

FARM FIELD GUIDE

to species at risk
in Ontario

• **Wetlands** •

A WILDLIFE GUIDE FOR FARMERS

CONTENT

Introduction	2
How to use this guide	4
What are wetlands?	5
State of wetlands	6
Your observations are important	7
Species	-
Blanding's Turtle	8
Snapping Turtle	10
Least Bitten	12
Swamp Rose-mallow	14
Little Brown Bat	16
Prothonotary Warbler	18
Black Tern	20
American Eel	22
Eastern Ribbonsnake	24
Olive-sided Flycatcher	26
Eastern Prairie Fringed-orchid	26
Small White Lady's-slipper	27
Yellow Rail	27
Spotted Turtle	28
Fowler's Toad	28
Eastern Pondmussel	29





10



12



14



18



20



22



26



26



27



28



28



29

AN IDENTIFICATION GUIDE TO WETLAND SPECIES AT RISK IN ONTARIO

Wetlands are areas where water saturates the land, and where water-loving or water-tolerant plants grow. Wetlands can be variable with respect to how wet they are; your farm may have some wetlands that are always flooded, and other wetlands that are only wet in the spring and fall. Over 70% of the wetlands that once existed in southern Ontario have been drained or altered for human use. As this trend continues it puts pressure on the plants and animals that depend on these habitats for survival. Wetlands on farms may include marshes, swamps, ponds, drainage ditches, and other wet or seasonally wet areas. These on-farm wetlands can provide important habitat for many species. All of the wildlife featured in this guide are threatened due to population decline and are listed as species at risk (SAR) provincially and/or federally. This guide will help you identify wildlife SAR that you may find in wetlands on farms across Ontario.



Each species at risk is assigned a status that reflects the level of risk it faces. The Ontario Ministry of Natural Resources and Forestry (MNRF) defines four categories of SAR:

“SPECIAL CONCERN”

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

“THREATENED”

means the species lives in Ontario, is not endangered, but is likely to become endangered if threats are not addressed.

“ENDANGERED”

means the species lives in Ontario but is facing looming extinction or extirpation.

“EXTIRPATED”

means the species once lived in Ontario, but no longer does. Extirpated species are not extinct and live somewhere outside of Ontario. Extirpated species have not been included in this field guide.



HOW TO USE THIS GUIDE

This guide contains two types of species descriptions. Full species accounts are given for wetland SAR that are relatively wide ranging in Ontario wetlands. These accounts include a photograph, identification features, and the habitat needs of the species. Partial species accounts are given for wetland SAR that have limited ranges in Ontario. These sections include a photograph of the species and a short description. Some wetland SAR are excluded because they have very restricted ranges and/or they require expert knowledge to identify and differentiate them from similar species.

Additional information on the species listed in this guide can be found at the Species at Risk in Ontario webpage and the Environment and Climate Change Canada Species at Risk Registry.

Species at Risk in Ontario:
www.ontario.ca

Species at Risk in Canada:
www.registrelep-sararegistry.gc.ca

WHAT ARE WETLANDS AND HOW CAN THEY BENEFIT MY FARM?

Wetlands are areas where the water table is near or at the surface of the land. Wetlands can be periodically or permanently wet, but they are saturated long enough that the soil conditions are altered. Plants that are able to grow in these conditions are either water-tolerant or water-loving. In southern Ontario, swamps and marshes are the most common wetlands; while in Northern Ontario, bogs and fens are more prominent. Swamps are dominated by trees and shrubs and may have standing water only periodically. Marshes are usually flooded and contain aquatic vegetation that may be completely submerged, floating or growing in water but visible above the water surface. Types of wetlands commonly found on farms include ponds, drainage ditches, marshes, swamps and seasonally wet pools.

Wetlands provide many benefits, including:

- Flood control and reduction of flood severity
- Filter out nutrients and some chemicals from waterways
- Stabilize shoreline
- Reduce greenhouse gases through carbon storage
- Provide habitat for a number of culturally important plant and animal species

STATE OF WETLANDS AND HOW YOU CAN HELP

Since European settlement, approximately 72% (over 1.4 million hectares) of the wetlands in southern Ontario have been lost, and wetland loss throughout the province continues despite restoration and protection. As wetlands become increasingly rare, so do the plants and animals that rely on these habitats for breeding, feeding and overwintering. By taking action to conserve wetland habitat and diversity, you can help to ensure these species continue to live in Ontario.

Creating a buffer area between wetlands and farm activities, such as livestock grazing or production areas where crop inputs are used (e.g., fertilizers and pesticides), and maintaining upland forest areas are simple but effective ways to help keep your farm wetland in healthy condition. If your farmland once had wetlands, which have since been converted, a wetland restoration project could lead to many benefits for your farm.

YOUR OBSERVATIONS ARE IMPORTANT

Why Should I Report the Species I See?

Long-term monitoring is the best way to understand if species' populations are increasing, decreasing or stable. For species at risk (SAR), monitoring is especially important as it improves our understanding of what actions we might need to take to stop population declines, and allows us to evaluate if our efforts are helping populations to recover. Reports from people living across the landscape are incredibly beneficial for long-term monitoring. This information is called citizen science, and it can enhance the monitoring done by scientists in the field.

Reporting observations of SAR can also benefit your farm. Stewardship programs and funding to support the protection and recovery of SAR and their habitat are often available. Restoring or maintaining wetland habitat can benefit many other species, including bats and pollinators that bring additional benefits for your farm.

What Should I Record?

When you are working on the farm, it is often useful to have a notebook on hand to record any species information. The species name, number of individuals, behaviour, weather conditions, and location are all important observations to include.

Where Should I Report My Observations?

Thanks to the work of many conservation organizations, there is a dedicated place to report nearly every type of species observation. Some species observations, like those for reptiles and amphibians can even be reported quickly using a smartphone.

Directory of Ontario Citizen Science:

<https://www.ontarionature.org/directory-of-citizen-science/home.php>

BLANDING'S TURTLE

Emydoidea blandingii

Status in Ontario:
Threatened

Blanding's turtles are medium-sized turtles, found in many freshwater environments. They prefer areas with shallow water and dense vegetation. On the farm they could be found in wetlands, including permanent or temporary pools, marshes and swamps. Since Blanding's turtles usually nest in dry environments up to several hundred metres from water, they are often observed on land.

Size

Upper shell 12-27 cm long
(from neck to tail)

Shape

Highly domed shell is said to resemble the shape of an army helmet

Look for

- Blanding's turtles emerge from hibernation earlier than other turtle species, and may be seen when there is still snow
 - Females lay their eggs in June, and may be encountered as they travel over land to nest sites
-

Colour

- Distinctive bright yellow lower jaw and throat
- Upper shell is black or brown, usually with white or yellow spots and lines randomly scattered
- Lower shell is usually cream to yellow with large black spots
- Legs and tail are grey to black, with yellow on the front legs

Did you know that female Blanding's turtles may not begin laying eggs until they are 25 years old?



SNAPPING TURTLE

Chelydra serpentina

Status in Ontario:
Special Concern

The snapping turtle is Ontario's largest turtle. Its large size and long tail help to distinguish it from other species. It prefers slow-moving water with dense aquatic vegetation and a soft mud bottom, but can also be found in many shallow freshwater habitats. Snapping turtles eat mostly plants and dead animals (carrion), helping to clean waterways on your farm.

The snapping turtle's lower shell is very small, leaving it defenseless if a predator is able to flip it onto its back. For this reason snapping turtles will defend themselves by striking animals that get too close while on land. Snapping turtles simply swim away from other animals in water and only become defensive if they are restrained or lifted out of the water.

Size


Shell measures
20 - 40 cm long

Shape

- Long neck and long tail
- The tail is nearly as long as the upper shell, and has triangle shaped spikes along it

Look for

- Snapping turtles may be observed basking on logs and rocks when temperatures are cooler
 - In late May to late June, females might be seen moving to nest sites to lay their eggs
-



Did you know that snapping turtles can live as long as the oldest humans?

Studies from Algonquin Provincial Park indicate that the maximum age of a snapping turtle could be over 150 years.

LEAST BITTERN

Ixobrychus exilis | Status in Ontario: **Threatened**

The least bittern breeds in cattail marshes not far from open water. The nest is built on a platform made from bent stems. Hunting occurs in shallow, clear, open water where least bitterns can see their prey. The smallest bird in the heron family, the least bittern is very well-camouflaged and rarely seen, but may be common in the right habitat. Least bitterns migrate to Ontario by late May, and remain until late August to September.

Size

30 cm in length

Shape

Long neck and long bill

Colour


- Back and top of head glossy black or dark brown in males, lighter in females and juveniles
 - Brown and orange-brown neck and sides
 - Broad orange streaks on the white chest and neck
-

Look for

- The least bittern will freeze when alarmed with its bill pointing up towards the sky
- While at rest it has a hunched posture

Listen for

- A series of flat, low-pitched notes, “Kuh-kuh-kuh-kuh”
- Or a loud, harsh “Kik-kik-kik”

A close-up photograph of a Least Bittern bird perched on a reed stem. The bird has a long, sharp, orange-brown beak and a dark cap. Its body is primarily brown and white, with a white patch on its neck. The background is filled with green reeds and brown stems, creating a natural, textured environment.

Did you know that common reed (*Phragmites australis*) and other invasive species outcompete cattails and dry up wetland habitat? Least bitterns lose important breeding habitat when this occurs.

SWAMP ROSE-MALLOW

Hibiscus moscheutos

Status in Ontario:

Special Concern

A perennial plant commonly found in coastal marshes near Lake Erie and Lake St. Clair, swamp rose-mallow is also found in open wet woods, meadow marshes, drainage ditches and thickets. In recent years it has been found along the north shore of Lake Ontario. The attractive, showy flowers are pollinated by bumblebees. Habitat loss has historically been the main factor limiting swamp rose-mallow's distribution in southern Ontario. Periodic water level fluctuations and other disturbances, which control competition from invasive species and prevent shading from shrubs and trees, are likely critical for swamp rose-mallow.

Size

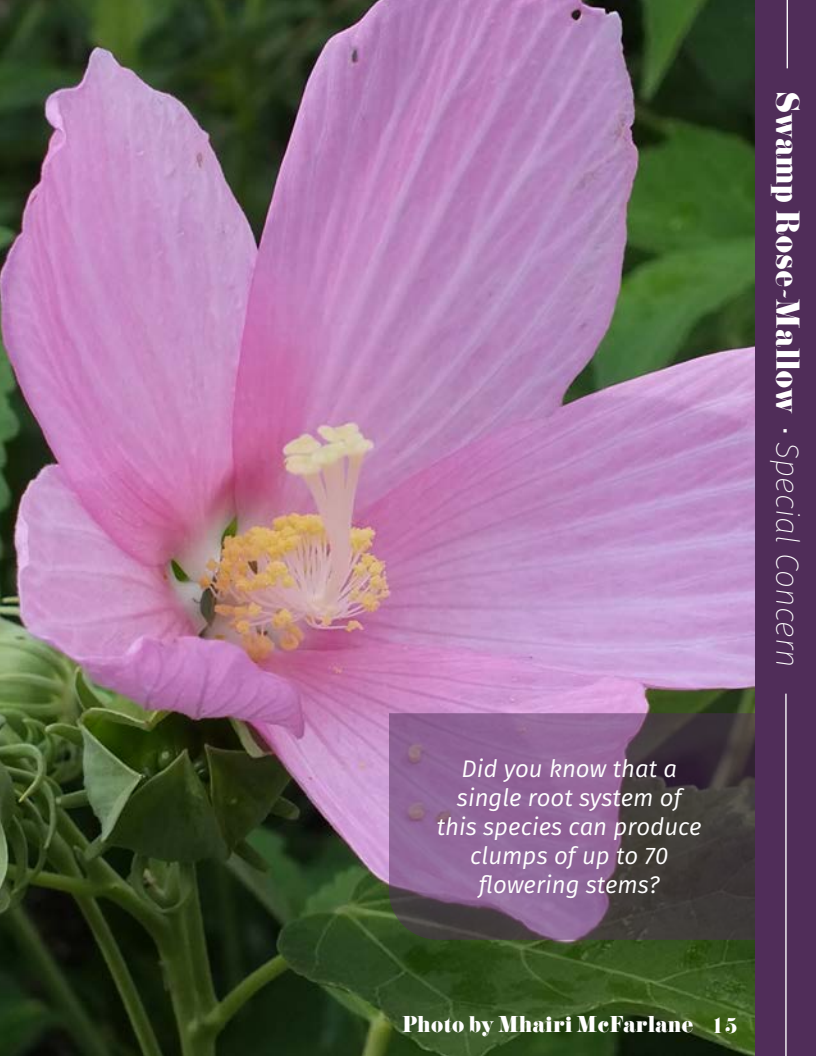
- Up to 2 m in height
- Flower petals are 6-10 cm long

Colour

Flowers are usually pink, but can occasionally be white

Look for

- The large, showy flowers bloom from the end of July to the middle of September
 - Each large flower opens for one or two days, and then fades away after being pollinated. The flowers resemble a hollyhock
 - The tall plant with its hairy, oblong or maple shaped leaves is distinctive, even when not in bloom
-



Did you know that a single root system of this species can produce clumps of up to 70 flowering stems?

LITTLE BROWN BAT

Myotis lucifugus | Status in Ontario: **Endangered**

The little brown bat is probably the most common bat species in Canada. They usually use buildings for roosting during the day, and may be seen foraging over water and around streetlights at night. The little brown bat plays an important ecological role, eating many insects that are considered pests on the farm. Each little brown bat can eat 4 to 8 grams of insects per night. Although a common species of bat, white nose syndrome (a fungal disease affecting several species of hibernating bats) has caused populations to decline by over 90%.

Size

- Small to medium sized bat, 4-5 cm long
- Averages 7.9 grams in weight
- Wingspan is 22-27 cm

Colour

Glossy brown fur

Listen for

- Little brown bats forage over still water and rivers, as well as in forest gaps, forest edges, and along trails. They generally avoid large cleared areas, including large farm fields
- Females often raise pups in warm sites that encourage growth, such as barns, attics or in cavities in canopy trees. Bat boxes are also used, and can be installed on your property

Did you know that some little brown bats can travel 500 to 800 kilometres between seasons and hibernation sites?



PROTHONOTARY WARBLER

Protonotaria citrea | Status in Ontario: **Endangered**

Found in southwestern Ontario, mostly along the north shore of Lake Erie, the prothonotary warbler nests in small, shallow holes low in the trunks of dead or dying trees. The nests are usually located over slow-moving or standing water. This species will eat a wide range of insects, including flies, beetles and moths. In Ontario, the draining of swamps and removal of dead and living trees are the main threats to this species. Animals will eat the eggs of this species, while other bird species are known to destroy the eggs. Specialized nest boxes provide habitat that is safe from these threats when they are placed correctly.

Size

- 14 cm long (bill to tip of tail)
-

Shape

- Small songbird, but larger and plumper than other warblers
- Large, pointed beak and short tail, compared to other warblers

Colour

- Deep yellow head and breast (males brighter than females and juveniles)
 - Black eyes and large black beak
 - Green back
 - Blue-grey wings and tail
 - Underside of tail is white
-

Listen for

A loud, clear, one-pitched “tsweet, tsweet, tsweet” that is rapidly called

Did you know the brilliant colouring of the prothonotary warbler and its use of swamps led to it being nicknamed "swamp candle".

BLACK TERN

Chlidonias niger | Status in Ontario: **Special Concern**

Black terns can be found throughout Ontario breeding in shallow marshes - cattail marshes are especially preferred. Their nests are built floating in marshes. The black tern eats mainly insects, and will pick insects off the surface of the water after diving and hovering above the water. Described as graceful, the breeding colouring is distinctive and not easily mistaken for other species.

Size

- 20-26 cm long (bill to tip of tail)
- Wingspan 57-60 cm

Shape

- A forked tail
 - Slender shape and long narrow wings
 - Straight pointed bill
-

Colour

Breeding season adults have:

- Black head and chest
- Gray wings

Nonbreeding season adults have:

- White head and underside
- Dark spot behind eye
- Gray wings
- Crown and back of neck light brownish gray

Juvenile birds are similar to nonbreeding adults, with pale colouration on the back feathers, resembling scales

Listen for

A short quick “kik” or “pik” sound

Did you know black terns are social birds that tend to breed, forage and migrate together? Look for groups of a few birds to over a hundred, or occasionally tens of thousands of birds.



AMERICAN EEL

Anguilla rostrata

Status in Ontario: **Endangered**

American eels in Ontario travel great distances over their life. Spawning in the Sargasso Sea of the North Atlantic Ocean, American eels can be found in all waters connected to the Atlantic Ocean. This species has even been found in Algonquin Park in Ontario, the furthest inland observation. Mature eels return to the Sargasso Sea to spawn, usually between the ages of 10 to 25 years. American eels eat insects, small fish, molluscs and crustaceans. Dams and hydro-electric turbines are some of the barriers to eel migration and food supply. The American eel population has decreased dramatically in the past 25 years.

Size

- Adult males are less than 0.4 m long
- Adult females are larger, up to 1 m long

Shape

- Long slender body, with a single fin that runs along the back, tail and underside
- The mouth has thick lips, and the lower jaw is slightly longer than the upper jaw

Colour

- Adults are grey with a white or cream underside
 - Juveniles are yellowish-green or brown
-

Did you know the American eel used to be one of the top three species harvested in the commercial catch from Lake Ontario? In the early 1990s the number of young eels dropped drastically, and as of 2005 the American eel is protected from commercial and recreational fishing.



EASTERN RIBBONSNAKE

Thamnophis sauritus

Status in Ontario:

Special Concern

The Eastern ribbonsnake is often found near water, especially marshes, but also in ponds, swamps and bogs with dense vegetation for cover. In these habitats it hunts for its main prey, frogs and small fish. Eastern ribbonsnakes are good swimmers and will enter shallow water, especially to avoid predators. The loss of wetland habitat is the greatest threat to this species.

Size

- Usually 46-86 cm long
-

Shape


- A slender snake with a long tail
- The tail is at least 1/3 of the total body length of an adult

Colour

- Brown to black back with three bright yellow to white stripes
 - Distinct white to cream bar or crescent in front of each eye
 - A rust to brown stripe is often visible on the scale rows closest to the belly, extending on to the edge of the belly scales
 - White to cream cheek and chin and whitish-yellow belly
-

Look for

The white mark in front of its eye is distinct to the eastern ribbonsnake

A close-up photograph of an Eastern Ribbonsnake (Liodytes eximius) resting on a pile of dry, light-colored sticks and twigs. The snake's body is slender and features a dark dorsal side with a prominent yellow stripe running along its length. Its head is dark with a lighter patch around the eye. The background is a soft-focus natural setting with more twigs and some green grass blades at the bottom.

Did you know the eastern ribbonsnake gives birth to up to 12 live young in late summer? The young snakes begin hunting for insects shortly after birth.

OLIVE-SIDED FLYCATCHER

Contopus cooperi

Status in Ontario:

Special Concern

- 18-20 cm long (bill to tip of tail)
 - Lives in mixed or coniferous forests adjacent to wetlands
 - The distinct “quick, three beers” song is loud enough that it can be heard up to a kilometre away
-



Photo by Heather Pickard

EASTERN PRAIRIE FRINGED-ORCHID

Platanthera leucophaea

Status in Ontario:

Endangered

- 0.5-1 m tall
- Spike of 10 to 40 whitish flowers from late June to late July. Flowers have a prominent fringed petal
- Only twenty small populations grow in fens and swamp wetlands, and tallgrass prairies in Ontario
- Has been observed in old fields, ditches and railroad rights of way



Photo by Esme Batten

SMALL WHITE LADY'S-SLIPPER

Cypripedium candidum

Status in Ontario:

Endangered

- Up to 25 cm high
 - Mostly white flower, which resembles a slipper, blooms in May and early June
 - Grows in fens, moist prairies and savannahs in full sunlight
-



Photo by Graham Buck

YELLOW RAIL

Coturnicops noveboracensis

Status in Ontario:

Special Concern

- 13-18 cm long (bill to tip of tail)
- Quail like, with a short yellow or black bill and a short tail
- At night in breeding season, the males clicking sounds are distinct. The “tic-tic, tic-tic-tic” sounds like stones being banged together
- Secretive birds that live in shallow wetlands, deep in the reeds and sedges and are ground nesters



Photo by Brian Small

SPOTTED TURTLE

Clemmys guttata

Status in Ontario:

Endangered

- Upper shell rarely longer than 12 cm
 - Black upper shell with small yellow or orange spots
 - Semi-aquatic species found in many wetlands with shallow, slow-moving, unpolluted water and aquatic vegetation. (May even be found in ditches.)
-



FOWLER'S TOAD

Anaxyrus fowleri

Status in Ontario:

Endangered

- 5-9 cm long
- The distinctive two to five second call has been described as sounding like a nasal "waaa" sound, or a distressed baby or sheep
- Found primarily in sandy sites
- Nocturnal, they bury in the sand during the day and feed along the shoreline at night



EASTERN POND MUSSEL

Ligumia nasuta

Status in Ontario:

Endangered

- Average length of 70 mm
 - Found in ponds, lakes and slow-moving rivers, and recently confirmed within wetland habitats
 - Usually out of sight, native freshwater mussels are living water filters
-



Photo by Shawn Staton

Many thanks to Blazing Star Environmental for developing the content of this field guide. For more information on any of the species included in this guide, or to learn about other species at risk found in wetlands or on farms in Ontario, please visit www.ontario.ca/environment-and-energy/species-risk-ontario-list

Design by Supermarket Communications.



Ontario 

The views expressed herein are those of the Ontario Soil and Crop Improvement Association and do not necessarily reflect those of the Government of Ontario.