

It has a long, slightly curved bill, long legs and a tall but very thin body, which allows it to move easily between cattail stalks – hence the expression “thin as a rail”.

The chest and neck are a dull cinnamon orange, while the back is a mixture of rust and brown streaks.

The sides of the body are blackish with thin, vertical white bars.

Where it lives

King Rails are found in densely vegetated freshwater marshes with open shallow water that merges with shrubby areas.

They are sometimes found in smaller isolated marshes but most seem to prefer larger, coastal wetlands.

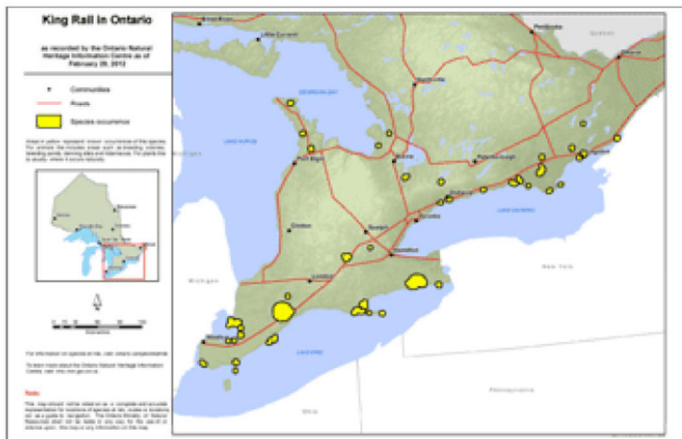
Its nest is a dinner-plate sized platform made of plant material, placed just above the water in shrubs or clumps of other marsh plants.

Where it's been found in Ontario

King Rails reach their northern limit in southern Ontario, where they are quite rare.

Recent province-wide surveys suggest there are only about 30 pairs left, the majority of which are in the large wetlands bordering Lake St. Clair.

Most of the remainder are found in several key coastal marshes along Lakes Erie and Ontario.



http://files.ontario.ca/environment-and-energy/species-at-risk/king_rail_map_eng.pdf

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What threatens it

This species has suffered major declines throughout most of its range in interior North America over the past few decades.

Invasive species and the destruction and degradation of wetlands due to drainage, pollution and shoreline development have all played a role in their decline.

Additional threats in populated areas include predation by cats and collisions with cars.

Action we are taking

Endangered Species and their general habitat are automatically protected.

Recovery strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

[Read the recovery strategy \(https://www.ontario.ca/page/recovery-strategy-king-rail\)](https://www.ontario.ca/page/recovery-strategy-king-rail) (December 14, 2016)

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

[Read the government response statement \(https://www.ontario.ca/page/king-rail-and-least-bittern-government-response-statement\)](https://www.ontario.ca/page/king-rail-and-least-bittern-government-response-statement) (September 12, 2017)

Habitat protection

General Habitat Protection - June 30, 2008

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.
- Bird Studies Canada is working to advance the understanding, appreciation and conservation of wild birds and their habitat in Ontario and elsewhere; for more information on how you can help, visit: [www.bsc-eoc.org \(http://www.bsc-eoc.org\)](http://www.bsc-eoc.org).

Volunteer

Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- private land owners have a very important role to play in species recovery; if you find a King Rail on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats
- if you have wetland habitat on your property, you can help King Rails and other marsh birds by keeping or establishing natural buffers along the shoreline, avoiding the placement of bright lights that shine into the marsh, and keeping pets from running loose

Report illegal activity

Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- the King Rail is a very secretive and shy bird that is most active at dawn and dusk; it is rarely seen, and is most often located by voice - it has a variety of calls but the most distinctive is a deep, rhythmic monotone grunting of “whah whah whah whah whah”; another call is a repeating “kik-kik-kik”
- King Rails need open water to find food, so they migrate to the big coastal marshes of the southern US to spend the winter
- King Rails feed mostly on crayfish and crabs but will also eat fish, insects, and some plant seeds
- during courtship, males present crayfish or small crabs to females in their bill

Updated: November 1, 2018

Published: July 17, 2014

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[Species at risk \(https://www.ontario.ca/speciesatrisk\)](https://www.ontario.ca/speciesatrisk) →

Northern map turtle

Scientific name: *Graptemys geographica*



Cover photos credit: Scott Gillingwater (left) and Alan Dextrase (right)

Status

Special Concern

“Special Concern” means the species lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

Date added to the Species at Risk in Ontario List

The Northern Map Turtle was already assessed as a species of special concern when the *Endangered Species Act* took effect in 2008 and was re-assessed as special concern in 2013.

[Read the report \(http://cossaroagency.ca/wp-content/uploads/2017/06/Final-COSSARO-Evaluation-Northern-Map-Turtle-March-15_GFM-FINAL-s.pdf\)](http://cossaroagency.ca/wp-content/uploads/2017/06/Final-COSSARO-Evaluation-Northern-Map-Turtle-March-15_GFM-FINAL-s.pdf) (PDF)

What it looks like

The Northern Map Turtle gets its name from the lines on the upper shell, or carapace, that resemble contour lines on a map. The lines on the carapace are shades of yellow, tan, or orange and are surrounded by dark borders. The rest of the carapace is olive green or greyish brown. The lower shell,

or plastron, is light yellow to cream. There is a yellow spot behind the eyes, and both the head and legs have an intricate pattern of bright yellow lines.

Females can grow to about twice the size of males in length – and may exceed 25 centimetres versus an average of only 14 centimetres for males. Another difference between males and females is choice of their diet. Females eat molluscs, including clams and snails, as well as crayfish and some fish. The male and young map turtles mainly eat insects and crayfish.

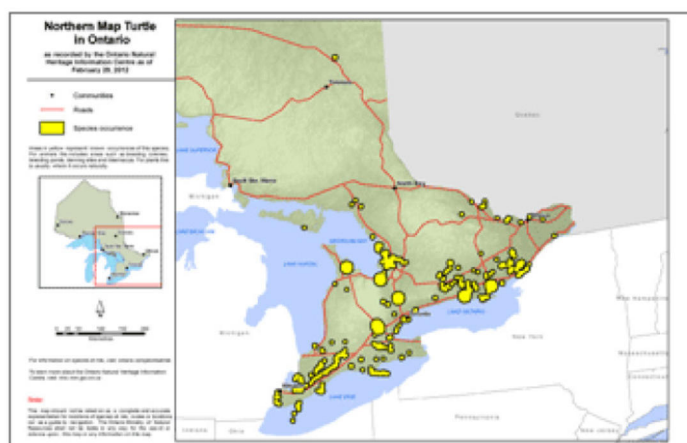
Female Northern Map Turtles may take more than 10 years to reach maturity. They nest from June through July and lay a single clutch of 10 to 17 eggs per year. The eggs hatch in the fall. In some cases, the hatchlings overwinter in the nest.

Where it lives

The Northern Map Turtle inhabits rivers and lakeshores where it basks on emergent rocks and fallen trees throughout the spring and summer. In winter, the turtles hibernate on the bottom of deep, slow-moving sections of river. They require high-quality water that supports the female's mollusc prey. Their habitat must contain suitable basking sites, such as rocks and deadheads, with an unobstructed view from which a turtle can drop immediately into the water if startled.

Where it's been found in Ontario

The Northern Map Turtle's range extends from the Great Lakes region west to Oklahoma and Kansas, south to Louisiana and east to the Adirondack and Appalachian mountain barrier. There are isolated populations in New Jersey and New York states. In Canada, it is found in southwestern Quebec and southern Ontario. In southern Ontario, it lives primarily on the shores of Georgian Bay, Lake St. Clair, Lake Erie and Lake Ontario, and along larger rivers including the Thames, Grand and Ottawa.



(http://files.ontario.ca/environment-and-energy/species-at-risk/northern_map_turtle_map_eng.pdf)

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What threatens it

Habitat loss and degradation due to shoreline development and decline in water quality threaten the Northern Map Turtle in Ontario. The spread of invasive species such as Zebra Mussels also poses a potential threat to this species. It is also vulnerable to mortality on roadways and injury from boat propellers.

The pet trade may be contributing to declines of this species in the United States and Canada. The Northern Map Turtle resembles several popular pet trade species, and illegal capture and export may be taking place.

Action we are taking

Special concern species do not receive species or habitat protection.

What you can do

Report a sighting

- The Ministry of Natural Resources tracks species at risk. You can use a handy online form to report your sightings to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.
- Visit the [Ontario Nature Ontario Reptile and Amphibian Atlas](http://www.ontarionature.org/atlas) (<http://www.ontarionature.org/atlas>) or [Toronto Zoo Adopt-a-Pond website](http://www.torontozoo.com/Adoptapond) (<http://www.torontozoo.com/Adoptapond>) to learn more about Ontario's rare turtles, their habitat and related conservation initiatives.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. You may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- The female Northern Map Turtle has powerful jaws for crushing the shells of molluscs, its primary food source.
- The Northern Map Turtle is extremely wary and will dive into the water at the slightest provocation.

- Northern Map Turtles are known for their communal basking, and may be found piled up together in several layers of up to 30 turtles.
- Map turtles will often bask at the surface of the water under floating vegetation mats with nothing but their head or nose visible from the surface. This behaviour puts map turtles at significant risk of mortality from motorboats.

Updated: October 24, 2018

Published: July 18, 2014

Related

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Prothonotary warbler

Scientific name: *Protonotaria citrea*



Cover photo credits: Allen Woodliffe (all photos)

Status

Endangered

“Endangered” means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

The Prothonotary warbler was already assessed as endangered when the *Endangered Species Act* came into effect in 2008. A reassessment in May 2017 confirmed this status.

[Read the assessment report PDF \(http://cossaroagency.ca/wp-content/uploads/2018/06/AccessibleCOSSAROEvaluation_ProthonotaryWarbler_FINAL_30JAN2018.pdf\)](http://cossaroagency.ca/wp-content/uploads/2018/06/AccessibleCOSSAROEvaluation_ProthonotaryWarbler_FINAL_30JAN2018.pdf).

What it looks like

The Prothonotary warbler is a stunningly beautiful songbird with a brilliant golden-yellow head, throat, and belly. The back is olive-green and the wings, rump and tail are dark blue-grey.

The tail shows prominent white spots when spread. Females and juveniles are similar to males, but not as brightly coloured.

This species also has an unusually large beak compared to other warblers, which it uses to excavate nesting cavities in rotten wood.

Its song is a very clear and rapidly delivered, "Tsweet-tsweet-tsweet-tsweet".

Where it lives

The Prothonotary warbler nests in small, shallow holes, found low in the trunks of dead or dying trees standing in or near flooded woodlands or swamps.

They will also readily use properly placed artificial nest boxes.

Silver maple, ash, and yellow birch are common trees in these habitats.

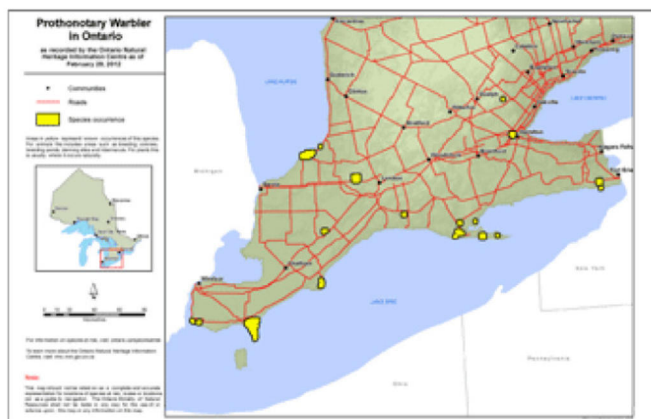
The Prothonotary is the only warbler in eastern North America that nests in tree cavities, where it typically lays four to six eggs on a cushion of moss, leaves and plant fibres.

Where it's been found in Ontario

In Canada, the Prothonotary warbler is only known to nest in southwestern Ontario, primarily along the north shore of Lake Erie. Over half of the small and declining population is found in Rondeau Provincial Park.

In Ontario, the Prothonotary warbler is found in the warmer climate of the Carolinian deciduous forests.

In 2005, it was estimated that there were only between 28-34 individuals in Ontario.



(http://files.ontario.ca/environment-and-energy/species-at-risk/prothonotary_warbler_map_eng.pdf)

[energy/species-at-risk/prothonotary_warbler_map_eng.pdf](http://files.ontario.ca/environment-and-energy/species-at-risk/prothonotary_warbler_map_eng.pdf)

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What threatens it

The main threats to the Prothonotary warbler are habitat destruction caused by the removal of dead and living trees, and the draining of the forested swamps that make up their exclusive habitat.

Another concern is the continuing loss of wintering habitat, especially mangrove swamps, in Central and South America.

Competition from other birds, like the House wren and Brown-headed Cowbird, is a threat in some areas.

Natural factors, such as climate change, storms, and extremes in water levels are also potential issues.

Action we are taking

Endangered species and their general habitat are automatically protected

Recovery strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/prothonotary-warbler-recovery-strategy-executive-summary\)](https://www.ontario.ca/page/prothonotary-warbler-recovery-strategy-executive-summary) (June 15, 2012)

Read the [recovery strategy \(https://www.ontario.ca/page/prothonotary-warbler-recovery-strategy\)](https://www.ontario.ca/page/prothonotary-warbler-recovery-strategy) (June 15, 2012)

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/prothonotary-warbler-government-response-statement\)](https://www.ontario.ca/page/prothonotary-warbler-government-response-statement) (May 31, 2013)

Five-year review of progress

A five-year review of progress made toward protecting and recovering a species is required no later than five years after the government response statement for that species is published.

[Read the report \(https://www.ontario.ca/document/2018-five-year-review-progress-towards-protection-and-recovery-ontarios-species-risk\)](https://www.ontario.ca/document/2018-five-year-review-progress-towards-protection-and-recovery-ontarios-species-risk) on progress towards the protection and recovery of 17 species at risk, including the Prothonotary Warbler (2018).

Habitat protection

General habitat protection - June 30, 2008

What you can do

Report a sighting

- the Ministry of Natural Resources and Forestry tracks species at risk such as the Prothonotary warbler; [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

- Bird Studies Canada is working to advance the understanding, appreciation and conservation of wild birds and their habitat in Ontario and elsewhere; for more information on how you can help, visit: www.bsc-eoc.org (<http://www.bsc-eoc.org>).
- the Carolinian forests of southern Ontario support an amazing diversity of plants and wildlife, including many species at risk; Carolinian Canada is working to help recover species at risk and their habitats; for more information, visit: www.carolinian.org/SpeciesHabitats.htm (<http://www.carolinian.org/SpeciesHabitats.htm>).

Volunteer

Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

Private land owners have a very important role to play in species recovery. If you find a Prothonotary warbler on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.

Report illegal activity

Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- the Prothonotary warbler was named after legal clerks in the Roman Catholic Church, known as prothonotaries, who sometimes wear a golden hood and a blue cape
- this warbler is considered one of the most dazzling birds in North America due to its stunning colouration and its habit of feeding along pond edges where it constantly sees its reflection, making it doubly beautiful; one very appropriate folk name for this bird is “swamp candle”
- Prothonotary warblers spend the winter in the warm, tropical climate of Central and South America; the coastal mangrove forests they favour are one of the most endangered habitats in the world

Updated: December 17, 2018

Published: July 18, 2014

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[Species at risk \(https://www.ontario.ca/speciesatrisk\)](https://www.ontario.ca/speciesatrisk) →

Pugnose minnow

Scientific name: *Opsopoeodus emiliae*



Photo: Joseph R. Tomelleri

Status

Threatened

“Threatened” means the species lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.

Date added to the Species at Risk in Ontario List

The Pugnose Minnow was already assessed as special concern when the *Endangered Species Act* took effect in 2008. It was reassessed as threatened in 2012.

Read the [assessment report \(https://www.ontario.ca/page/pugnose-minnow-evaluation\)](https://www.ontario.ca/page/pugnose-minnow-evaluation).

What it looks like

The Pugnose Minnow is a slender, silvery-coloured fish about five centimetres long with a forked tail. It has a black lateral band and the scales on its back and side are distinctly outlined, with translucent straw coloured or olive overtones. The rounded snout and small upturned mouth accounts for the name pugnose.

The Pugnose Minnow feeds mainly on aquatic insects such as midges, but also eats aquatic crustaceans, fish eggs and fish fry. The up-turned mouth suggests that the Pugnose Minnow is a mid-water or near-surface feeder.

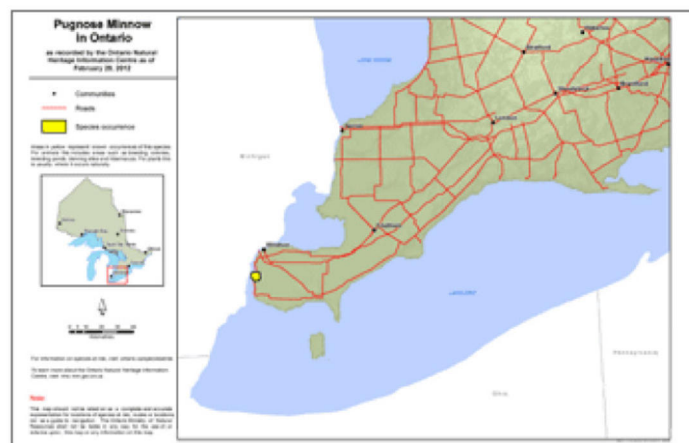
This species has a unique spawning behaviour. In late spring, males select a flat surface for the spawning site, such as the underside of a flat rock, and lead the females to the site. Females lay eggs on the underside of this surface and the males then guard the nest and eggs from predators. Eggs are laid singly or in strings of two to five in a single layer. Up to 120 eggs can be laid per spawning session, which is repeated over six to seven days.

Where it lives

The Pugnose Minnow prefers coastal wetlands, and slow-moving rivers and streams with clear, warm water, little or no current, and abundant vegetation.

Where it's been found in Ontario

The Pugnose Minnow lives in central North America in the rivers and streams of the Mississippi River basin. Its range extends from South Carolina and Florida west to Texas and north to Wisconsin. In Canada, it is at the northern limit of its range and is only found in extreme southwestern Ontario with small populations in Lake St. Clair and the Detroit River.



(http://files.ontario.ca/environment-and-energy/species-at-risk/pugnose_minnow_map_eng.pdf)

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What threatens it

The main threat to this species is habitat alteration and siltation of rivers and streams due to agricultural practices and urban development, resulting in loss of well-vegetated habitats.

Action we are taking

Threatened species and their general habitat are automatically protected.

Habitat protection

General habitat protection - January 24, 2013

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. If you find a nesting on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- Pugnose Minnows have a lifespan of about three years.
- Breeding males develop small white knobs on the first three dorsal fin rays and patches of small tubercles on the snout and chin. These small white knobs may act as egg mimics to stimulate the female to spawn.

Updated: October 22, 2018

Published: July 18, 2014

Related

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[Species at risk \(https://www.ontario.ca/speciesatrisk\)](https://www.ontario.ca/speciesatrisk) →

Round-leaved Greenbrier

Scientific name: *Smilax rotundifolia*



Cover photo credit: Allen Woodliffe

Status

Threatened

“Threatened” means the species lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.

Date added to the Species at Risk in Ontario List

The Round-leaved Greenbrier was already assessed as threatened when the Endangered Species Act took effect in 2008.

What it looks like

Round-leaved Greenbrier is a woody, climbing vine that can grow to over six metres in length as it wraps around shrubs and trees. The main stems are rounded and have flattened prickles. The leaves are egg-shaped and about five to 10 centimetres long.

The plant produces clusters of small, green flowers that bloom from late May to mid-June. The fruit, which ripens in the fall, is bluish-black in colour and usually contains two seeds.

Where it lives

In Ontario, Round-leaved Greenbrier is found mainly in the warmer climate of the Carolinian Forest. It prefers open moist to wet woodlands, often growing on sandy soil.

Where it's been found in Ontario

The species is found across much of eastern North America from southwestern Nova Scotia to northern Florida, eastern Texas and north to eastern Michigan and southwestern Ontario. As of 2007, thirteen populations were known in Ontario.



(http://files.ontario.ca/environment-and-energy/species-at-risk/mnr_sar_rou_lea_gre_map_eng.pdf)

http://files.ontario.ca/environment-and-energy/species-at-risk/mnr_sar_rou_lea_gre_map_eng.pdf

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What threatens it

The greatest threat to the Round-leaved Greenbrier is habitat degradation and destruction.

Ontario populations of Round-leaved Greenbrier persist in habitat fragments and only a few of these populations can reproduce sexually since many appear to consist of all male or all female plants.

Action we are taking

Threatened Species and their general habitat are automatically protected.

Recovery Strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/round-leaved-greenbrier-recovery-strategy#section-4\)](https://www.ontario.ca/page/round-leaved-greenbrier-recovery-strategy#section-4) and the [full document \(https://www.ontario.ca/page/round-leaved-greenbrier-recovery-strategy\)](https://www.ontario.ca/page/round-leaved-greenbrier-recovery-strategy) (December 7, 2018)

Habitat protection

General Habitat Protection - June 30, 2013

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery; if you find Round-leaved Greenbrier on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats
- Invasive species seriously threaten many of Ontario's species at risk; to learn what you can do to help reduce the threat of invasive species, visit:
 - www.ontario.ca/invasivespecies (<http://www.ontario.ca/invasivespecies>)
 - www.invadingspecies.com (<http://www.invadingspecies.com>)
 - www.ontarioinvasiveplants.ca (<http://www.ontarioinvasiveplants.ca>)
- Pollinators, such as bees, are in steep decline across the globe and they play a key role in the survival of many of Ontario's rare plants; for information on how you can help scientists monitor pollinator populations in Ontario, visit:
www.seeds.ca/proj/poll (<http://www.seeds.ca/proj/poll>).

Report illegal activity

Report any illegal activity related to plants and wildlife to 1-877-TIPS-MNR (847-7667).

Quick facts

- The seeds of Round-leaved Greenbrier can remain buried in the soil for at least three years while waiting for the right conditions to start growing a new plant
- The young seedlings of Round-leaved Greenbrier are a popular food for white-tailed deer, which can be a problem for this rare plant in areas with large deer populations

Updated: December 7, 2018

Published: July 18, 2014

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[How species at risk are protected \(https://www.ontario.ca/page/how-species-risk-are-protected\)](https://www.ontario.ca/page/how-species-risk-are-protected)

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Shumard oak (Species at Risk)

Scientific name: *Quercus shumardii*



Cover photos credit: Allen Woodliffe (all photos)

Status

Special Concern

“Special Concern” means the species lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

Date added to the Species at Risk in Ontario List

The Shumard oak was already assessed as a species of special concern when the *Endangered Species Act* took effect in 2008.

What it looks like

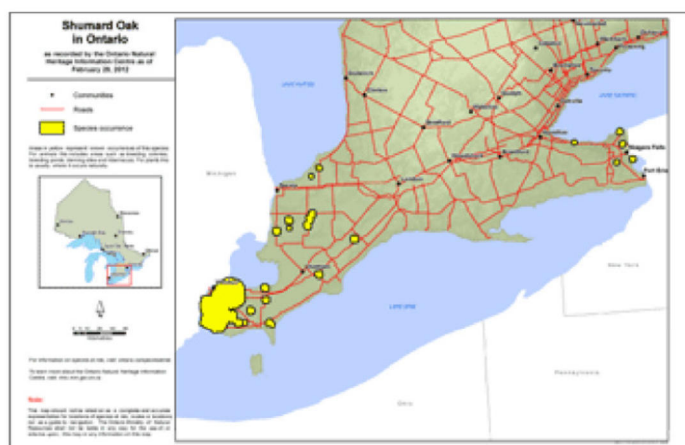
The Shumard oak is a tall tree which can grow to a height of 40 metres with massive branches. The bark of this tree is grey-brown to dark brown and shallowly fissured. The leaves are shiny above with five to nine deep lobes, each lobe having several large conspicuous teeth or smaller lobes. The fruit is an acorn, with a 14 to 30 millimetre long nut in a light-brown to reddish-brown flatly saucer-shaped cup.

Where it lives

Shumard oaks prefer moist soils, and can grow close to water and in swampy areas. It typically grows in deciduous forest or along fencerows.

Where it's been found in Ontario

The Shumard oak is found primarily in the south-central United States, from Indiana and Ohio west to Kansas, Oklahoma and Texas, south to the Gulf coast and northern Florida, and east to North Carolina. Separate populations are found in Pennsylvania and Maryland. In Ontario, it grows in Essex, Kent, Elgin and Lambton counties in the southwestern part of the province, and in the Niagara Regional Municipality.



(http://files.ontario.ca/environment-and-energy/species-at-risk/shumard_oak_map_eng.pdf)

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What threatens it

Trees in fencerows are at risk from fencerow brushing and field clearing. Large forest trees may be taken for logging. Shumard oak occurs in counties that have lost most of their forest cover, which is habitat for this tree species.

Action we are taking

Special concern species do not receive species or habitat protection.

Management plan

A management plan advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [management plan \(https://www.ontario.ca/page/shumard-oak-management-plan\)](https://www.ontario.ca/page/shumard-oak-management-plan) (June 28, 2013).

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/document/shumard-oak-government-response-statement\)](https://www.ontario.ca/document/shumard-oak-government-response-statement) (March 7, 2014).

What you can do

Report a Sighting

The Ministry of Natural Resources and Forestry tracks species at risk. You can use a handy online form to report your sightings to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- private land owners have a very important role to play in species recovery; you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats
- the Carolinian forests of southern Ontario support an amazing diversity of plants and wildlife, including many species at risk; Carolinian Canada is working to help recover species at risk and their habitats; for more information, visit: www.carolinian.org/SpeciesHabitats.htm (<http://www.carolinian.org/SpeciesHabitats.htm>)

Report illegal activity

Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- the Shumard oak's shiny, deep-lobed leaves help distinguish the species from the similar-looking Red oak
- Shumard oaks hold their leaves longer into the fall than other oaks
- in the southern United States where the tree is much more common, the Shumard oak is an important source of food for songbirds, wild turkeys, waterfowl, white-tailed deer, and squirrels; its wood is used commercially for cabinets, furniture, floors, and lumber

Updated: October 18, 2018

Published: July 17, 2014

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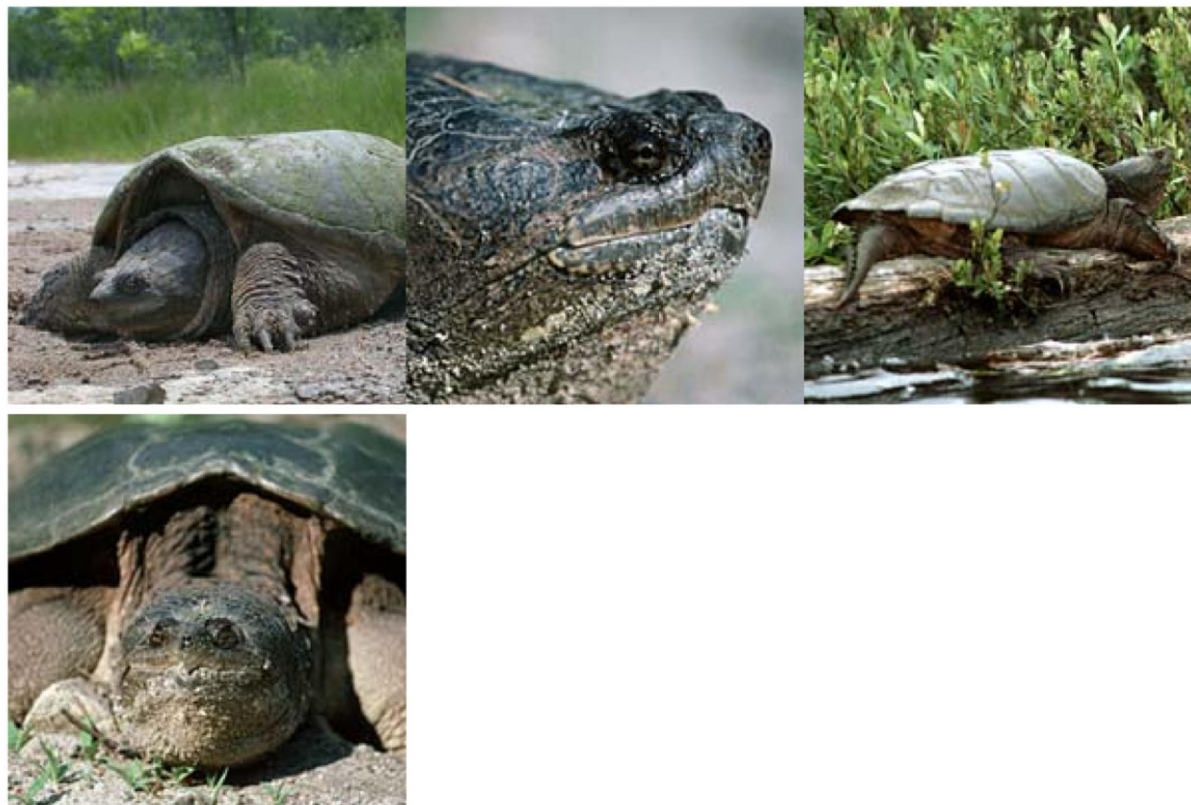
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Snapping turtle

Scientific name: *Chelydra serpentina*



Cover photos credit: Wasył Bakowsky (left), J.D. Taylor (middle-left, middle-right and right)

Status

Special Concern

"Special Concern" means the species lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

Date added to the Species at Risk in Ontario List

September 10, 2009

What it looks like

The Snapping Turtle is Canada's largest freshwater turtle, reaching an average length of 20-36 cm and a weight of 4.5-16.0 kg. Snapping turtles have large black, olive or brown shells typically covered in algae. Their tails, which can be longer than their bodies, have dinosaur-like triangular crests along their length. Hatchlings are about the size of a loonie and are smaller and darker than adults, with pronounced ridges along the length of their shell.

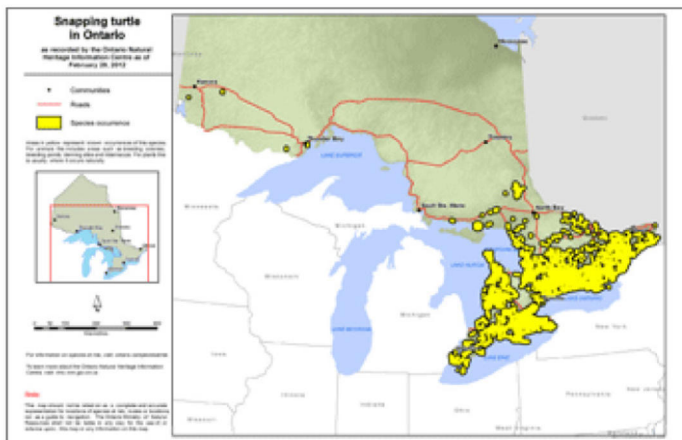
Where it lives

Snapping Turtles spend most of their lives in water. They prefer shallow waters so they can hide under the soft mud and leaf litter, with only their noses exposed to the surface to breathe.

During the nesting season, from early to mid summer, females travel overland in search of a suitable nesting site, usually gravelly or sandy areas along streams. Snapping Turtles often take advantage of man-made structures for nest sites, including roads (especially gravel shoulders), dams and aggregate pits.

Where it's been found in Ontario

The Snapping Turtle's range extends from Ecuador to Canada. In Canada this turtle can be found from Saskatchewan to Nova Scotia. It is primarily limited to the southern part of Ontario. The Snapping Turtle's range is contracting.



(http://files.ontario.ca/environment-and-energy/species-at-risk/snapping_turtle_map_eng.pdf)

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What threatens it

It takes 15 to 20 years for a Snapping Turtle to reach maturity. As a result, adult mortality greatly affects the species' survival. During the summer, many turtles cross roads in search of mates, food and nest sites. This is risky for turtles as they are too slow to get out of the way of moving vehicles.

Snapping turtles are also sometimes intentionally persecuted. Eggs in nests around urban and agricultural areas are subject to predators such as raccoons and striped skunks.

Action we are taking

Special concern species do not receive species or habitat protection.

What you can do

Report a Sighting

- the Ministry of Natural Resources and Forestry tracks species at risk; you can use a handy online form to report your sightings to the Natural Heritage Information Centre; photographs with specific locations or mapping coordinates are always helpful
- every year, turtles all over the province cross busy roads to get to their nesting sites, or use gravel shoulders of roads as nesting sites; watch for turtles on the roads, especially between May and October
- the Ontario Reptile and Amphibian Atlas also collects observations of all Ontario reptiles and amphibians. Submit your observations at: www.ontarionature.org/atlas (<http://www.ontarionature.org/atlas>).

Volunteer

Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- private land owners have a very important role to play in species recovery; you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats
- as with many other rare plants and animals, the Snapping Turtle depends on wetland habitat; you can help by protecting any wetlands and surrounding natural vegetation on your property
- visit the Ontario Reptile and Amphibian Atlas (www.ontarionature.org/atlas (<http://www.ontarionature.org/atlas>)) or Toronto Zoo Adopt-a-Pond website (www.torontozoo.com/Adoptapond (<http://www.torontozoo.com/Adoptapond>)) to learn more about Ontario's turtles.

Report illegal activity

Report any illegal activity related to plants and wildlife to 1-877-TIPS-MNR (847-7667).

Quick facts

- the Snapping Turtle spends so much time underwater that algae grow on its shell; this helps them blend in with their surroundings

- Snapping Turtles are believed to live well over 100 years
- the sex of hatchlings varies depending on the temperature that eggs are incubated at; eggs that are kept at a temperature of 23-28°C hatch male turtles; eggs incubated at other temperatures hatch into females

Updated: October 17, 2018

Published: July 17, 2014

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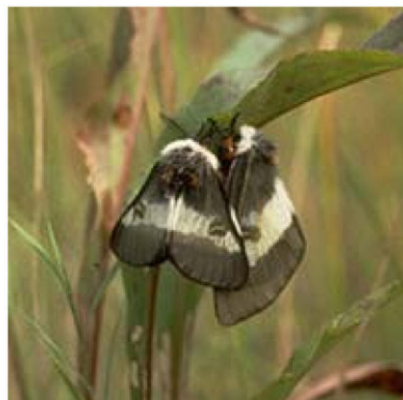
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[Species at risk \(https://www.ontario.ca/speciesatrisk\)](https://www.ontario.ca/speciesatrisk) →

Bogbean buckmoth

Scientific name: *Hemileuca sp. 1*



Cover photo credit: Don Cuddy

Status

Endangered

“Endangered” means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

September 28, 2010.

Read the [Assessment Report \(https://www.ontario.ca/page/bogbean-buckmoth-evaluation\)](https://www.ontario.ca/page/bogbean-buckmoth-evaluation)

What it looks like

The Bogbean Buckmoth is a medium to large-sized moth with forewings about 26 to 36 millimetres long. The body is largely black with a white collar and both white and orange markings on the thorax and abdomen. Each wing is dark with a thick white band and small dark spot either wholly or mostly within the band.

The larvae, which are mostly black with reddish-orange branched spines along the back, feed primarily on the bogbean plant.

The Bogbean Buckmoth has a one-year life cycle. These moths spend the winter as eggs and emerge as larvae the next spring, becoming adults in mid- to late September.

They are active during the day, typically only in warm, sunny weather. Adults are capable of flying for several kilometres, but rarely leave the fens where they live.

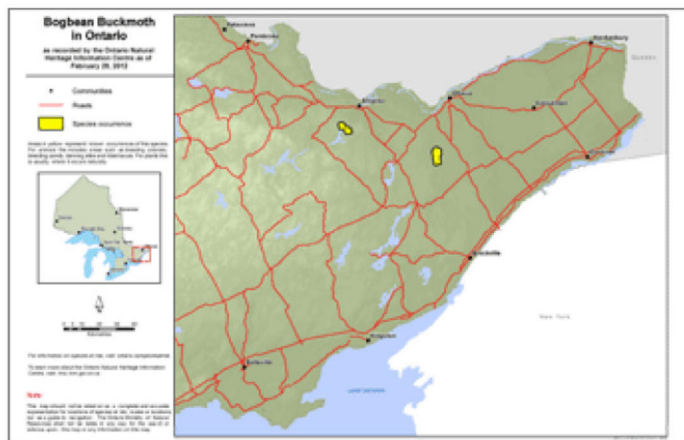
Where it lives

The Bogbean Buckmoth is restricted to open, chalky, low shrub fens containing large amounts of bogbean, an emergent wetland flowering plant.

Where it's been found in Ontario

In Canada, the Bogbean Buckmoth is restricted to two isolated sites in southeastern Ontario.

This moth also occurs in northeastern New York State in wetlands near Lake Ontario.



http://files.ontario.ca/environment-and-energy/species-at-risk/bogbean_buckmoth_map_eng.pdf

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What threatens it

Bogbean Buckmoth in Ontario may be threatened by habitat loss and changes including water level fluctuations, land development, insecticide applications and long-term loss of wetland habitat from climate change.

It is also threatened by the effects of invasive plants, especially the European Common Reed and Narrow-leaved Cattail, that are crowding out its preferred food, the bogbean.

Action we are taking

Endangered Species and their general habitat are automatically protected

Recovery strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/bogbean-buckmoth-recovery-strategy-executive-summary\)](https://www.ontario.ca/page/bogbean-buckmoth-recovery-strategy-executive-summary) (December 7, 2011)

Read the [recovery strategy \(https://www.ontario.ca/page/bogbean-buckmoth-recovery-strategy\)](https://www.ontario.ca/page/bogbean-buckmoth-recovery-strategy) (December 7, 2011)

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/bogbean-buckmoth-government-response-statement\)](https://www.ontario.ca/page/bogbean-buckmoth-government-response-statement) (September 7, 2012)

Five-year review of progress

A five-year review of progress made toward protecting and recovering a species is required no later than five years after the government response statement for that species is published.

[Read the report \(https://www.ontario.ca/document/five-year-review-progress-towards-protection-and-recovery-ontarios-species-risk-2017\)](https://www.ontario.ca/document/five-year-review-progress-towards-protection-and-recovery-ontarios-species-risk-2017) on progress towards the protection and recovery of six species at risk, including Bogbean Buckmoth (2017).

Habitat protection

A habitat regulation defines a species' habitat and many describe features (e.g. a creek, cliff, or beach), geographic boundaries or other unique characteristics.

Read the [habitat summary \(https://www.ontario.ca/page/bogbean-buckmoth-habitat-protection-summary\)](https://www.ontario.ca/page/bogbean-buckmoth-habitat-protection-summary) (January 1, 2014)

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. If you find Bogbean Buckmoth on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.
- The European Common Reed, an invasive species, is a threat to the Bogbean Buckmoth. To learn what you can do to help reduce the threat of invasive species, visit:
www.ontario.ca/invasivespecies (<https://www.ontario.ca/invasivespecies>)
www.invadingspecies.com (<http://www.invadingspecies.com>)
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www.dfo-mpo.gc.ca/science/enviro/ais-eae/index-eng.htm (<http://www.dfo-mpo.gc.ca/science/enviro/ais-eae/index-eng.htm>)

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- Unlike most buckmoths, which live in drier habitats, the Bogbean Buckmoth depends primarily on wetlands that support the bogbean, its preferred food source.
- The Bogbean Buckmoth spends only a day (for females) or a few days (for males) as an adult.
- The bogbean which this moth eats isn't a bean at all – the “bean” part of its name refers to the smooth-edged shiny leaves, which are similar in appearance to those of young broad beans.
- Buckmoths are popular with naturalists and entomologists, in part because they are active in the daytime, relatively large, and have striking colouration.

Updated: October 17, 2018

Published: July 18, 2014

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Cherry birch (Species at Risk)

Scientific name: *Betula lenta*



Cover photo credit: Lynk Media

Status

Endangered

“Endangered” means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

The Cherry birch was already assessed as endangered when the Endangered Species Act took effect in 2008.

What it looks like

The Cherry Birch is a medium-sized deciduous tree that grows up to 20 metres tall. The leaves are oval-shaped with a finely toothed edge and a slender tip.

It is named for its bark, which resembles that of the domestic Sweet Cherry (*Prunus avium*), a tree that is known to escape from cultivation in southern Ontario.

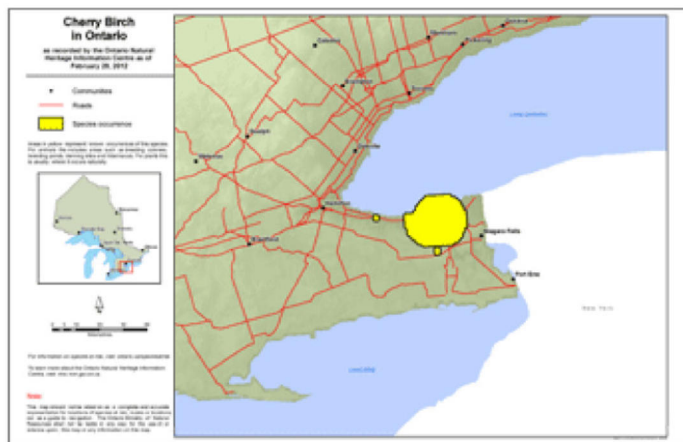
Unlike other birch trees, this species has smooth bark that is broken into scales without curly or peeling edges. The scales are prominently marked with small lens-shaped blister-like breaks (lenticels). The twigs smell like fresh, sweet wintergreen.

Where it lives

In Ontario, the Cherry Birch is found on moist, well-drained clay loam soil over limestone bedrock with White Oak, Red Oak, Eastern Hemlock, Sugar Maple and other deciduous trees.

Where it's been found in Ontario

The single population of Cherry Birch in Canada is isolated at two sites on the Niagara peninsula in southern Ontario. A survey of the two sites in 2010, found only 17 trees out of the 50 trees that were originally identified in 1967.



(http://files.ontario.ca/environment-and-energy/species-at-risk/cherry_birch_map_eng.pdf)

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What threatens it

Historically, the main threat to Cherry Birch has been habitat destruction. Development and forest clearing in southern Ontario has caused a decline in suitable habitat for this species.

The remaining population is surrounded by residential development. Moreover, it is exposed to the effects of intense erosion along the shoreline of Lake Ontario.

All mature trees in the population were lost to erosion after severe storms in 2004 and 2005.

Action we are taking

Endangered Species and their general habitat are automatically protected

Recovery strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/cherry-birch-recovery-strategy-executive-summary\)](https://www.ontario.ca/page/cherry-birch-recovery-strategy-executive-summary) (January 11, 2013)

Read the [recovery strategy \(https://www.ontario.ca/page/cherry-birch-recovery-strategy\)](https://www.ontario.ca/page/cherry-birch-recovery-strategy) (January 11, 2013)

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/cherry-birch-government-response-statement\)](https://www.ontario.ca/page/cherry-birch-government-response-statement) (October 11, 2013)

Five-year review of progress

A five-year review of progress made toward protecting and recovering a species is required no later than five years after the government response statement for that species is published.

Read the report (<https://www.ontario.ca/document/2018-five-year-review-progress-towards-protection-and-recovery-ontarios-species-risk>) on progress towards the protection and recovery of 17 species at risk, including the Cherry Birch (2018).

Habitat protection

General Habitat Protection - June 30, 2013

What you can do

Report a Sighting

- The Ministry of Natural Resources and Forestry tracks species at risk such as the Cherry birch. You can use a handy online form to report your sightings to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. If you find Cherry birch on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPS-MNR (847-7667).

Quick facts

- Early settlers used wintergreen oil from Cherry Birch twigs to treat muscle pain. Aboriginal people have used Cherry Birch bark to make buildings, canoes, storage containers, and for many medicinal applications.
- When Cherry Birch wood is exposed to air it darkens to a colour resembling mahogany and was once used as an inexpensive substitute for this valuable tropical wood.
- Cherry Birch was formerly the main commercial source of wintergreen oil (methyl salicylate), which is distilled from its wood.
- Many flowers contain both female and male reproductive parts, like lilies and roses. However, the Cherry Birch, along with the rest of the birch family, has separate male and female flowers on the same tree. This type of flower arrangement is called “monoecious”.
- Even if there are no other members of its species in the area, the Cherry Birch can still produce fruit. It is able to self-fertilize, which means that female flowers can be pollinated by male flowers on the same tree.
- A Cherry Birch tree can live for 265 years or longer.

Updated: December 17, 2018

Published: July 17, 2014

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False hop sedge

Scientific name: *Carex lupuliformis*



Cover photo credit: Allen Woodliffe

Status

Endangered

"Endangered" means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

The False hop sedge was already assessed as endangered when the *Endangered Species Act* took effect in 2008.

Read the [Assessment Report \(https://www.ontario.ca/page/false-hop-sedge-evaluation\)](https://www.ontario.ca/page/false-hop-sedge-evaluation)

What it looks like

False Hop Sedge is a grass-like perennial plant that grows 50 to 130 centimetres tall, typically forming dense clumps of several stems. It has a triangular stem and four to seven leaves about 30 to 80 centimetres long.

Flowers grow in three to eight spikelets near the top of each stem, which are typically light green but become light brown as they age.

Where it lives

In Canada, this plant most often grows in riverine swamps and marshes, and around temporary forest ponds. It prefers open areas and areas under forest canopy openings, with lots of sunlight.

Where it's been found in Ontario

False Hop Sedge ranges from Florida and Texas north to Quebec and Ontario. In Ontario, seven occurrences are known to persist.

In Quebec, there are three persisting populations and three populations that are being restored where False Hop Sedge is believed to have been extirpated.

The largest populations occur in southern Ontario.



http://files.ontario.ca/environment-and-energy/species-at-risk/false_hop_sedge_map_eng.pdf

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What threatens it

The main threat to this plant is habitat loss and degradation, especially conditions that reduce the amount of sunlight reaching the plant.

Competition from invasive plants such as Reed Canary Grass (*Phalaris arundinacea*) and Tall Manna Grass (*Glyceria maxima*) is an increasing threat.

Changes to the quantity and quality of ground and surface water due to the operation of dams, development and agricultural activities may also threaten False Hop Sedge.

Action we are taking

Endangered Species and their general habitat are automatically protected

Recovery strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/false-hop-sedge-recovery-strategy#section-4\)](https://www.ontario.ca/page/false-hop-sedge-recovery-strategy#section-4) and [full document \(https://www.ontario.ca/page/false-hop-sedge-recovery-strategy\)](https://www.ontario.ca/page/false-hop-sedge-recovery-strategy) (June 15, 2017)

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/false-hop-sedge-government-response-statement\)](https://www.ontario.ca/page/false-hop-sedge-government-response-statement) (February 27, 2018)

Habitat protection

General Habitat Protection - June 30, 2008

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. If you find False Hop Sedge on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.
- Invasive species seriously threaten many of Ontario's species at risk. To learn what you can do to help reduce the threat of invasive species, visit: [www.ontario.ca/invasivespecies \(https://www.ontario.ca/invasivespecies\)](https://www.ontario.ca/invasivespecies)

www.invadingspecies.com (<http://www.invadingspecies.com>)
www.ontarioinvasiveplants.ca (<http://www.ontarioinvasiveplants.ca>)

- The Canada-Ontario Farm Stewardship Program is available to farmers registered under the Canada-Ontario Environmental Farm Plan to encourage greater protection and conservation of habitat for species at risk.

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPS-MNR (847-7667).

Quick facts

- The tiny flowers of False Hop Sedge are wind pollinated, so the plant does not attract many insects. However, the caterpillars of various butterflies, skippers, and moths feed on various sedge species, while a number of species of birds feed on the seeds.
- The plant's spikelets are quite large and have been compared in appearance to spiked clubs and similar weapons used in medieval battles.
- As the name suggests, False Hop Sedge closely resembles Hop Sedge (*Carex lupulina*). The only reliable way to distinguish them is by closely examining the fruit, which has distinctive knobs on the two outer edges in False Hop Sedge.
- It is believed that this plant's seeds are dispersed by water.

Updated: October 18, 2018

Published: July 17, 2014

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False Rue-anemone

Scientific name: *Enemion biternatum*



Cover photo credit: Michael Oldham

Status

Threatened

“Threatened” means the species lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.

Date added to the Species at Risk in Ontario List

June 30, 2008

What it looks like

False Rue-anemone is a member of the buttercup family. It grows to a height of 10 to 40 centimetres. Most leaves are divided into three groups of three leaflets, each leaflet being irregularly two to three lobed. The flowers, which bloom in early spring, occur singly or in groups of two to four

They are small and delicate with five showy white petal-like sepals (modified leaves or bracts that look like petals). The fruit is produced in early June and contains many smooth seeds.

Where it lives

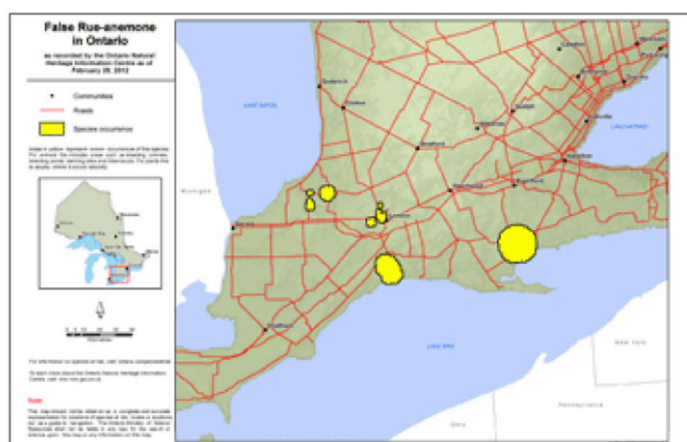
False Rue-anemone grows in deciduous forests and thickets with rich, moist soil, often in valleys, floodplains and ravine bottoms.

This species is frequently found close to watercourses within mature forests with lots of maple and beech trees.

It prefers partial sun or somewhat shady conditions.

Where it's been found in Ontario

In Canada, based on information available in 2003, False Rue-anemone is believed to occupy only six places in southwestern Ontario, all in the Carolinian region. Some sites support tens of thousands of plants but they are often densely clustered into a small area.



(http://files.ontario.ca/environment-and-energy/species-at-risk/false_rue_anemone_map_eng.pdf)

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What threatens it

The main threat to False Rue-anemone is habitat destruction due to recreational activities such as cycling, ATV-use and hiking, that can result in inadvertent trampling of this plant.

Forest clearing, soil erosion, and agricultural run-off are also concerns. Road salt is known to have harmed at least one population in Ontario.

Invasive plants that compete with False Rue-anemone for water, light, and space, such as Goutweed and Garlic Mustard, also threaten this species.

Action we are taking

Threatened Species and their general habitat are automatically protected

Recovery Strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/false-rue-anemone-recovery-strategy#section-4\)](https://www.ontario.ca/page/false-rue-anemone-recovery-strategy#section-4) and the [full document \(https://www.ontario.ca/page/false-rue-anemone-recovery-strategy\)](https://www.ontario.ca/page/false-rue-anemone-recovery-strategy) (December 7, 2018).

Habitat protection

General Habitat Protection - June 30, 2013

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. If you find False Rue anemone on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.
- Invasive species seriously threaten many of Ontario's species at risk. To learn what you can do to help reduce the threat of invasive species, visit:
[www.ontario.ca/invasivespecies \(https://www.ontario.ca/invasivespecies\)](https://www.ontario.ca/invasivespecies)
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[www.ontarioinvasiveplants.ca \(http://www.ontarioinvasiveplants.ca\)](http://www.ontarioinvasiveplants.ca)
- Consult the Ministry of Natural Resources and Forestry when working around forests and wetlands for information on provincial regulations and best management practices to protect these important habitats. Call toll free at 1-800-667-1940.
- The Canada-Ontario Farm Stewardship Program is available to farmers registered under the Canada-Ontario Environmental Farm Plan to encourage greater protection and conservation of habitat for species at risk. Find more information at:
www.omafra.gov.on.ca/english/environment/efp/efp.htm
 [\(http://www.omafra.gov.on.ca/english/environment/efp/efp.htm\) .](http://www.omafra.gov.on.ca/english/environment/efp/efp.htm)

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- The scientific name for False Rue-anemone, *Enemion biternatum*, is thought to refer to the Greek word “anemos” which means “wind” and the Latin word “biternatum” which means “twice in sets of three” (referring to the leaves and their division into leaflets).
- Unlike other flowering plants, False Rue-anemone does not produce nectar to attract insects to pollinate its flowers. However, because it is one of the first plants to produce flowers in the spring, it is able to attract insects that don’t yet have tastier options.

Updated: December 7, 2018

Published: July 17, 2014

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[Species at risk \(https://www.ontario.ca/speciesatrisk\)](https://www.ontario.ca/speciesatrisk) →

Heart-leaved plantain

Scientific name: *Plantago cordata*



Cover photo credit: Allen Woodliffe

Status

Endangered

“Endangered” means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

The Heart-leaved plantain was already assessed as endangered when the *Endangered Species Act* took effect in 2008.

What it looks like

Heart-leaved Plantain is a perennial herb that forms a rosette of large, egg-shaped to heart-shaped leaves that are 10 to 25 centimetres long. The distinctive leaves are evident only in the summer, while smaller, narrower leaves are produced in the cooler seasons.

Small purplish-green flowers grow on a narrow spike that reaches up to 30 centimetres high. The fruit capsule contains two to four dark brown seeds, each about three to four millimetres long.

Where it lives

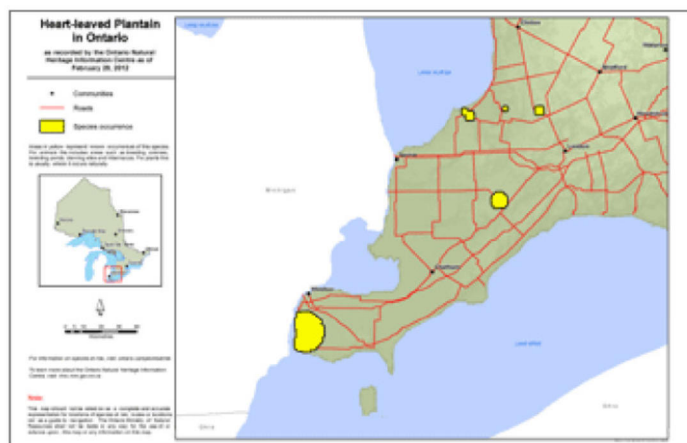
A semi-aquatic plant, Heart-leaved Plantain is found in relatively undisturbed wet woods, often along the rocky or gravelly limestone beds of shallow, slow-moving clear streams.

Moisture is generally always present above or just below the soil surface. The most common trees in Ontario woodlots associated with this plant are Sugar Maple (*Acer saccharum*), Silver Maple (*Acer saccharinum*), Red Maple (*Acer rubrum*), Blue-beech (*Carpinus caroliniana*), Shagbark Hickory (*Carya ovata*), White Ash (*Fraxinus americana*), Black Ash (*F. pennsylvanica*) and Basswood (*Tilia americana*).

Where it's been found in Ontario

Heart-leaved Plantain occurs across eastern North America, ranging from eastern Iowa to western New York, south to northern Florida. However, its distribution is very patchy across this range.

In Canada, Heart-leaved Plantain grows in just two locations in southwestern Ontario.



(http://files.ontario.ca/environment-and-energy/species-at-risk/heart_leaved_plantain_map_eng.pdf)

[View a Larger version of this map \(PDF\) \(http://files.ontario.ca/environment-and-energy/species-at-risk/heart_leaved_plantain_map_eng.pdf\)](http://files.ontario.ca/environment-and-energy/species-at-risk/heart_leaved_plantain_map_eng.pdf)

What threatens it

The primary threat to Heart-leaved Plantain is habitat loss and degradation, with many of the historic sites lost to agricultural uses.

The species is very sensitive to water quality and quantity impacts that may result from upstream agriculture or development.

Action we are taking

Endangered Species and their general habitat are automatically protected

Recovery strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/heart-leaved-plantain-recovery-strategy-executive-summary\)](https://www.ontario.ca/page/heart-leaved-plantain-recovery-strategy-executive-summary) (June 15, 2012)

Read the [recovery strategy \(https://www.ontario.ca/page/heart-leaved-plantain-recovery-strategy\)](https://www.ontario.ca/page/heart-leaved-plantain-recovery-strategy) (June 15, 2012)

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/heart-leaved-plantain-government-response-statement\)](https://www.ontario.ca/page/heart-leaved-plantain-government-response-statement) (May 31, 2013)

Five-year review of progress

A five-year review of progress made toward protecting and recovering a species is required no later than five years after the government response statement for that species is published.

Read the report (<https://www.ontario.ca/document/2018-five-year-review-progress-towards-protection-and-recovery-ontarios-species-risk>) on progress towards the protection and recovery of 17 species at risk, including the Heart-Leaved Plantain (2018).

Habitat protection

General Habitat Protection - June 30, 2008

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. If you find Heart-leaved plantain on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.
- The Canada-Ontario Farm Stewardship Program is available to farmers registered under the Canada-Ontario Environmental Farm Plan to encourage greater protection and conservation of habitat for species at risk.

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- Heart-leaved Plantain is capable of self-pollinating but generally the seeds are wind-pollinated.
- The seeds of this plant are very buoyant and are covered by a mucous that allows them to stick to objects floating in the water, so they are easily dispersed.
- Aboriginal peoples used Heart-leaved Plantain leaves as a poultice to dress wounds and to help heal burns.
- A genetic study with samples from six American states and Ontario found that there is very little genetic variation in the species.

Updated: December 17, 2018

Published: July 18, 2014

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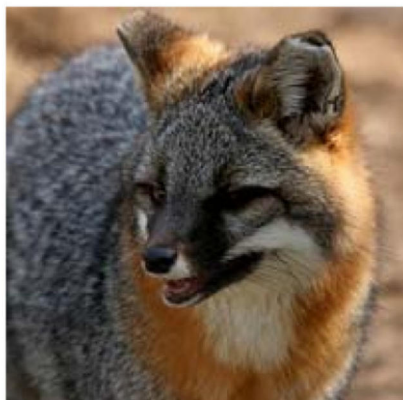
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Gray fox

Scientific name: *Urocyon cinereoargenteus*



Cover photo credit: JD Taylor

Status

Threatened

"Threatened" means the species lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.

Date added to the Species at Risk in Ontario List

The Gray Fox was already assessed as threatened when the *Endangered Species Act* took effect in 2008. A reassessment in June 2016 confirmed this status.

[Read the assessment report \(http://cossaroagency.ca/wp-content/uploads/2017/06/Accessible_Final_COSSAROEvaluation_Gray-Fox_June2016.pdf\)](http://cossaroagency.ca/wp-content/uploads/2017/06/Accessible_Final_COSSAROEvaluation_Gray-Fox_June2016.pdf) (PDF)

What it looks like

The Grey Fox is the size of a small dog and looks very similar to the familiar Red Fox. But unlike the Red Fox, the Grey Fox has grizzled grey fur with lighter cinnamon coloured patches on its body. It also has a black tail tip, while the Red Fox has a white tail tip. The Grey Fox has shorter legs and a smaller snout than the Red Fox, and it can have a very long bushy tail.

Where it lives

In Ontario, the Grey Fox lives in deciduous forests and marshes. Grey Fox dens are usually found in dense shrubs close to a water source but they will also use rocky areas, hollow trees, and underground burrows dug by other animals. This species will live in many types of habitat provided there is sufficient shelter and prey availability.

Where it's been found in Ontario

The range of the Grey Fox extends across much of the United States, where it is relatively common. In Canada, it is found only in Ontario and Manitoba. In Ontario, its historic range is across the southernmost portions of the province.

In recent years, this range has been reduced to west of Lake Superior in the Rainy River District and on Pelee Island in west Lake Erie. There have been occasional sightings and reports of the Grey Fox close to the U.S. border in the Niagara, Thousand Islands and Windsor areas.



http://files.ontario.ca/environment-and-energy/species-at-risk/grey_fox_map_eng.pdf

[View a Larger version of this map \(PDF\) \(http://files.ontario.ca/environment-and-energy/species-at-risk/grey_fox_map_eng.pdf\)](http://files.ontario.ca/environment-and-energy/species-at-risk/grey_fox_map_eng.pdf)

What threatens it

The Grey Fox is typically found in warmer climates. In Canada, harsh winters could be preventing it from moving northward.

Action we are taking

Threatened species and their general habitat are automatically protected.

Habitat protection

General habitat protection - June 30, 2013

What you can do

Report a Sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. You may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-847-7667.

Quick facts

- Grey Foxes can climb trees! They use their sharp, hooked claws to scramble up tree trunks and can even jump from branch to branch.
- Grey Fox tracks look very similar to a domestic house cat. But, unlike a cat, fox prints always have claw marks.
- The Grey Fox is not a picky eater. Small rodents and rabbits are the preferred food during the winter, but this omnivore will also eat apples, corn, and wild grapes in the summer and fall.

Updated: November 8, 2018

Published: July 18, 2014

Related

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Swamp rose-mallow

Scientific name: *Hibiscus moscheutos*



Cover photo credit: Rob Tervo

Status

Special Concern

“Special Concern” means the species lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats.

Date added to the Species at Risk in Ontario List

The Swamp rose-mallow was already assessed as a species of special concern when the *Endangered Species Act* took effect in 2008.

What it looks like

The Swamp rose-mallow is a perennial member of the mallow family. Reaching about two metres in height, this large wetland plant produces showy, pink or white-petalled flowers in summer. The petals measure six to 10 centimetres long. Each flower opens for one or two days, and fades as soon as it is pollinated. Leaves are alternate and variable in shape from lance-like to three-lobed.

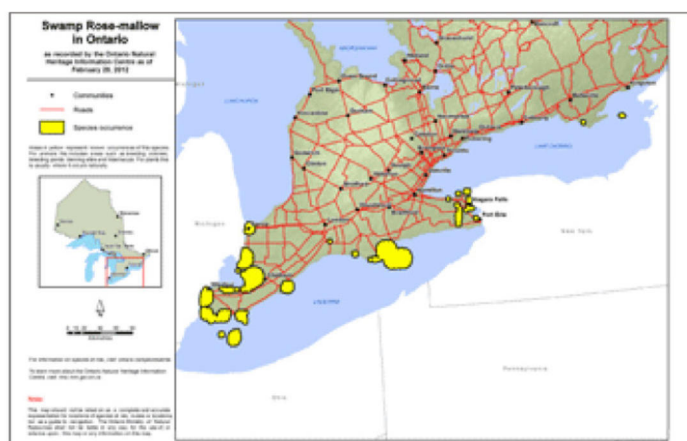
Where it lives

In Ontario, Swamp rose-mallow is restricted to shoreline marshes, in the Carolinian and Great Lakes - St. Lawrence forest regions, associated with lakes Erie, Ontario or St. Clair.

Swamp rose-mallow is most commonly found in deep-water cattail marshes and in meadow marshes. It reaches its greatest numbers in dyked wetlands, where competition from other plants is controlled and the open habitat is maintained by periodic flooding. It is also found in open wet woods, thickets, spoil banks, and drainage ditches.

Where it's been found in Ontario

The Swamp rose-mallow range in North America extends from the lower Great Lakes region south to Florida and west to New Mexico. It may be adventive (introduced and locally common) farther west. In Ontario, it has been found at approximately 60 to 70 sites and is believed to currently occur at about 50 sites. Most sites are in coastal marshes of Lake Erie and Lake St. Clair. However, in the last 15 years, plants have colonized sites on the shores of Lake Ontario, expanding the distribution northwards. The species has also been introduced to Europe where it is locally common.



(http://files.ontario.ca/environment-and-energy/species-at-risk/swamp_rose_mallow_map_eng.pdf)

http://files.ontario.ca/environment-and-energy/species-at-risk/swamp_rose_mallow_map_eng.pdf

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What threatens it

Wetland drainage, shoreline development, and the spread of invasive species, are the main threats for the Swamp rose-mallow in Ontario. Through natural succession, its habitat can be gradually overtaken by shrubs unless kept open by periodic flooding or fire. Two invasive plants, European common reed (*Phragmites australis* subsp. *australis*) and hybrid cattail (*Typha x glauca*), have recently spread into some of the sites, where they crowd out Swamp rose-mallow and other native plants.

Action we are taking

Special concern species do not receive species or habitat protection.

What you can do

Report a sighting

The Ministry of Natural Resources and Forestry tracks species at risk. [Report a sighting](https://www.ontario.ca/page/report-rare-species-animals-and-plants) (<https://www.ontario.ca/page/report-rare-species-animals-and-plants>) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- private land owners have a very important role to play in species recovery; you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats
- invasive species seriously threaten many of Ontario's species at risk; to learn what you can do to help reduce the threat of invasive species, visit:
 - [ontario.ca/invasivespecies](https://www.ontario.ca/invasivespecies) (<https://www.ontario.ca/invasivespecies>)
 - www.invadingspecies.com (<http://www.invadingspecies.com>)
 - www.ontarioinvasiveplants.ca (<http://www.ontarioinvasiveplants.ca>)
 - www.invasivespecies.gc.ca (<http://www.invasivespecies.gc.ca>)

Report illegal activity

Report any illegal activity related to plants and wildlife to 1-877-TIPS-MNR .

Quick facts

- the total Canadian population of Swamp rose-mallow is estimated to consist of fewer than 10,000 plants
- water level fluctuations that periodically expose and then re-flood — thus controlling phragmites, shrubs, and small trees — are probably critical for the long-term survival of this species in Canada

Updated: October 16, 2018

Published: July 18, 2014

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Scarlet ammannia

Scientific name: *Ammannia robusta*



Cover photos credit: Allen Woodliffe (all photos)

Status

Endangered

"Endangered" means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

The Scarlet ammannia was already assessed as endangered when the *Endangered Species Act* took effect in 2008.

What it looks like

Scarlet ammannia is an annual plant that grows up to a metre high. Plants may branch, with the lowest pair of branches arising from the base and growing almost as long as the main stem.

It has 1.5 to eight centimetre long, narrow but rather thick and fleshy leaves, usually with basal lobes that clasp the stem. A member of the loosestrife family, it produces tiny lavender-coloured flowers, one to three of which develop at each axil (where the leaf joins the stem).

Where it lives

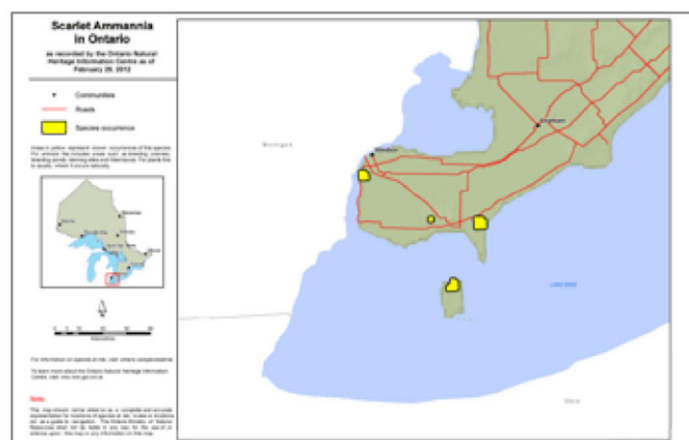
In Ontario, Scarlet ammannia is found on mudflats, sand beaches, and the edges of wetlands and ponds that are seasonally flooded. Fluctuating water levels are important to its survival.

It does well in habitat that is generally submerged early in the year and when water levels recede later in the summer the plants emerge.

Where it's been found in Ontario

Scarlet ammannia ranges from south central British Columbia southward to Central America, and eastward through the United States to Ohio and southwestern Ontario in the north, and Tennessee in the south.

It is not found on the eastern coast of North America, with the exception of New Jersey where it is considered non-native.



(http://files.ontario.ca/environment-and-energy/species-at-risk/scarlet_ammannia_map_eng.pdf)

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What threatens it

The threats to Scarlet ammannia in Ontario arise from changes to water levels in the Great Lakes, wetland drainage, succession by woody plant species and housing development.

Invasive plant species, such as European common reed, also pose a threat.

Action we are taking

Endangered Species and their general habitat are automatically protected.

Recovery strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/scarlet-ammannia-recovery-strategy#section-4\)](https://www.ontario.ca/page/scarlet-ammannia-recovery-strategy#section-4) and [full document \(https://www.ontario.ca/page/scarlet-ammannia-recovery-strategy\)](https://www.ontario.ca/page/scarlet-ammannia-recovery-strategy) (June 15, 2017)

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/scarlet-ammannia-government-response-statement\)](https://www.ontario.ca/page/scarlet-ammannia-government-response-statement) (February 27, 2018)

Habitat protection

General Habitat Protection - June 30, 2013

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- private land owners have a very important role to play in species recovery; if you find Scarlet ammannia on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats
- invasive species seriously threaten many of Ontario's species at risk; to learn what you can do to help reduce the threat of invasive species, visit:
 - [www.ontario.ca/invasivespecies \(https://www.ontario.ca/invasivespecies\)](https://www.ontario.ca/invasivespecies)
 - [www.invadingspecies.com \(http://www.invadingspecies.com\)](http://www.invadingspecies.com)
 - [www.ontarioinvasiveplants.ca \(http://www.ontarioinvasiveplants.ca\)](http://www.ontarioinvasiveplants.ca)

Report illegal activity

Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667) 847-7667

Quick facts

- Scarlet ammannia seeds are most likely self-pollinated with no dependence on insects
- in British Columbia, Scarlet ammannia is found alongside another species at risk, Toothcup (*Rotala ramosior*); while these species are also both found in Ontario, they do not occur together here

Updated: October 22, 2018

Published: July 18, 2014

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Unisexual Ambystoma (Small-mouthed Salamander dependent population)

Scientific name: *Ambystoma laterale* - texanum



Cover photo credit: Thomas Hossie

Status

Endangered

"Endangered" means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

June 2, 2017

[Read the assessment report](#)

(https://files.ontario.ca/accessible_final_cossaroevaluation_unisexualambystoma_dec2016.pdf) (PDF)

What it looks like

Unisexual Ambystoma (Small-mouthed Salamander dependent population) are dark grey with varying amounts of greyish-blue flecking on the sides and limbs. Adults can reach 18 cm in total length. Young salamanders (larvae) have feathery gills behind the head, legs (both front and back) and a tail fin and are generally brown to olive in colour. It is very difficult to distinguish between Unisexual Ambystoma salamander larvae and that of other mole salamander species.

Unisexual Ambystoma (Small-mouthed Salamander dependent population) look identical to Small-mouthed Salamanders and can only be distinguished from them using genetic testing.

Where it lives

Unisexual Ambystoma salamanders live in leaf litter, under logs and in underground cavities in deciduous and mixed forests, typically within close proximity to breeding habitats. Adults breed in vernal pools (temporary woodland ponds) or fish-free permanent wetlands. They lay their eggs in clumps attached to underwater vegetation in shallow water. The eggs hatch into aquatic larvae after about one month, and the larvae transform into juveniles by the end of summer. The juveniles leave the pond and head into the surrounding forest. Unisexual Ambystoma salamanders spend the winter underground where they can get below the frost line and avoid freezing temperatures, such as in mammal burrows, rock crevices or other underground cavities.

Although these salamanders spend much of the year underground or under cover, they can often be observed in early spring when they travel to breeding sites.

Where it's been found in Ontario

The Unisexual Ambystoma (Small-mouthed Salamander dependent population) have a very restricted global distribution and are only found on Pelee Island in Ontario, Canada as well as in Ohio, Michigan and Indiana in the U.S.

What threatens it

This species is at imminent risk of extirpation since it has a very small distribution within Ontario and the entire population depends on as few as 4 to 6 breeding ponds. Habitat loss and degradation are the most significant threats to this species in Ontario. Salamanders are also killed on roads as they migrate to and from breeding ponds. This is a particularly serious issue when a road is located between a breeding pond and the forests where adult salamanders live. Chemical contamination of breeding sites, such as agricultural or urban runoff, road salt, or pesticides, can cause developmental

deformities and even mass mortality of eggs or larvae. Climate change and introduced diseases may become serious threats to salamanders in North America in the future.

Action we are taking

Endangered Species and their habitat are automatically protected.

Recovery strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/small-mouthed-salamander-and-small-mouthed-dependent-unisexual-ambystoma-recovery-strategy#section-6\)](https://www.ontario.ca/page/small-mouthed-salamander-and-small-mouthed-dependent-unisexual-ambystoma-recovery-strategy#section-6) and [full document \(https://www.ontario.ca/page/small-mouthed-salamander-and-small-mouthed-dependent-unisexual-ambystoma-recovery-strategy\)](https://www.ontario.ca/page/small-mouthed-salamander-and-small-mouthed-dependent-unisexual-ambystoma-recovery-strategy) (May 30, 2018).

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/blue-racer-lake-erie-watersnake-small-mouthed-salamander-and-unisexual-ambystoma-small-mouthed\)](https://www.ontario.ca/page/blue-racer-lake-erie-watersnake-small-mouthed-salamander-and-unisexual-ambystoma-small-mouthed) (February 28, 2019)

What you can do

Report a Sighting

The Ministry of Natural Resources and Forestry tracks species at risk such as the Unisexual Ambystoma (Small-mouthed Salamander dependent population). You can use a handy online form to [report a sighting \(https://www.ontario.ca/form/rare-species-reporting-form\)](https://www.ontario.ca/form/rare-species-reporting-form) to the [Natural Heritage Information Centre \(https://www.ontario.ca/page/natural-heritage-information-centre\)](https://www.ontario.ca/page/natural-heritage-information-centre). Photographs with specific locations or mapping coordinates are always helpful.

Learn more about [reporting wildlife \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants).

Volunteer

Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. If you find a Unisexual Ambystoma (Small-mouthed Salamander dependent population) on your land, you

may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.

- Visit the [Ontario Reptile and Amphibian Atlas \(http://www.ontarionature.org/atlas\)](http://www.ontarionature.org/atlas), the [Canadian Herpetological Society website \(http://canadianherpetology.ca/index.html\)](http://canadianherpetology.ca/index.html) or [Toronto Zoo Adopt-a-Pond website \(http://www.torontozoo.com/Adoptapond\)](http://www.torontozoo.com/Adoptapond) to learn more about amphibians in Ontario.
- Watch for salamanders that may be crossing roads, particularly between late March and April when they are migrating to breeding ponds. Road mortality is a serious threat to salamanders because they are slow-moving and hard to see on the road.

Report illegal activity

Report any illegal activity related to plants and wildlife to 1-877-TIPS-MNR (847-7667).

Quick facts

- All Unisexual Ambystoma salamanders are female and they require the male of another Ambystoma species to create offspring. Unisexual Ambystoma (Small-mouthed Salamander dependent population) live and mate with Small-mouthed Salamanders. Their offspring are unique in that they are also all females, but they are not hybrids.
- Unisexual Ambystoma (Small-mouthed Salamander dependent population) breed in late March or early April. During breeding season, they travel from their overwintering sites to breeding ponds; they generally make this journey on the first few warm, rainy nights in the spring, often before the ice and snow has fully melted.
- Unlike most small animals, Unisexual Ambystoma (Small-mouthed Salamander dependent population) can live a very long time; some individuals can live upwards of 20 years.

Updated: February 28, 2019

Published: March 21, 2017

Related

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[How to comment on protecting species at risk \(https://www.ontario.ca/page/how-comment-protecting-species-risk\)](https://www.ontario.ca/page/how-comment-protecting-species-risk)

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Small-mouthed salamander

Scientific name: *Ambystoma texanum*



Cover photo credit: Allen Woodliffe

Status

Endangered

“Endangered” means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

February 2, 2009

What it looks like

The Small-mouthed salamander is a medium-sized, dark-bodied salamander with pale gray patches on its tail and sides that resemble lichen. It can grow to a maximum length of 17.8 centimetres. As its name suggests, it has a relatively small head and a short, narrow snout.

This secretive salamander belongs to the “mole salamander” family, which is so called because adults spend the non-breeding season in burrows underground.

Where it lives

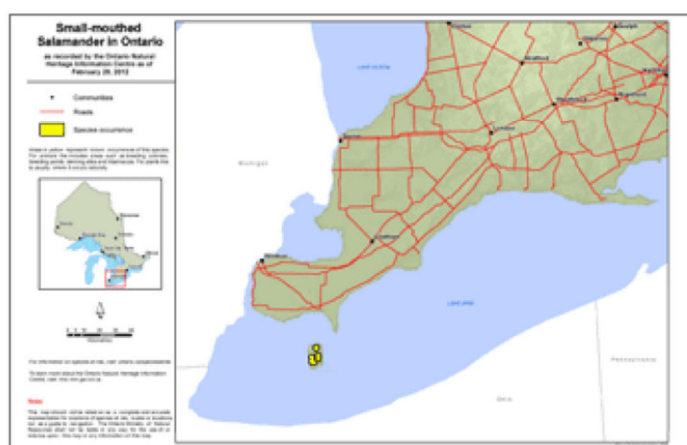
The Small-mouthed salamander prefers moist habitats, such as tall grass prairies, dense deciduous forests and agricultural lands that provide suitable breeding ponds. They require soft soil for digging burrows and ponds without fish for breeding.

Eggs are laid on leaf litter and debris at the bottom of the pond. It is important that the ponds do not support fish because these predators would eat the young salamanders.

Adults spend most of the non-breeding season hidden in burrows dug by themselves or by other animals, underneath decomposing tree trunks, rocks or fallen leaves.

Where it's been found in Ontario

In Canada, the Small-mouthed salamander is found only on Pelee Island in extreme southwestern Ontario. This species was considered locally abundant in 1991, but by 2000 the range of this salamander decreased substantially, when two out of only five known breeding ponds dried up. There are currently no population estimates for the Small-mouthed Salamander on Pelee Island.



(http://files.ontario.ca/environment-and-energy/species-at-risk/small_mouthed_salamander_map_en.pdf)

[View a Larger version of this map \(PDF\) \(http://files.ontario.ca/environment-and-energy/species-at-risk/small_mouthed_salamander_map_en.pdf\)](http://files.ontario.ca/environment-and-energy/species-at-risk/small_mouthed_salamander_map_en.pdf)

What threatens it

The most significant threat to the Small-mouthed salamander is habitat degradation. Threats include reduction in forest cover that slows the evaporation of breeding ponds, removal of decomposing logs that provide habitats for invertebrates on which salamanders feed, and decreased water levels.

Water levels are particularly important since sufficient water is needed in the breeding pond to allow tadpoles to mature (particularly from March to July).

The Small-mouthed Salamander can also produce hybrids by breeding with the more common Blue-spotted Salamander. The hybrid population may increase competition for resources.

Action we are taking

Endangered Species and their general habitat are automatically protected.

Recovery strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/small-mouthed-salamander-and-small-mouthed-dependent-unisexual-ambystoma-recovery-strategy#section-6\)](https://www.ontario.ca/page/small-mouthed-salamander-and-small-mouthed-dependent-unisexual-ambystoma-recovery-strategy#section-6) (May 30, 2018)

Read the [recovery strategy \(https://www.ontario.ca/page/small-mouthed-salamander-and-small-mouthed-dependent-unisexual-ambystoma-recovery-strategy\)](https://www.ontario.ca/page/small-mouthed-salamander-and-small-mouthed-dependent-unisexual-ambystoma-recovery-strategy) (May 30, 2018)

Read the [previous recovery strategy \(https://www.ontario.ca/document/small-mouthed-salamander-recovery-strategy\)](https://www.ontario.ca/document/small-mouthed-salamander-recovery-strategy) (March 2, 2015)

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/blue-racer-lake-erie-watersnake-small-mouthed-salamander-and-unisexual-ambystoma-small-mouthed\)](https://www.ontario.ca/page/blue-racer-lake-erie-watersnake-small-mouthed-salamander-and-unisexual-ambystoma-small-mouthed) (February 28, 2019)

Habitat protection

General habitat protection - June 30, 2013

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.
- the Ontario Reptile and Amphibian Atlas also collects observations of all Ontario reptiles and amphibians. Submit your observations to either of these databases at: [www.ontarionature.org/atlas \(http://www.ontarionature.org/atlas\)](http://www.ontarionature.org/atlas)

Volunteer

Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- private land owners have a very important role to play in species recovery; if you find Small-mouthed salamander on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats
- as with all wildlife, be respectful and observe from a distance; please do not try to catch wild salamanders; bug repellent and oils on human hands may damage the delicate skin of these little amphibians
- every year salamanders all over the province must cross busy roads; road mortality is a serious threat for many of Ontario's amphibians; watch for salamanders and other amphibians on the roads, especially between April and June

Report illegal activity

Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667).

Quick facts

- in Greek, the word "amphibian" means "two lives" and refers to the aquatic tadpole and the terrestrial adult stages of all amphibians; salamander tadpoles hatch from eggs laid in the water and transform into adults (through a process called metamorphosis) by developing legs and lungs that allow it to move out of the water and onto land
- salamanders can take in oxygen through their highly permeable skin; their skin can also easily absorb pollutants and other toxins, which can cause serious harm or death
- although populations of many plants and animals have been declining worldwide, amphibians are experiencing an especially dramatic decline; the loss of these sensitive creatures may act as a warning that our own environment is being dangerously altered and polluted

Updated: February 28, 2019

Published: July 18, 2014

Related

[How species at risk are protected \(https://www.ontario.ca/page/how-species-risk-are-protected\)](https://www.ontario.ca/page/how-species-risk-are-protected)

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[Species at risk \(https://www.ontario.ca/speciesatrisk\)](https://www.ontario.ca/speciesatrisk) →

Spotted gar

Scientific name: *Lepisosteus oculatus*



Cover photo credit: US Fish and Wildlife Service

Status

Endangered

“Endangered” means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

The Spotted Gar was already assessed as threatened when the *Endangered Species Act* took effect in 2008. It was reassessed as endangered in June 2016.

[Read the assessment report \(http://with http://cossaroagency.ca/wp-content/uploads/2017/06/Accessible_Final_COSSAROEvaluation_Spotted-Gar_June2016.pdf\)](http://with http://cossaroagency.ca/wp-content/uploads/2017/06/Accessible_Final_COSSAROEvaluation_Spotted-Gar_June2016.pdf) (PDF)

What it looks like

The Spotted Gar has a long, streamlined body. In Ontario, it usually grows to a length of 50 centimetres, but has been known to reach more than 75 centimetres. It has a long beak-like mouth packed with sharp teeth. The body and head are olive or brownish-coloured and covered with dark

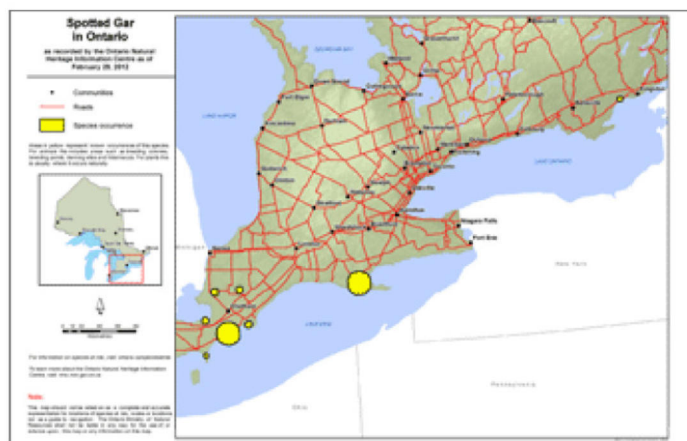
spots. Its fins are also spotted and it has an olive-grey belly. The Spotted Gar is similar in appearance to the more common longnose gar, but its snout is much shorter and broader.

Where it lives

In Ontario, the Spotted Gar lives in calm, clear pools and bays with plenty of aquatic plants. It is usually found in lakes with soft mud bottoms. During the spring breeding season, the adults move to shallow water with lots of aquatic plants, where they mate and lay eggs. The eggs are slightly sticky and attach to aquatic plants. The Spotted Gar feeds on small fishes.

Where it's been found in Ontario

In Canada, the Spotted Gar is found in a few wetlands along the north shore of Lake Erie and in East Lake off of eastern Lake Ontario. There are historic single records of this species from the Bay of Quinte and from Lake St. Clair at the mouth of the Thames River, but no recent sightings in these areas.



(http://files.ontario.ca/environment-and-energy/species-at-risk/spotted_gar_map_eng.pdf)

http://files.ontario.ca/environment-and-energy/species-at-risk/spotted_gar_map_eng.pdf

[View a larger version of this map \(PDF\) \(http://files.ontario.ca/environment-and-energy/species-at-risk/spotted_gar_map_eng.pdf\)](http://files.ontario.ca/environment-and-energy/species-at-risk/spotted_gar_map_eng.pdf)

What threatens it

In Ontario, the small remaining populations of Spotted Gar are threatened by pollution and destruction of wetland habitat along the Lake Erie shoreline.

Action we are taking

Endangered Species and their general habitat are automatically protected.

Recovery Strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/spotted-gar-recovery-strategy-executive-summary\)](https://www.ontario.ca/page/spotted-gar-recovery-strategy-executive-summary) and [full document \(https://www.ontario.ca/page/spotted-gar-recovery-strategy\)](https://www.ontario.ca/page/spotted-gar-recovery-strategy) (January 28, 2016).

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/spotted-gar-government-response-statement\)](https://www.ontario.ca/page/spotted-gar-government-response-statement) (October 28, 2016)

Habitat protection

General habitat protection - June 30, 2013

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

- Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- Private land owners have a very important role to play in species recovery. If you find a nesting on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.
- Invasive species seriously threaten many of Ontario's species at risk. To learn what you can do to help reduce the threat of invasive species, visit: www.ontario.ca/invasivespecies (<https://www.ontario.ca/invasivespecies>); www.invadingspecies.com (<http://www.invadingspecies.com>); www.ontarioinvasiveplants.ca (<http://www.ontarioinvasiveplants.ca>); and, www.invasivespecies.gc.ca (<http://www.invasivespecies.gc.ca>).
- Help improve fish habitat and keep Ontario's water safe and clean by maintaining natural vegetation next to lakes and rivers. There are many things that you can do to help keep pollution and soil from washing into Ontario's lakes and rivers and you might be eligible for

funding assistance. For more information, visit the Ontario Soil and Crop Improvement Association: www.ontariosoilcrop.org (<http://www.ontariosoilcrop.org>).

Report illegal activity

- Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667) (847-7667).

Quick facts

- The Spotted Gar can breathe air! It uses a special organ called a swim bladder like a lung when the fish comes to the surface for a breath of air. This allows the fish to live in areas with little oxygen in the water. Like most fishes, the Spotted Gar also uses gills to breath underwater.
- Spotted Gar also use their swim bladders to maintain buoyancy allowing them to float like sticks near the surface of the water and drift toward their prey.
- The Spotted Gar is an ambush predator that lies in wait for prey. It can quickly lunge to capture prey using its streamlined body and long skinny snout. Its mouth is packed with sharp teeth for grabbing small fish, such as minnows and yellow perch, which are grabbed, flipped head first and swallowed.
- Young Spotted Gar eat mosquito larvae.

Updated: October 16, 2018

Published: January 28, 2016

Related

[How species at risk are protected \(https://www.ontario.ca/page/how-species-risk-are-protected\)](https://www.ontario.ca/page/how-species-risk-are-protected)

[Species at risk in Ontario List \(https://www.ontario.ca/environment-and-energy/species-risk-ontario-list\)](https://www.ontario.ca/environment-and-energy/species-risk-ontario-list)

[How to comment on protecting species at risk \(https://www.ontario.ca/page/how-comment-protecting-species-risk\)](https://www.ontario.ca/page/how-comment-protecting-species-risk)

[How to get an Endangered Species Act permit or authorization \(https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization\)](https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization)

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[Species at risk \(https://www.ontario.ca/speciesatrisk\)](https://www.ontario.ca/speciesatrisk) →

Spotted turtle

Scientific name: *Clemmys guttata*



Cover photos credit: J.D. Taylor

Status

Endangered

“Endangered” means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

The Spotted turtle was already assessed as endangered when the Endangered Species Act took effect in 2008. It was re assessed as endangered in 2015.

[Read the report \(http://cossaroagency.ca/wp-content/uploads/2017/06/Accessible_COSSARO-evaluation-Spotted-Turtle.pdf\)](http://cossaroagency.ca/wp-content/uploads/2017/06/Accessible_COSSARO-evaluation-Spotted-Turtle.pdf) (PDF)

What it looks like

The Spotted turtle is one of Ontario’s smallest turtles with a shell that is rarely more than 13 centimetres long.

It is easily recognized by its smooth black shell, which is spattered with bright yellow-orange spots. The head and limbs are also black with yellow-orange markings. These turtles eat aquatic insects, crustaceans and worms.

Where it lives

The Spotted turtle is semi-aquatic and prefers ponds, marshes, bogs and even ditches with slow-moving, unpolluted water and an abundant supply of aquatic vegetation.

They are found in different types of wetlands throughout the province, depending on the types of habitats that are available. Females dig their nests in sunny locations where there is not a lot of woody vegetation.

This species usually hibernates in wetlands or seasonally wet areas associated with structures including overhanging banks, hummocks, tree roots, or aquatic animal burrows.

Where it's been found in Ontario

In Canada, the Spotted turtle is found primarily in Ontario along the north shore of Lake Erie, in the Georgian Bay area and in scattered locations throughout southern and eastern Ontario. Over the last 30 to 40 years, Spotted turtles have declined significantly and are no longer found at several sites in southern Ontario.

It is difficult to estimate the Ontario population size, but recent data suggests there are approximately 2000 individual Spotted turtles spread throughout several small, scattered populations. Of the handful of known populations, only a few are large enough to ensure long-term survival.

What threatens it

The most significant threats are habitat destruction and illegal collection for the pet trade. Activities that alter the water table during the winter, such as digging a ditch along a road, can wipe out an entire population.

Nest predation, pollution, and road mortality have also contributed to its decline. Since this turtle is slow to reach sexual maturity (up to 15 years) and suffers high egg and juvenile mortality, population recovery may be slow.

Action we are taking

Endangered Species and their general habitat are automatically protected

Habitat protection

General Habitat Protection - June 30, 2013

What you can do

Report a sighting

The Ministry of Natural Resources and Forestry tracks species at risk such as the Spotted turtle.

[Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- private land owners have a very important role to play in species recovery; If you find Spotted turtle on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats
- every year turtles must cross busy roads to get to their nesting sites; watch for turtles on the roads, especially between May and October; some municipalities post road signs in areas where turtles are common
- the Spotted turtle is a common target of the illegal pet and food trade; never buy turtles that have been caught in the wild and never buy a native species of any kind that's being sold as a pet

Report illegal activity

Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667) (847-7667).

Quick facts

- the Spotted turtle is relatively social. It congregates to breed in the spring and also often hibernates in groups. Females even nest together in some sites
- Spotted turtles often emerge from hibernation when there is still partial ice cover
- most female and male turtles look a little bit different; in the case of Spotted turtles, females have bright orange eyes and chins whereas males' are dark brown or black

Updated: October 16, 2018

Published: July 18, 2014

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[How species at risk are protected](#)

[Species at risk in Ontario List](#)

[How to comment on protecting species at risk](#)

[How to get an Endangered Species Act permit or authorization](#)

[Conserving biodiversity \(https://www.ontario.ca/page/conserving-biodiversity\)](https://www.ontario.ca/page/conserving-biodiversity)



[Species at risk \(https://www.ontario.ca/speciesatrisk\)](https://www.ontario.ca/speciesatrisk) →

Lowland Toothcup

Scientific name: *Rotala ramosior*



Cover photo credit: Donald Sutherland

Status

Endangered

"Endangered" means the species lives in the wild in Ontario but is facing imminent extinction or extirpation.

Date added to the Species at Risk in Ontario List

The Toothcup was already assessed as endangered when the *Endangered Species Act* took effect in 2008. In 2016, its name was changed to Lowland Toothcup.

[Read the assessment report \(http://cossaroagency.ca/wp-content/uploads/2017/06/Accessible_COSSARO-evaluation-Lowland-Toothcup.pdf\)](http://cossaroagency.ca/wp-content/uploads/2017/06/Accessible_COSSARO-evaluation-Lowland-Toothcup.pdf) (PDF)

What it looks like

Lowland Toothcup is an annual herb that is a member of the Loosestrife family. It grows to about 40 centimetres in height.

It is typically green, but often has a reddish tinge in the late summer. The leaves of the Lowland Toothcup are oblong and up to five centimetres long. The small flowers are pinkish-white.

Where it lives

In Ontario, Lowland Toothcup grows along lake and river shorelines on thin sandy, muddy or gravelly soils on Precambrian bedrock.

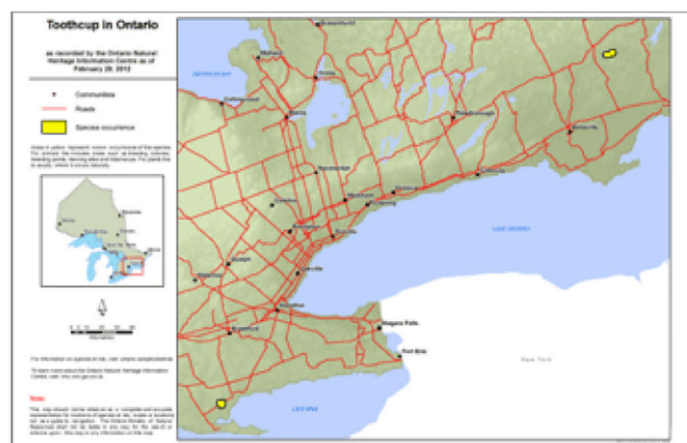
This shoreline habitat is often submerged in the spring and early summer and emerges when the waters recede.

Where it's been found in Ontario

Toothcup ranges throughout most of the United States, with the exception of some of the midwestern states, into Mexico and South America.

In Canada, Toothcup is found in south-central British Columbia and southeastern Ontario. Two lakes in Lennox and Addington County, Ontario supported about 6000 Lowland Toothcup plants in 2004, however, the numbers vary greatly from year to year depending on water levels.

The species had also occurred at a site in southwestern Ontario but is no longer found at that site.



(http://files.ontario.ca/environment-and-energy/species-at-risk/toothcup_map_eng.pdf)

[energy/species-at-risk/toothcup_map_eng.pdf](http://files.ontario.ca/environment-and-energy/species-at-risk/toothcup_map_eng.pdf)

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What threatens it

In Ontario, the primary threats to Lowland Toothcup are from habitat loss due to shoreline development and water-level control. Invasive species are considered a potential threat.

Action we are taking

Endangered species and their general habitat are automatically protected.

Recovery strategy

A recovery strategy advises the ministry on ways to ensure healthy numbers of the species return to Ontario.

Read the [executive summary \(https://www.ontario.ca/page/lowland-toothcup-recovery-strategy#section-3\)](https://www.ontario.ca/page/lowland-toothcup-recovery-strategy#section-3) and [full document \(https://www.ontario.ca/page/lowland-toothcup-recovery-strategy\)](https://www.ontario.ca/page/lowland-toothcup-recovery-strategy) (June 15, 2017)

Government response statement

A government response statement outlines the actions the government intends to take or support to help recover the species.

Read the [government response statement \(https://www.ontario.ca/page/lowland-toothcup-government-response-statement\)](https://www.ontario.ca/page/lowland-toothcup-government-response-statement) (February 27, 2018)

Habitat protection

General Habitat Protection - June 30, 2013

What you can do

Report a sighting

- [Report a sighting \(https://www.ontario.ca/page/report-rare-species-animals-and-plants\)](https://www.ontario.ca/page/report-rare-species-animals-and-plants) of an endangered animal or plant to the Natural Heritage Information Centre. Photographs with specific locations or mapping coordinates are always helpful.

Volunteer

Volunteer with your local nature club or provincial park to participate in surveys or stewardship work focused on species at risk.

Be a good steward

- private land owners have a very important role to play in species recovery; if you find Lowland Toothcup on your land, you may be eligible for stewardship programs that support the protection and recovery of species at risk and their habitats.
- invasive species seriously threaten many of Ontario's species at risk; to learn what you can do to help reduce the threat of invasive species, visit:
 - [www.ontario.ca/invasivespecies \(https://www.ontario.ca/invasivespecies\)](https://www.ontario.ca/invasivespecies)
 - [www.invadingspecies.com \(http://www.invadingspecies.com\)](http://www.invadingspecies.com)
 - [www.ontarioinvasiveplants.ca \(http://www.ontarioinvasiveplants.ca\)](http://www.ontarioinvasiveplants.ca)

Report illegal activity

Report any illegal activity related to plants and wildlife to 1-877-TIPSMNR (8477667) 847-7667

Quick facts

- Lowland Toothcup was only discovered in Ontario in 1984; that population was subsequently lost
- Lowland Toothcup germinates under water; flowering and seed production take place when the waters recede
- Lowland Toothcup is typically self-pollinating, but is also visited by small bees and butterflies that gather the nectar
- the populations of Toothcup in Canada are believed to be post-glacial relics – a once widespread natural population surviving only in isolated localities in British Columbia and Ontario because of environmental changes

Updated: October 30, 2018

Published: July 18, 2014

Related

[How species at risk are protected \(https://www.ontario.ca/page/how-species-risk-are-protected\)](https://www.ontario.ca/page/how-species-risk-are-protected)

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[Conserving biodiversity \(https://www.ontario.ca/page/conserving-biodiversity\)](https://www.ontario.ca/page/conserving-biodiversity)

Appendix B

Species at Risk Handling Manual

Ontario Species at Risk Handling Manual: For Endangered Species Act Authorization Holders

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IV Species at Risk (SAR) Notification/Contact Schedule

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Introduction

Ontario's *Endangered Species Act, 2007* (ESA) protects endangered and threatened species and their habitats.

Ontario is home to over 30,000 species, about 200 of which are considered at risk. Roughly 40 per cent of the species at risk in Canada are found in Ontario.

Activities that would harm individual species at risk or their habitats are prohibited by the ESA, unless they are authorized under the act. Authorizations include permits, stewardship agreements and exemption agreements.

This manual is designed to provide guidance to those whose authorization under the ESA may require the capture, relocation, handling, and/or transport of species at risk.

Enclosed is both a DVD presentation and CD of this manual which are also available from your Ministry of Natural Resources (MNR) District Office.

For additional information and assistance with species identification, please consult MNR *Ontario Species at Risk Quick Reference Guide*, or email: esa.permits.agreements@ontario.ca.

Visit our website ontario.ca/speciesatrisk for more general information about all Ontario's species at risk.

1. Safe Handling of Turtles

1.1 Materials

a) The following materials are required for the handling, capture, temporary safe keeping and transport of turtles:

- » Large plastic bin and lid with air holes, a large bucket or a cloth/burlap bag. Ensure both sides of the container/bag and the lid are well marked with “live animal”. See section 1.5 to determine when it is appropriate to use a specific type of container.
- » Thick work gloves
- » Thermometer
- » SAR Notification/Contact Schedule
- » SAR Encounter Reporting Form
- » Broom or broom handle with small paint brush roller attached to end.

b) Equipment must be maintained on each job site.

1.2 Safety considerations

a) Generally, there is little risk associated with handling turtles. However, all turtles can scratch and bite, and work gloves should be worn to help avoid minor injuries.

b) Snapping, Spiny Softshell and Eastern Musk Turtles cannot completely retract into their shell and are more likely to bite in defence. These species should be handled more cautiously and as follows:

- I. **Always keep your hands as close to the back of the turtle’s shell as possible, and always behind the midpoint of the shell.** These species have a considerable reach above their shells. Snapping Turtles can reach the midpoint of the shell, and in some cases Spiny Softshell Turtles and Eastern Musk Turtles can almost reach the back of their shell.



II. Always maintain a safe distance between the front of the turtle and other people.

c) Snapping and Spiny Softshell Turtles have a powerful and painful bite that is likely to bruise and may break the skin. However, it will almost never break bone. The damage inflicted by a Snapping Turtle bite is greatly exaggerated (such as being able to bite a boat oar or golf club in half). Forcing a Snapping Turtle to bite hard implements may result in an injury to the turtle. Wearing gloves will significantly reduce the risk of injury from these turtles.

d) If bitten by a turtle, remain calm and allow the turtle to relax and let go on its own. Pulling away from the turtle may cause further injury to you or the turtle.

e) Always wash your hands after handling a turtle. Turtles (and many other animals, including humans) carry potentially harmful bacteria in their gut. Although it is possible to contract salmonella from handling turtles, there are few reported cases of contracting these bacteria from wild turtles. Cases of salmonella poisoning from turtles are almost always limited to pet turtles, since these captive turtles are forced to live in the same small space that they defecate in.

Turtles

1.3 Capture and handling of turtles

Safely handle, move or capture a turtle by following these steps:

- a) Always handle turtles carefully and slowly, yet firmly. Rough handling may cause injury or stress to the turtle and/or the developing eggs and may cause the turtle to be more defensive (increased biting and scratching).
- b) With the exception of very small individuals, always handle turtles with both hands. Turtles are good at freeing themselves with a bit of wiggling, kicking, clawing and biting, and a good grip is essential to ensure no harm comes to you or the turtle.
- c) Never pick up a turtle by the tail. This can dislocate bones throughout the tail and is extremely painful for the turtle. For larger, heavier turtles this may result in dislocation of bones in the spinal cord as well.
- d) Wear gloves when handling turtles to minimize risk from scratches and bites. If gloves are not available, handle turtles with clean hands that are free of insect repellent, antibacterial hand sanitizer, sunscreen, etc.
- e) **Painted, Map, Wood, Blanding's and Spotted Turtles:** Pick up these species using both of your hands, one on each side of the shell, between the front and back legs.



f) **Snapping Turtle:** Always wear gloves when handling a Snapping Turtle and always keep your hands behind the midpoint of the top or sides of the turtle's shell. To pick up a Snapping Turtle:

- I. Hold it by the back of the shell, placing your thumbs on the top of the shell and your fingers in the hind leg pockets (the space between the upper shell and the hind legs). Your hands will be at approximately 5 and 7 o'clock.



- II. Or use one hand to hold the base of the tail near the shell and slide your second hand under the turtle to support its weight. Lift the turtle using the hand underneath the turtle. Never pick up a turtle by the tail.



Turtles

- III. Or you can move it by guiding it into a pail or garbage can with a broom.



- IV. It is important to get a good, strong hold on the turtle's shell as the force that is exerted by the turtle snapping may result in an unexpected release. A good grip will ensure that both the turtle and the handler remain safe and uninjured.

g) **Eastern Musk Turtle:** Pick up Eastern Musk Turtles by the back of the shell. This turtle species can be held with one hand, as long as you ensure that you have a good grip.



h) **Spiny Softshell:** Always wear gloves when handling a Spiny Softshell, and always keep your hands well behind the midpoint of the top or sides of the turtle's shell. To pick up a Spiny Softshell turtle:

- I. Use both hands, one on each side of the shell, as close as possible to the back legs.



- II. Or place one hand under the turtle between its back legs (in the middle to balance its weight) and the other hand, also from behind, on the top of the turtle's shell (close to the back).

i) Turtles can be difficult to capture. If a turtle escapes or heads for cover, let it disperse on its own, ensuring it is safe from harm before allowing activities to continue. If continuing activities poses a threat to the turtle, postpone activities for up to 24 hours to allow the turtle to disperse. If it is not possible to leave the area for 24 hours, have a Qualified Member relocate the individual. Do not disturb any natural cover under which the turtle has retreated. If necessary, contact MNR for further direction using the SAR Notification/Contact Schedule.

1.4 Moving turtles out of harm's way (distances under 50 metres)

a) If it is necessary to move a turtle more than 50 metres, refer to section 1.6 on turtle relocation.

b) Turtles should only be moved when they are in imminent, unavoidable danger.

c) If possible, allow the turtle to move on its own by walking toward the turtle in the direction that you want it to move. This will not work for Snapping Turtles, as they often turn to face a potential threat head-on rather than running away. If the turtle does not move on its own, you may have to pick it up and move it (see section 1.3).

d) When moving a turtle a short distance, such as across a road, move the turtle in the direction that it was heading, regardless of what the habitat looks like. These animals often make intentional movements to specific areas, and if you put them back where they started they may simply turn around and start their journey again. If it is not clear which direction the turtle was headed, move the turtle to the closest suitable habitat that will not be disturbed. In this case, suitable habitat includes a water body or the vegetation/forest at the edge of the road allowance, disturbed area or clearing.

e) If possible, release the turtle near a retreat site (somewhere the animal can seek shelter from the elements and avoid predators, such as water or dense vegetation) to allow it to take cover. Do not release it in the open where it could be exposed to inclement weather, extreme sunlight or predators.

1.5 Temporary safe keeping and transportation of turtles

a) You are responsible for this animal. Remember, once you have put it in a container, it depends on you to keep it safe and at the right temperature.

b) Always create air holes in the lid of a container prior to placing an animal in the container.

c) If the turtle will be in captivity for **less than one hour**, place the turtle in a cloth or burlap bag, a large bucket or a large plastic bin with a lid that has adequate air holes. Cloth or mesh bags should not be used for snapping turtles as they can become tangled and strangle themselves. Always use large plastic bins or large buckets for snapping turtles.

d) If the turtle will be in captivity for **more than one hour**, avoid the use of cloth or burlap bags. For adults, use a large plastic bin or bucket with a lid that has adequate air holes and a small amount of water (no more than an inch deep). Ensure that the turtle is not fully submerged, as it will drown if it cannot breathe. For hatchlings and juveniles, use an appropriately sized container with a lid that has air holes and line the bottom of the container with wet towels or paper towels. Never transport small juveniles or hatchlings in water.



- e) It is extremely important to monitor the air temperature regularly in the container to ensure it **never exceeds 30°C or drops below 5°C**. Never leave the container in direct sunlight or in a closed vehicle parked in the sun, as this will cause the turtle to overheat and could be fatal.
- f) Never put more than one turtle in a container or bag at a time, especially in the case of Snapping Turtles. This will help to minimize stress and prevent injury to the turtles.
- g) Once the turtle is in the container or bag, ensure that the lid is secure or that the bag is tied tightly.
- h) **Never leave the container or bag unattended** in an unsecured location (e.g., side of road).
- i) If using a bag, ensure that it is in a secure location where it cannot fall if the turtle moves the bag. The movement of a turtle within a bag can easily cause the bag to fall off of a table.
- j) Do not offer the turtle any food. Turtles do not have to eat as often as mammals, and it is no problem for a turtle in temporary captivity to go a few days without food.
- k) Turtles should be checked periodically (every hour should suffice). Hatchlings are especially susceptible to dehydration and must be carefully monitored during transport.

1.6 Relocation of turtles

- a) A turtle should only be relocated if the destruction of its habitat is unavoidable or if it is not possible to release it at the capture location.
- b) Transport and release the turtle within one hour of capture in order to minimize stress on the animal.
- c) Turtles should not be relocated during their over-wintering season. This varies depending on the species and location, but is generally from October to May. If you are unsure whether you should relocate the turtle or take it to a wildlife custodian, contact MNR for further direction using the SAR Notification/Contact Schedule.
- d) If it is not possible to relocate the turtle due to the time of year (October to May) or other conditions, transport the turtle to a wildlife custodian per the SAR Notification/Contact Schedule.
- e) **Turtles should never be moved more than 250 metres** from the location where they were found. Only move a turtle as far as necessary to avoid potential harm to the turtle, and avoid moving turtles more than 125 metres unless absolutely necessary. If it is not possible to relocate the turtle within 250 metres of the capture location, contact MNR for further direction using the SAR Notification/Contact Schedule.
- f) If hatchlings are found and must be relocated, move them to the nearest permanent body of water. Never place hatchlings directly into water. Release the turtle at the shoreline of the appropriate habitat (see below). The turtle may or may not choose to enter the water; do not force it.

g) Whenever possible, release the turtle in the same water body where it was found and in the same type of natural habitat as the capture site. To determine if the habitat is of the same type, consider the water depth, water current, substrate type (mud, rock, etc.) and vegetation type (cattails vs. lily pads vs. aquatic vegetation).

h) If possible, release the turtle near a retreat site (somewhere the animal can seek shelter from the elements and avoid predators, such as water or dense vegetation) to allow it to take cover. Do not release it in the open where it could be exposed to inclement weather, extreme sunlight or predators.

i) To release the turtle, gently pick up the turtle (per section 1.3) from the container and set it down in the new location. To release a Snapping Turtle or Spiny Softshell Turtle, you may wish to tip the container on its side and allow the turtle to move out on its own. Allow the turtle to disperse on its own at this new location.

1.7 Injured turtles

a) Use the methods outlined in section 1.3 to handle injured turtles whenever possible. If those methods are not applicable due to the turtle's injuries, use a shovel or other flat object to pick up the turtle. Ensure that any injured areas are supported.

b) Place the turtle in a large plastic bin or large bucket with a lid that has air holes. Darkness helps to reduce stress to the turtle. Do not place anything else in the container with the turtle, including water or other turtles.

c) Thoroughly wash your hands after handling injured turtles.

d) Immediately transport the turtle to a veterinarian or wildlife custodian per the SAR Notification/Contact Schedule, in order to increase its chances of survival.

2. Safe Handling of Snakes

2.1 Materials

a) The following personal protective equipment should be worn when working with Massasauga rattlesnakes:

- » High-ankle hiking or rubber boots
- » Thick pants (jeans) or baggy pants
- » Leather work gloves

b) The following materials are required for the handling, capture, temporary safe keeping and transport of snakes:

- » Pail, large garbage can or bucket (1 metre deep) with air holes in the lid. Ensure both the side of the container and the lid are well marked “live animal” or “caution rattlesnake”.
- » A snake bag (for non-venomous species only). A snake bag must be cloth. (A pillowcase works well.) Plastic and non-breathable materials are not appropriate. Ensure the bag is well marked “live animal”.
- » Broom or broom handle with small paint brush roller holder attached to end. Never use “snake pinchers”.
- » Thermometer
- » SAR Notification/Contact Schedule
- » SAR Encounter Reporting Form

c) Equipment must be maintained on each job site.

2.2 Safety considerations

a) **The Massasauga is the only venomous snake in Ontario.**

The venom is an adaptation for hunting and is used to kill prey (primarily small rodents).

As a defence mechanism, Massasaugas may also bite when threatened, at which time they may or may not release venom. Camouflage, rattling and retreating are their primary defensive strategies, and they generally bite as a last resort.

Their maximum striking distance is about half of their body length. Generally, your safety zone is your height plus 50 centimetres away from the snake. (This accounts for the snake’s striking distance to you if you fall.)

A Massasauga bite is generally not deadly. Only two people have ever died from a Massasauga bite in Ontario. Neither person received medical attention, and both cases were almost 50 years ago.

If you are bitten by a Massasauga, remain calm and seek medical attention immediately. Do not apply a tourniquet or try to suck out the venom. Never try to capture the snake to take it to the hospital; if you were bitten by a venomous snake in Ontario, we know it was a Massasauga. Have someone else drive you safely.

b) **Never under any circumstances pick up a Massasauga rattlesnake.** Massasaugas occur in very specific regions of the province, and if you are well outside of those regions it should be safe to handle any native snake you find. If you are working within a region where Massasaugas may occur, never pick up a snake unless you are absolutely certain that it is not a Massasauga.

c) All other Ontario snakes are non-venomous and harmless. Despite being harmless, many of Ontario’s snakes will put on defensive displays to intimidate potential predators. These include:

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- I. Rearing up, hissing and striking.
 - II. Eastern Hog-nosed Snakes will flatten out their necks like cobras, hiss loudly and pretend to strike (although their mouths remain closed).
 - III. Eastern Foxsnakes, Milksnakes, Gray Ratsnakes and Eastern Hog-nosed Snakes sometimes vibrate their tails to imitate a rattlesnake. If their tails come into contact with rocks, dry leaves, or some other medium, they can produce a buzzing sound like that of a rattlesnake. Combined with their blotchy pattern, this mimicry is often very effective at fooling humans.
- d) Holding the snake properly (see section 2.4) will significantly reduce stress to the snake and the likelihood that it will try to bite in self-defence.

2.3 Capture and handling of the Massasauga rattlesnake

Safely move a Massasauga by following these steps:

- a) Put on personal protective equipment (per section 2.1).
- b) Clear the area of unnecessary bystanders to lessen the stress on the animal.
- c) Determine your plan for capture to anticipate where the snake may move or retreat as well as any potential hazards you may encounter.
- d) If capturing injured snakes, avoid touching or manipulating injured areas.
- e) Tip the 1-metre-deep pail on its side.
- f) Use the broom to position the snake near the pail.
- g) Gently and slowly guide the snake into the pail, being careful not to push the snake too hard or lift it off the ground. Never pin a Massasauga or

use tools that constrict or pinch the snake. Quick, abrupt movements are threatening to the snake and may also cause it to make quick movements in an attempt to escape.



h) Be patient and gentle with the snake. Gravid (pregnant) females are carrying live young, and rough handling may cause damage to the developing snakes.

i) Once the snake is in the pail, slowly tip the pail upright and secure the lid.



j) Snakes can be difficult to capture. If a snake escapes or heads for cover, let it disperse on its own, ensuring it is safe from harm before allowing activities to continue. If allowing activities to continue is not safe for the snake, postpone activities for up

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to 24 hours to allow the snake to disperse. If it is not possible to leave the area for 24 hours, have a Qualified Member relocate the individual. Do not disturb any natural cover under which the snake has retreated. If necessary, contact MNR for further direction using the SAR Notification/Contact Schedule.

2.4 Capture and handling of non-venomous snakes

- a) If you are uncomfortable handling large, non-venomous snakes with your hands, you can use the above method for capturing venomous snakes (section 2.3). However, it is much easier to capture most non-venomous snakes using your hands. Some of the smaller species, such as the Butler's Gartersnake, are almost impossible to capture with a stick and a pail.
- b) If you elect to use thick gloves, be very careful not to squeeze the snake too hard, as you can crush internal organs and kill it. Do not use gloves to capture small snakes, as the risk of accidentally crushing them is too high.
- c) Clear the area of unnecessary bystanders to lessen the stress on the animal.
- d) Determine your plan for capture to anticipate where the snake may move or retreat and to anticipate any potential hazards you may encounter.
- e) Never grab the snake behind the head or grip the snake tightly in order to restrain it. This may injure or scare the snake, cause it to struggle and encourage it to bite in self-defence.
- f) Always support the snake's body with both hands and never pick up a snake only by the tail. Holding a snake only by the tail can result in dislocated bones or other serious injury to the snake.

g) To capture a large snake (more than 30 centimetres in length):

- I. Gently grab it by the back of the body to prevent it from getting away.



- II. Holding the snake by the back end while it is still on the ground, slide your other hand underneath the snake to support its weight and lift it up. Do not lift it off the ground by the tail.
- III. As soon as the snake is off the ground, continue to support its weight by keeping both hands under the snake, with one hand about a third of the way back and one hand about two thirds of the way back along the snake's body.



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- IV. As the snake tries to move forward, reposition the hand from the back of the snake to the front of the snake, and continue to rotate your hands between the front and back of the snake to allow it to continue to crawl through your hands. Calm and slow movements will help the snake relax and make it move more slowly.
 - V. Often a snake will stop moving once it no longer feels threatened. If the snake continues to move rapidly after a minute or so, you can try holding the back end of the snake more firmly to prevent it from continuing to move forward. Continue to support the unrestricted front half of the snake with your other hand.
- h) To capture a small snake (less than 30 centimetres in length):
- I. Grasp the snake gently but firmly with one or both hands. It may be necessary to gently restrain it against the ground with your hands initially to prevent it from escaping. Never use a stick, snake hook or any other object to pin a snake.



- II. Hold the back end of the snake in one hand and support the front of the snake with your fingers or your second hand. Allowing the snake's front end to remain free helps the snake remain calm.



- III. For very small snakes, hold the snake in the palm of your hand using your thumb or fingers to gently apply only enough pressure to prevent the snake from wiggling free.
- i) Snakes can be difficult to capture. If a snake escapes or heads for cover, let it disperse on its own, ensuring it is safe from harm before allowing activities to continue. If continuing activities poses a threat to the snake, postpone activities for up to 24 hours to allow the snake to disperse. If it is not possible to leave the area for 24 hours, have a Qualified Member relocate the individual. Do not disturb any natural cover under which the snake has retreated. If necessary, contact MNR for further direction using the SAR Notification/Contact Schedule.

2.5 Moving a snake out of harm's way (distances under 50 metres)

- a) If it is necessary to move a snake more than 50 metres, refer to section 2.7 on snake relocation.
- b) Snakes should only be moved when they are in imminent, unavoidable danger.
- c) If possible, allow the snake to move on its own by walking toward the snake in the direction that you want it to move. If the snake does not move on its own, you will have to pick it up and move it (see section 2.4). Unlike most snake species, Massasaugas may not

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move away when you walk toward them. Rather, they often adopt a defensive position (coiled), hold their ground and rattle (asking you to go the other way). To encourage a Massasauga to move away on its own, give it lots of space and observe it from a distance (ideally so the snake cannot see you).

d) When moving a snake out of harm's way, such as across a road, move the snake in the direction that it was heading, regardless of what the habitat looks like. These animals often make intentional movements to specific areas, and if you put them back where they started they will simply turn around and start their journey again. If it is not clear which direction the snake was headed, move it to the closest habitat that will not be disturbed. In this case, suitable habitat includes a rock pile or other cover that the snake can retreat under, or the vegetation at the edge of the road allowance, disturbed area or clearing.

e) If possible, release the snake near a retreat site (somewhere the animal can seek shelter from the elements and avoid predators: loose rocks, logs, rock crevices or dense vegetation) to allow it to take cover upon release. Do not release the snake in the open where it could be exposed to inclement weather, extreme sunlight or predators.

2.6 Temporary safe keeping and transportation of snakes

a) You are responsible for this animal. Remember, once you have put it in a container, it depends on you to keep it safe and at the right temperature.

b) Always use a pail, large garbage can or bucket (at least 1 metre deep) with adequate air holes in the lid for Massasaugas. Ensure the lid is properly secured, and always create the air holes before putting the snake in the container.

c) If using a snake bag:

- I. **Make sure it is properly closed.** To close the snake bag, gather the material at the opening together in one hand and run your other hand down the bag to ensure that the snake is in the bottom. Twist the neck of the bag and tie it into a tight knot. Never rely on a drawstring, as snakes can wiggle out of tight holes. When tying a snake bag, make sure the snake remains in the bottom of the bag so it does not get tangled in the part you are tying.



- II. **Make sure it is in a secure location** where it cannot fall if the snake moves the bag. The movement of a snake within a bag can easily cause the bag to fall off of a table.
- III. If transporting the snake or holding it for a longer time (over an hour), the closed snake bag should be placed in a well-ventilated hard container (such as plastic tub) for added protection.

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d) It is extremely important to monitor the air temperature regularly in the container or around the snake bag to ensure it **never exceeds 30°C or drops below 5°C**. Never leave the container or snake bag in direct sunlight or in a closed vehicle parked in the sun, as this will cause the snake to overheat and could be fatal.

e) **Never leave the container or snake bag unattended** in an unsecured location (e.g., side of road).

f) Do not offer the snake any food. Snakes do not have to eat as often as mammals, and it is no problem for a snake in temporary captivity to go a few days without food.

2.7 Relocation of snakes

a) A snake should only be relocated if the destruction of its habitat is unavoidable or if it is not possible to release it at the capture location.

b) Snakes should not be relocated during their overwintering season. This varies depending on the species and location, but is generally from October to May. If you are unsure whether you should relocate the snake or take it to a wildlife custodian, contact MNR for further direction using the SAR Notification/Contact Schedule.

c) If it is not possible to relocate the snake due to the time of year (October to May) or other conditions, transport the snake to a wildlife custodian per the SAR Notification/Contact Schedule.

d) Transport and release the snake within one hour of capture in order to minimize stress on the animal.

e) **Snakes should never be moved more than 250 metres** from the location where they were found. Only move a snake as far as necessary to avoid potential

harm to the snake, and avoid moving snakes more than 125 metres unless absolutely necessary. If it is not possible to relocate the snake within 250 metres of the capture location, contact MNR for further direction using the SAR Notification/Contact Schedule.

f) Release the snake in the same type of natural habitat as the capture site. If this is not possible, contact MNR for further direction using the SAR Notification/Contact Schedule.

g) If possible, release the snake near a retreat site (somewhere the animal can seek shelter from the elements and avoid predators: loose rocks, logs, rock crevices or dense vegetation) to allow it to take cover upon release. Do not release the snake in the open where it could be exposed to inclement weather, extreme sunlight or predators.

h) To release the snake from a pail, gently tip the pail onto its side, remove the lid, back away from the pail and allow the snake to leave on its own. If necessary, use the broom to gently guide the snake out of the pail or gently tip the pail on an angle to slide the snake out of the pail.



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- i) To release a non-venomous snake from a bag, untie the bag, gently tip the bag by holding one of the bottom corners (make sure you are not holding the snake) and gently slide the snake onto the ground.



2.8 Injured snakes

- a) If dealing with an injured Massasauga, ensure compliance with all instructions and safety considerations provided in sections 2.1-2.3.
- b) If the methods of handling snakes that are outlined in section 2.3 or 2.4 are not applicable due to the snake's injuries, use a shovel or other flat object to pick up the snake. Ensure that any injured areas are supported.
- c) Place the snake in a large plastic bin or bucket with a lid that has air holes (the darkness helps to reduce stress to the snake). You can place newspaper in the container to provide cover for the snake and help to reduce its stress. Do not place anything else in the container with the snake or offer it any food.
- d) Thoroughly wash your hands after handling injured snakes.
- e) Immediately transport the snake to a veterinarian or wildlife custodian per the SAR Notification/Contact Schedule, in order to increase its chances of survival.

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3. Safe Handling Of The Five-lined Skink

3.1 Materials

a) The following materials are required for the handling, capture, temporary safe keeping and transport of Five-lined Skinks:

- » Small plastic container with a lid that has air holes. Ensure the container and the lid are well marked “live animal”.
- » Thermometer
- » SAR Notification/Contact Schedule
- » SAR Encounter Reporting Form

b) Equipment must be maintained on each job site.

3.2 Capture and handling of Five-lined Skinks

a) There is no risk associated with handling Five-lined Skinks. They may bite, but this will not cause any substantial injury – they have small mouths and tiny teeth.

b) Safely handle, move or capture a Five-lined Skink by following these steps:

- I. Always handle Five-lined Skinks gently and slowly. Rough handling may cause injury or stress to the animal. Skinks can drop their tail as an anti-predator defence and may do so if they feel threatened, even if they are not being held by the tail.
- II. **Never grab or pick up a Five-lined Skink by the tail.** This may cause the skink to drop its tail (even if you are being gentle) and can be detrimental to the survival of the animal.
- III. Do not pick up Five-lined Skinks by the body; exerting too much pressure by accident can result in internal injury.

IV. Capture a skink by cupping your hands over the skink while it is on the ground. (You have to be quick!)

V. Carefully close your hand(s) around the skink to pick it up. Note that they can fit through small holes between your fingers.

c) Always wash your hands after handling any wildlife.

3.3 Moving a Five-lined Skink out of harm's way (distances under 25 metres)

a) If it is necessary to move a skink more than 25 metres, refer to section 3.5 on Five-lined Skink relocation.

b) Five-lined Skinks should only be moved when they are in imminent, unavoidable danger.

c) If possible, allow the skink to move on its own by walking toward the skink in the direction that you want it to move. Skinks are fast and tend to hide whenever possible. If the skink continues to seek shelter within the area where work is taking place, it will have to be picked up and moved (see section 3.5).

d) When moving a skink out of harm's way, such as across a road, move the skink in the direction that it was heading, regardless of what the habitat looks like. These animals often make intentional movements to specific areas, and if you put them back where they started they will simply turn around and start their journey again. If it is not clear which direction the skink was headed, move the skink to the closest suitable habitat that will not be disturbed. In this case, suitable habitat includes rocks or other cover objects that the skink can retreat under.

Five-lined Skink

e) If possible, release the Five-lined Skink near a retreat site, which is somewhere the animal can seek shelter from the elements and avoid predators (vegetation, rocks, logs or leaf litter). Do not release it in the open where it could be exposed to inclement weather, extreme sunlight or predators.

3.4 Temporary safe keeping and transportation of Five-lined Skinks

a) You are responsible for this animal. Remember, once you have put it in a container, it depends on you to keep it safe, moist and at the right temperature.

b) Keep Five-lined Skinks in a small container with a lid that has air holes. Always create the air holes before putting the skink in the container.

c) Skinks can move very quickly and may try to escape before the lid is on the container. Be careful that the skink does not get crushed when you place the lid on the container.

d) It is extremely important to monitor the air temperature regularly in the container to ensure it **never exceeds 30°C or drops below 5°C**. Never leave the container in direct sunlight or in a closed vehicle parked in the sun, as this will cause the animal to overheat and could be fatal.

f) **Never leave the container unattended** in an unsecured location (e.g., side of road).

3.5 Relocation of Five-lined Skinks

a) A Five-lined Skink should only be relocated if the destruction of its habitat is unavoidable or if it is not possible to release it at the capture location.

b) Transport and release the skink within one hour of capture in order to minimize stress on the animal.

c) Five-lined Skinks should not be relocated during their over-wintering season, which is generally from October to May. If you are unsure whether you should relocate the skink or take it to a wildlife custodian, contact MNR for further direction using the SAR Notification/Contact Schedule.

d) If it is not possible to relocate the skink due to the time of year (October to May) or other conditions, transport it to a wildlife custodian per the SAR Notification/Contact Schedule.

e) Five-lined Skinks should never be moved more than 100 metres from the location where they were found. Only move a skink as far as necessary to avoid potential harm to the skink, and avoid moving skinks more than 50 metres unless absolutely necessary. If it is not possible to relocate the animal within 100 metres of the capture location, contact MNR for further direction using the SAR Notification/Contact Schedule.

f) Always release Five-lined Skinks in the same type of natural habitat as the capture site.

g) If possible, release Five-lined Skinks near a retreat site, which is somewhere the animal can seek shelter from the elements and avoid predators (vegetation, rocks, logs or leaf litter). Do not release them in the open where they could be exposed to inclement weather, extreme sunlight or predators.

h) To release Five-lined Skinks, remove the lid and gently tip the container onto its side and allow the animal to leave on its own. If necessary, gently tip the container on an angle to slide the animal out.

Five-lined Skink

3.6 Injured Five-lined Skinks

- a) Use the methods outlined in section 3.2 to handle injured skinks whenever possible. If those methods are not applicable due to the skink's injuries, use a shovel or other thin, flat object to pick up the skink. Ensure that any injured areas are supported.
- b) Place the Five-lined Skink in a small container with a lid that has air holes. Always create the air holes before putting the skink in the container.
- c) Newspaper or paper towels may be added to the container to give the skink something to hide in. Do not place water, other skinks, food or anything else in the container with the skink.
- d) Thoroughly wash your hands after handling injured skinks.
- e) Immediately transport the skink to a veterinarian or wildlife custodian per the SAR Notification/Contact Schedule, in order to increase its chances of survival.

Five-lined Skink

4. Safe Handling of Amphibians

Important Note: Many amphibian species absorb oxygen through their skin as well as breathing with lungs; some species rely completely on their skin for respiration. If their skin dries out, they can suffocate. Therefore, careful handling of amphibians (especially salamanders) includes ensuring that their skin is kept moist.

4.1 Materials

- a) The following materials are required for the handling, capture, temporary safe keeping and transport of amphibians:
- » A pail, bucket or large plastic bin with a lid that has air holes (for frogs). Ensure both the side of the container and the lid are well marked “live animal”.
 - » Plastic kitchen-style container lined with paper towel (needs to be wet when used) with a lid that has air holes (for salamanders and toads). Ensure both the side of the container and the lid are well marked “live animal”.
 - » Thermometer
 - » SAR Notification/Contact Schedule
 - » SAR Encounter Reporting Form
 - » Net (optional)
- b) Equipment must be acquired and maintained on each job site.

4.2 Capture and handling of salamanders, toads and frogs

Note: Eastern Newts have toxins in their skin and some salamanders may release a white, mildly toxic substance from their skin and tail. If ingested, these toxins may cause mild nausea. There is no risk associated with handling Ontario’s amphibians, provided you wash your hands afterwards. Toads will not give you warts.

Safely handle, move or capture a salamander, toad or frog by following these steps:

- a) Always make sure your hands are clean and free of insect repellent, antibacterial hand sanitizer, sunscreen, etc. Amphibians have very wet, porous skin through which they absorb oxygen and other compounds. Harmful chemicals (such as bug repellent) are quickly absorbed through an amphibian’s skin and can cause serious damage to the animal.
- b) If possible, wet your hands before picking up salamanders in order to avoid drying out their skin. Some species rely completely on their skin for respiration. If their skin dries out, they can suffocate and die. You can also ensure dampness is maintained by picking up some wet soil with the salamander.



- c) Keep handling times to a minimum as oil produced by human skin can easily clog amphibian pores, causing suffocation in some species.
- d) Always handle amphibians gently and slowly. Rough handling may cause injury or stress to the animal. Salamanders can drop their tail as an anti-predator defence, and may do so if they feel threatened (even if you are not holding them by the tail).

Amphibians

e) Never grab or pick up a salamander by the tail. This may cause the salamander to drop its tail (even if you are being gentle) and can be detrimental to the survival of the animal.

f) Capture a **frog or toad** using a net or pick it up with your hands by:



- I. Cupping your hands over the frog or toad while it is on the ground. (You have to be quick!)
- II. Closing your hand(s) to create a “cage” around the animal and picking it up. Note that they are slippery and can fit through small holes between your fingers.
- III. If it is necessary to identify the species after picking it up, carefully allow it to partially crawl out of your hand between your thumb and forefinger and then gently tighten your grip around its back legs (near its waist), holding onto both back legs. Support its front legs with your other hand.



g) Pick up a **salamander or newt** by scooping it up in one or two hands and then closing your hands to create a “cage”. Note that these animals are slippery and can fit through small holes between your fingers.



h) Use a net, container or your hands to catch frog tadpoles or salamander larvae. A net is easiest.

Amphibians

4.3 Moving amphibians out of harm's way (distance under 25 metres)

- a) If it is necessary to move an amphibian more than 25 metres, refer to section 4.5 on amphibian relocation.
- b) Amphibians should only be moved when they are in imminent, unavoidable danger.
- c) Salamanders do not move large distances and will tend to hide whenever possible. If there is the need to move a salamander, you will have to pick it up and move it (refer to section 4.2).
- d) If possible, allow a frog and a toad to move on its own by walking toward it in the direction that you want it to move. If the frog or toad does not move on its own, you will have to pick it up and move it (see section 4.2).
- e) When moving an amphibian out of harm's way, such as across a road, move it in the direction that it was heading, regardless of what the habitat looks like. These animals often make intentional movements to specific areas and if you put them back where they started they will simply turn around and start their journey again. If it is not clear which direction the animal was headed, move it to the closest suitable habitat that will not be disturbed. Suitable habitat includes: any shoreline habitat in the case of frogs; leaf litter, rocks or logs in a vegetated/forested area that the animal can hide under in the case of salamanders; any cover, such as rocks or vegetation, in the case of toads.

4.4 Temporary safe keeping and transportation of amphibians

- a) You are responsible for this animal. Remember, once you have put it in a container, it depends on you to keep it safe, moist and at the right temperature.
- b) Make sure that all containers that will be housing amphibians are thoroughly washed and rinsed and do not contain any soap or chemical residue.
- c) Keep **frogs** in a pail, bucket or large plastic bin with a lid that has adequate air holes. Always create the air holes before putting the animal in the container. Fill the container with less than one inch of water. Frogs should never be fully submerged, or they will drown.
- d) Keep **toads** in a pail, bucket, large plastic bin or plastic kitchen-style container with a lid that has adequate air holes. Always create the air holes before putting the animal in the container. Line the bottom of the container with wet paper towels.



Amphibians

e) Keep **salamanders** in a plastic kitchen-style container with a lid that has adequate air holes. Line the bottom of the container with wet paper towels.



f) Keep **newts and mudpuppies** in a pail, bucket, large plastic bin or plastic kitchen-style container with a lid, and fill the container with water. Replace water twice daily to ensure proper aeration, as these animals breathe through gills (like fish).

g) It is extremely important to monitor the air temperature regularly in the container to ensure it **never exceeds 25°C or drops below 5°C**. Never leave the container in direct sunlight or in a closed vehicle parked in the sun, as this will cause the animal to overheat and could be fatal.

h) **Never leave the container unattended** in an unsecured location (e.g., side of road).

4.5 Relocation of amphibians

a) Amphibians should only be relocated if the destruction of their habitat is unavoidable, or if it is not possible to release the animal at the capture location.

b) Transport and release it within one hour of capture in order to minimize stress on the animal.

c) Amphibians should not be relocated during their over-wintering season. This varies depending on the species and location, but is generally from October to May. If you are unsure whether you should relocate the animal or take it to a wildlife custodian, contact MNR for further direction using the SAR Notification/Contact Schedule.

d) If it is not possible to relocate the animal due to the time of year (October to May) or other conditions, transport it to a wildlife custodian per the SAR Notification/Contact Schedule.

e) **Amphibians should never be moved more than 100 metres** from the location where they were found. Only move the amphibian as far as necessary to avoid potential harm to the amphibian, and avoid moving amphibians more than 50 metres unless absolutely necessary. If it is not possible to relocate the animal within 100 metres of the capture location, contact MNR for further direction using the SAR Notification/Contact Schedule.

f) Release amphibians as close as possible to the capture site.

g) Always release frogs and larvae in the same water body where they were found, or in the same type of natural habitat as the capture site.

Amphibians

- h) Release salamanders and toads in the same type of natural habitat as the capture site.
- i) If possible, release frogs, toads and salamanders near a retreat site, which is somewhere the animal can seek shelter from the elements and avoid predators (vegetation, rocks, logs or leaf litter in the case of salamanders; water or vegetation in the case of frogs). Do not release them in the open where they could be exposed to inclement weather, extreme sunlight or predators.
- j) To release frogs, toads and salamanders, remove the lid and gently tip the container onto its side and allow the animal to leave on its own. If necessary, gently tip the container on an angle to slide the animal out of the container.

4.6 Injured amphibians

- a) Use the methods outlined in section 4.2 to handle injured amphibians whenever possible. If those methods are not applicable due to the animal's injuries, use a shovel or other thin, flat object to pick up the animal. Ensure that any injured areas are supported.
- b) Place the amphibian in a small container with a lid that has air holes and line the bottom of the container with wet paper towels. Always create the air holes before putting the animal in the container.
- c) Newspaper or paper towels may be added to the container to give the amphibian something to hide in. Do not place water, other animals, food or anything else in the container with the individual.
- d) Thoroughly wash your hands after handling injured amphibians.
- e) Immediately transport the injured animal to a veterinarian or wildlife custodian per the SAR Notification/Contact Schedule, in order to increase its chances of survival.

Amphibians

5. Safe Handling of Birds

The protocol for handling birds is based on the size of the birds you may encounter.

Small Birds: e.g., Loggerhead Shrike, Prothonotary Warbler, Whip-poor-will

Large Birds: e.g., King Rail, Least Bittern, Peregrine Falcon

5.1 Materials

a) The following materials are required for the handling, capture, temporary safe keeping and transport of birds:

- » Sturdy cardboard box or large plastic bin and lid with air holes. Ensure both sides of the box/container and the lid are well marked with “live animal”.
- » Sheet or blanket large enough to cover a large bird
- » Thick work gloves
- » Safety glasses
- » Thermometer
- » Digital camera (optional)
- » MNR Notification/Contact Schedule
- » SAR Encounter Reporting Form

b) Equipment must be acquired and maintained on each job site.

5.2 Safety considerations

a) Generally, there is little risk associated with handling birds. However, some species can scratch or bite, and work gloves should be worn to help avoid minor injuries. Safety glasses are recommended for larger birds, especially the Least Bittern.

b) Always wash your hands after handling a bird. In addition, cloths, blankets and containers used to hold or transport birds should be washed with soap and water after each use. Discard a cardboard box after using it to hold or transport a bird.

5.3 Capture and handling of birds

a) The first consideration is to determine if the bird needs handling. It may be that the bird is healthy and can fly away. To find out, approach the bird slowly and wave your arms to make it fly or move away. Ensure that the direction in which the bird will fly is clear and free of obstruction. If this occurs (i.e., bird flies away), there is no need to proceed further with trying to catch it. If it doesn't fly and instead crouches down or wobbles, indicating that it can't fly, then it may be injured or a young bird not yet capable of flight.

c) Determine if it is a small or large bird from the list above. If possible, take a picture of the bird so that it can be identified without having to reopen the container.

Birds



d) **Small birds:** Use your bare or gloved hands, or the cloth or blanket, if that is more appropriate. Place your hands or the cloth/blanket over the bird around its body and over its wings to keep it from escaping. Gently pick it up and place it in the cardboard box or the large plastic bin. If it attempts to escape, work it towards a corner and attempt capture again.

e) **Large birds:** Use gloves and safety goggles for protection. Take the cloth or blanket and throw it over the bird to keep it from escaping. Use both hands to clasp the body of the bird through the cloth and gently restrain it. Pick up the bird, including the cloth, and place it all in the cardboard box/plastic bin. Free the bird from the cloth, remove the cloth, and then place the cover on the box.

If the bird jabs or bites at you during capture, use your gloved hand to fend off the attacks. Ensure it does not get close to your eyes if you are not wearing glasses.

f) Always handle birds carefully and gently, yet firmly. Birds may at any time struggle in an attempt to escape.



g) Never pick up a bird by the legs alone. Always support the body by grasping it around the wings.



Birds

5.4 Moving and releasing young birds or recovered birds

a) If the bird is a young bird incapable of long flight, it may be that its parents are nearby. Check around the site where the bird was found for the parents. If you locate parents, the young bird should be moved to a nearby tree, bush or ledge where the parents can attend to it and feed it. The location should be close to the parents and removed from danger. Watch the bird for 15 minutes and see if a parent attends to it.



b) In other cases, the captured bird may recover in the container and begin struggling to escape. In this case, you may wish to try releasing it in a natural habitat near where it was found. Place it in a location where it has shelter from the elements and can avoid predators. Allow it to move into cover. Do not release it in the open where it could be exposed to inclement weather, extreme sunlight or predators.

5.5 Temporary safe keeping and transportation of birds

a) You are responsible for this bird. Remember, once you have put it in a container, it depends on you to keep it safe and at the right temperature.

b) Always create air holes in the sides or lid of the box or container prior to placing the bird in it.



c) Place the box in a sheltered environment, preferably in the dark or semi-dark. This will quiet the bird down and let it rest.

d) Contact one of the MNR staff indicated on the SAR Notification/Contact Schedule. Ask for instructions on how to care for the bird. Send a picture of the bird if necessary.

e) It is extremely important to monitor the air temperature regularly in the container to ensure it **never exceeds 30°C or drops below 15°C**. Never leave the container in direct sunlight or in a closed vehicle parked in the sun, as this could cause the bird to overheat and could be fatal.

- f) Never put more than one bird in a container at a time, especially raptors (Peregrine Falcon).
- g) Once the bird is in the container, ensure that the lid is secure.
- h) **Never leave the container unattended** in an unsecured location (e.g., side of road) or on the edge of a car seat.
- i) Do not offer the bird any food or water unless instructed to do so following consultation with MNR staff on the SAR Notification/Contact Schedule.
- j) Birds should be checked periodically (every hour should suffice). Young birds are especially susceptible to dehydration and must be carefully monitored during transport.

5.6 Evaluation and disposition of captured birds

- a) Contact the MNR staff person listed on the SAR Notification/Contact Schedule immediately. Inform him or her of the capture and holding of the bird and ask for advice on the next steps.
- b) It may be useful to take a picture of the bird for identification purposes. Send the photo to the MNR staff person or another person as requested.
- c) You may be asked by the staff person to take the bird to a wildlife custodian.

5.7 Injured birds

- a) If the bird is injured, immediately request and follow instructions given by the MNR staff person listed on the SAR Notification/Contact Schedule.
- b) If so instructed, immediately transport the bird to a veterinarian or wildlife custodian per the SAR Notification/Contact Schedule, in order to increase the chances of the bird's survival.

6. Reporting Species at Risk Encounters

a) Contact MNR to report the occurrence (including dead animals) within the period of time set out in the permit or agreement, or within 24 hours if not stipulated. Report injured animals to MNR immediately.

b) Complete and submit the SAR Encounter Reporting Form, which includes the following information:

- I. Name of Qualified Member
- II. Contact number of Qualified Member
- III. Date and time of the encounter
- IV. Detailed location of the encounter (with lat-long or UTM coordinates, if possible). To obtain coordinates without a GPS, zoom into the area using Google Maps, right click on the location and select “what’s here?” from the right-click menu. The coordinates (in decimal degrees) will be provided to you in the Google Maps search bar.
- V. Species encountered, with photo documentation, when possible. For assistance with species identification, see MNR’s *Ontario Species at Risk Quick Reference Guide*. Detailed species accounts can be found at **www.ontarionature.org/atlas** or the “Species Guides” at **www.torontozoo.com/AdoptAPond**.
- VI. Action taken

Risk Encounters

7. Handling and Transporting Dead Animals

Dead species at risk that are encountered should be reported to the MNR as soon as possible. It is possible that the Ministry will request that the individual be stored and/or transported to the MNR.

Many researchers are currently studying the genetics of wild populations in Ontario, and genetic materials extracted from dead animals can make a valuable contribution to this research.

Examining a dead animal may provide important information about the cause of death or threats affecting the population.

If the MNR asks to see the species at risk and it is not possible to transport it on the same day it was found, the specimen should be stored in a freezer.

7.1 Materials

a) The following materials must be used for the handling and transport of dead species at risk:



- I. A plastic resealable bag or plastic kitchen-style container with a tight lid with label “dead SAR for transport to MNR”

- II. Permanent, water-resistant marker for labelling the bag or container with additional information, such as the date and location
- III. Latex gloves or thick work gloves that can be washed
- IV. Cooler with cold ice packs, if possible
- V. SAR Notification/Contact Schedule
- VI. SAR Encounter Reporting Form

7.2 Safety Considerations

Always wear gloves or wash your hands after handling any dead animal. Turtles (and many other animals) carry potentially harmful bacteria in their gut. Handling dead, rotting animals may also expose you to bacteria that can make you sick.

Handle a dead Massasauga with extreme caution

- I. The snake’s venom is still a serious biohazard even after the snake is dead.
- II. Never handle a dead Massasauga with your hands. Use a broom or sticks to place it into a container with a secure lid (not a bag).
- III. Although unlikely, nerves can trigger the Massasauga’s bite reflex even after the snake is dead.
- IV. In some situations, it can be very difficult to confirm that a snake is dead. For example, extreme shock can make a snake appear dead for several minutes until it slowly regains its senses. Unless you can confirm that the Massasauga is dead, always treat it as though it is alive and never place any part of your body within its potential strike range (approximately half of the snake’s body length).

Dead Animals

7.3 Handling a dead animal

a) Always make sure that an animal is actually dead before handling or capturing it. In some situations, live animals can easily be mistaken for being dead:

- I. Extreme shock can make a reptile or amphibian motionless and appear dead for several minutes until it slowly regains its senses.
- II. Air temperature controls the metabolism, and therefore the activity level, of reptiles and amphibians. If an over-wintering snake or turtle is encountered, it will only be 4 or 5°C and may be so inactive that it will appear dead. Very cold animals in the spring or fall may also be very inactive and appear dead until closely examined.
- III. Eastern Hog-nosed Snakes sometimes play dead as a defensive strategy to deter predators. This display includes rolling onto their back with their mouth gaping open and tongue hanging out, regurgitating food or defecating and emitting a foul smell. It is very difficult to determine if this species is actually dead without manipulating the snake and carefully inspecting it. If you flip the snake onto its belly, it will often roll back over and continue to play dead.

7.4 Temporary storage of dead animals

a) Place the dead animal in a plastic resealable bag or container with a tight lid that will not leak. Always use a thick container with a secure lid for Massasauga rattlesnakes.

b) Do not place anything else in the container with the animal.

c) Label the container with “dead SAR for transport to MNR” as well as the date, location and name of the observer.

d) Place the bag or container in a freezer as soon as possible. If a freezer is not immediately available, place it in a cool place, preferably a cooler with ice packs.

e) If the animal cannot be delivered to MNR on the same day that it was found, place it in a freezer until it can be delivered to MNR.

8 Appendices

Appendix I - Definitions

Species at Risk (SAR) Notification/Contact

Schedule:

A contact list provided by the Ministry of Natural Resources District Office to be used when immediate guidance is required concerning species at risk (SAR) encounters. This list will include Ministry of Natural Resources staff as well as local veterinarians and wildlife custodians.

Species at Risk (SAR) Encounter Reporting Form:

A reporting form provided by Ministry of Natural Resources that must be completed any time that a species at risk (SAR) is encountered.

Qualified Member:

An individual who has received training by, in consultation with, or in a manner approved by Ministry of Natural Resources to capture, handle, move and relocate species at risk (SAR).

Appendices

Appendix II - References

Ontario Ministry of Natural Resources, Parry Sound and Sudbury District. *Draft Turtle and Snake Capture and Relocation Protocol For Hwy 69/400 ESA Authorization Requirements*.
Revised January 19, 2011.

Parks Canada. *The Eastern Massasauga Rattlesnake Stewardship Guide: A Resource and Field Guide for Living with Rattlesnakes in Ontario*, Parks Canada, pp 84.

Karch, Mandy. 2008. *Standard Turtle Handling Practices and Protocols*. Prepared for the Ontario Ministry of Natural Resources and the Ontario Multi-species Turtles At Risk Recovery Team. 2008.

Unless otherwise noted, all photographs are credited to Jason Mortlock.

Appendices

Appendix III - Equipment and Materials Checklist

The following materials must be acquired and maintained on each job site, and are required for the handling, capture, temporary safe keeping and transport of species at risk:

All Species (including for dead animals)

- ☐ Thermometer
- ☐ Plastic resealable bag or plastic kitchen-style container with a tight lid with label “dead SAR for transport to MNR”
- ☐ Permanent, water-resistant marker for labelling bag or container with additional information, such as the date and location
- ☐ Latex gloves or thick work gloves that can be washed
- ☐ SAR Notification/Contact Schedule (from MNR District Office – see Appendix IV)
- ☐ SAR Encounter Reporting Form (See Appendix V)

Additional Materials for Turtles

- ☐ Large plastic bin or bucket and lid with air holes, with both sides of the container and lid marked “live animal”
- ☐ Cloth/burlap bag with both sides marked “live animal”
- ☐ Broom or broom handle with small paint brush roller attached to end

Additional Materials for Snakes

- ☐ Pail, large garbage can or bucket with air holes in the lid, with side of the container and lid marked “live animal”
- ☐ A cloth snake bag (e.g., pillowcase) for non-venomous species only, marked “live animal”

For Massasaugas:

- ☐ Pail, large garbage can or bucket (1 metre deep) with air holes in the lid, with side of the container and lid marked “caution rattlesnake”
- ☐ Broom or broom handle with small paint brush roller holder attached to end

Additional Protective Gear to be Worn When Working in or near Massasauga Habitat

- ☐ High-ankle hiking or rubber boots
- ☐ Thick pants (jeans) or baggy pants
- ☐ Leather work gloves

Additional Material for Skinks

- ☐ Plastic kitchen-style container and lid with air holes, marked “live animal”

Additional Materials for Amphibians (Salamanders, Newts, Mudpuppies, Frogs, Toads)

- ☐ Pail, bucket or large plastic bin with a lid that has air holes (for frogs), both side of container and lid marked “live animal”
- ☐ Plastic kitchen-style container and lid with air holes, marked “live animal”
- ☐ Paper towels (to be moistened and put in plastic kitchen-style container)
- ☐ Net (optional)

Additional Materials for Birds

- ☐ Sturdy cardboard box or large plastic bin and lid with air holes, with both sides of box/container and lid marked “live animal”
- ☐ Sheet or blanket large enough to cover a large bird
- ☐ Safety glasses
- ☐ Digital camera (optional)

Appendices

Appendix IV - SAR Notification/Contact Schedule

Appendices

Appendix V - SAR Encounter Reporting Form



APPENDIX A-3

Buffer Strips & Wetland Seed Mixes

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Water's Edge Seed Mix @ \$150/kg - Species subject to availability

#	Code	Species Image	Item Name	Plant Form	Bloom Month	Bloom Colour
1	1SMWATEDGE		Water's Edge Seed Mix (kg)			
2	1SMWATEDGE-ELYRIPA		Riverbank Wild Rye - Elymus riparius	Grass	07-Jul, 08-Aug	Green
3	1SMWATEDGE-ELYVIRG		Virginia Wild Rye - Elymus virginicus	Grass	04-Apr, 05-May	Green
4	1SMWATEDGE-PANVIRG		Switch Grass - Panicum virgatum	Grass	07-Jul	Green
5	1SMWATEDGE-CARBEBB		Bebb's Sedge - Carex bebbii	Sedge	06-Jun	Green
6	1SMWATEDGE-CARVULP		Fox Sedge - Carex vulpinoidea	Sedge	06-Jun	Green
7	1SMWATEDGE-CARHYST		Porcupine Sedge - Carex hystericina	Sedge	06-Jun	Green
8	1SMWATEDGE-OENBIEN		Common Evening Primrose - Oenothera biennis	Forb	08-Aug	Yellow
9	1SMWATEDGE-HELHELI		Sweet Ox-Eye - Heliopsis helianthoides	Forb	08-Aug	Yellow
10	1SMWATEDGE-VERHAST		Blue Vervain - Verbena hastata	Forb	08-Aug	Violet
11	1SMWATEDGE-VERMISS		Missouri Ironweed - Vernonia missurica	Forb	09-Sep	Violet
12	1SMWATEDGE-EUPPERF		Common Boneset - Eupatorium perfoliatum	Forb	08-Aug, 09-Sep	White
13	1SMWATEDGE-PENDIGI		Foxglove Beard-Tongue - Penstemon digitalis	Forb	06-Jun	White
14	1SMWATEDGE-EUPMACU		Spotted Joe-Pye Weed - Eupatorium maculatum	Forb	08-Aug, 09-Sep	Pink
15	1SMWATEDGE-DOEUMBE		Flat-Topped Aster - Doellingeria umbellata	Forb	08-Aug, 09-Sep	White

#	Code	Species Image	Item Name	Plant Form	Bloom Month	Bloom Colour
16	1SMWATEDGE-ASCINCA		Swamp Milkweed - Asclepias incarnata	Forb	07-Jul	Pink
17	1SMWATEDGE-PHYVIRG		Obedient Plant;False Dragonhead - Physostegia ...	Forb	08-Aug, 09-Sep	Pink
18	1SMWATEDGE-RUDLACI		Greenheaded Coneflower;Cut-Leaved Coneflower - Rudbecki...	Forb	07-Jul, 08-Aug	Yellow
19	1SMWATEDGE-MONFIST		Wild Bergamot - Monarda fistulosa	Forb	07-Jul	Violet
20	1SMWATEDGE-CARSTIP		Awl-Fruited Sedge - Carex stipata	Sedge	06-Jun	Green
21	1SMWATEDGE-CARCRIN		Fringed Sedge - Carex crinita	Sedge	06-Jun	Green

A note on this seed mix:

The species included in this mix may differ slightly with each order. Seed availability changes year-to-year and season-to-season based on the species, harvest results, weather conditions, and more. We may update our mixes at any time in order to best support ecological restoration and biodiversity conservation.

If you need help or more information, please let us know at sales@stwilliamsnursery.com.



Base Restoration Seed Mix @ \$120/kg - Species subject to availability

Code	Species Image	Item Name	Plant Form	Bloom Month	Bloom Colour
1SMBASREST		Base Restoration Seed Mix (kg)			
1SMBASREST-SORNUTA		Indian Grass - Sorghastrum nutans	Grass	09-Sep	Green
1SMBASREST-ELYRIPA		Riverbank Wild Rye - Elymus riparius	Grass	07-Jul, 08-Aug	Green
1SMBASREST-ELYVIRG		Virginia Wild Rye - Elymus virginicus	Grass	04-Apr, 05-May	Green
1SMBASREST-ELYTRAC		Slender Wheat Grass - Elymus trachycaulus	Grass	07-Jul	Green
1SMBASREST-PANVIRG		Switch Grass - Panicum virgatum	Grass	07-Jul	Green
1SMBASREST-SPOASPE		Tall Dropseed;Rough Dropseed - Sporobolus asper	Grass	09-Sep	Green
1SMBASREST-OENBIEN		Common Evening Primrose - Oenothera biennis	Forb	08-Aug	Yellow
1SMBASREST-RUDHIRT		Brown-Eyed Susan;Black-Eyed Susan - Rudbeckia hirta	Forb	07-Jul, 08-Aug, 09-Sep	Yellow
1SMBASREST-PYCVIRG		Virginia Mountain Mint - Pycnanthemum virginianum	Forb	07-Jul	White
1SMBASREST-SOLPTAR		Upland White Aster;Upland White Goldenrod - Solidago ...	Forb	08-Aug, 09-Sep	White
1SMBASREST-PENHIRS		Hairy Beard-Tongue - Penstemon hirsutus	Forb	06-Jun	Violet
1SMBASREST-PENDIGI		Foxglove Beard-Tongue - Penstemon digitalis	Forb	06-Jun	White
1SMBASREST-SYMLAEV		Smooth Aster - Symphyotrichum laeve	Forb	09-Sep	Violet
1SMBASREST-DOEUMBE		Flat-Topped Aster - Doellingeria umbellata	Forb	08-Aug, 09-Sep	White

Code	Species Image	Item Name	Plant Form	Bloom Month	Bloom Colour
1SMBASREST-CORTRIP		Tall Coreopsis - Coreopsis tripteris	Forb	07-Jul, 08-Aug, 09-Sep	Yellow
1SMBASREST-POTARGU		Tall Cinquefoil;Prairie Cinquefoil - Potentilla arguta	Forb		White
1SMBASREST-SOLNEMO		Gray Goldenrod - Solidago nemoralis	Forb	08-Aug	Yellow
1SMBASREST-ASCSYRI		Common Milkweed - Asclepias syriaca	Forb	07-Jul	Pink
1SMBASREST-SPOCRYP		Sand Dropseed - Sporobolus cryptandrus	Grass	08-Aug	Green

A note on this seed mix:

The species included in this mix may differ slightly with each order. Seed availability changes year-to-year and season-to-season based on the species, harvest results, weather conditions, and more. We may update our mixes at any time in order to best support ecological restoration and biodiversity conservation.

If you need help or more information, please let us know at sales@stwilliamsnursery.com.

