



Racer



American Toad



Lake Erie Marsh



Painted Turtle

## Amphibians & Reptiles of the Lake Erie Island Region

(Erie and Ottawa Co., Ohio and Essex Co., Ontario). Species in bold are known from 1 or more islands although recent records may be lacking. Superscripts denote species listed as Endangered, Threatened, or of Special Concern.

### Salamanders

Mole Salamander Complex (Jefferson <sup>T</sup> , Blue-spotted <sup>T</sup> , Smallmouth <sup>E</sup> , Tiger <sup>E</sup> & hybrids)	Ambystoma jeffersonianum, <b>A. laterale</b> , <b>A. texanum</b> , <b>A. tigrinum</b> , and hybrids
Spotted Salamander	<b>Ambystoma maculatum</b>
Marbled Salamander	<b>Ambystoma opacum</b>
Northern Dusky Salamander <sup>E</sup>	<i>Desmognathus fuscus</i>
Northern Two-lined Salamander	<i>Eurycea bislineata</i>
Mudpuppy	<b>Necturus maculosus</b>
Red-spotted Newt	<b>Notophthalmus viridescens</b>
Northern Redback Salamander	<b>Plethodon cinereus</b>
Northern Ravine Salamander	<i>Plethodon electromorphus</i>
Slimy Salamander	<i>Plethodon glutinosus</i>

### Frogs and Toads

Cricket Frog <sup>E</sup>	<b>Acris crepitans</b>
American Toad	<b>Bufo americanus</b>
Fowler's Toad <sup>T</sup>	<b>Bufo fowleri</b>
Gray Treefrog	<i>Hyla versicolor</i>
Spring Peeper	<i>Pseudacris crucifer</i>
Western Chorus Frog	<b>Pseudacris triseriata</b>
Bullfrog	<b>Rana catesbeiana</b>
Green Frog	<b>Rana clamitans</b>
Pickerel Frog	<i>Rana palustris</i>
Northern Leopard Frog	<b>Rana pipiens</b>
Wood Frog	<i>Rana sylvatica</i>

### Turtles

Spiny Softshell <sup>T</sup>	<b>Apalone spinifera</b>
Snapping Turtle	<b>Chelydra serpentina</b>
Painted Turtle	<b>Chrysemys picta</b>
Spotted Turtle <sup>E,T</sup>	<i>Clemmys guttata</i>
Blanding's Turtle <sup>T,S</sup>	<b>Emydoidea blandingii</b>
Common Map Turtle <sup>S</sup>	<b>Graptemys geographica</b>
Common Musk Turtle <sup>T</sup>	<i>Sternotherus odoratus</i>
Eastern Box Turtle <sup>S</sup>	<i>Terrapene carolina</i>
Slider	<i>Trachemys scripta</i>

### Lizards

Five-lined Skink <sup>S</sup>	<i>Eumeces fasciatus</i>
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### Snakes - Nonvenomous

Worm Snake	<i>Carphophis amoneus</i>
Kirtland's Snake <sup>T</sup>	<i>Clonophis kirtlandii</i>
Racer <sup>E</sup>	<b>Coluber constrictor</b>
Ringneck Snake	<b>Diadophis punctatus</b>
Eastern Fox Snake <sup>T,S</sup>	<b>Pantherophis gloydi</b>
Rat Snake <sup>T</sup>	<i>Pantherophis obsoleta</i>
Eastern Hognose Snake <sup>T</sup>	<b>Heterodon platirhinos</b>
Milk Snake <sup>S</sup>	<i>Lampropeltis triangulum</i>
Smooth Green Snake	<i>Liochlorophis vernalis</i>
Northern Watersnake	<i>Nerodia s. sipedon</i>
Lake Erie Watersnake <sup>E,T</sup>	<b>Nerodia s. insularum</b>
Queen Snake <sup>T</sup>	<b>Regina septemvittata</b>
Brown Snake	<b>Storeria dekayi</b>
Redbelly Snake	<i>Storeria occipitomaculata</i>
Butler's Gartersnake <sup>T</sup>	<i>Thamnophis butleri</i>
Ribbon Snake <sup>S</sup>	<i>Thamnophis sauritus</i>
Eastern Gartersnake <sup>S</sup>	<b>Thamnophis sirtalis</b>

### Snakes - Venomous

Timber Rattlesnake <sup>E</sup>	<i>Crotalus horridus</i>
Massasauga Rattlesnake <sup>E,T</sup>	<i>Sistrurus catenatus</i>



Lake Erie Island Region



Green Frog



Gartersnake

and Reptiles

## Islands

Islands are special places for many reasons. To biologists, islands are special because they are home to simple and unique sets of species, they have natural boundaries, and population sizes are usually small. This makes it easier to understand the interactions among species and their environment. But it also makes islands vulnerable to natural and human-caused changes to the environment. Non-native diseases and invasive predators can have devastating effects, often resulting in extinction of island populations. And because islands are popular with humans (e.g., as vacation destinations), development and other land-use practices can have unintended consequences for island-dwelling plants and animals.

There are about 20 islands in western Lake Erie ranging from 1 to 10,000 acres and ¼ to 11 miles from shore. These islands are underlain by limestone and dolomite that resisted glaciation. They formed as waters of Lake Erie spread to the southwest about 4,000 years ago. The islands have a colorful human and biological history of which amphibians and reptiles are a remarkable component.

## Amphibians: Salamanders, Frogs & Toads

Amphibians share several characteristics in common including wet skin that functions in respiration and gelatinous eggs that require water or moist soil for development. Most amphibians have an aquatic stage – the tadpole or larvae – and a terrestrial stage and thus live in both aquatic and terrestrial habitats. However, some species skip the aquatic stage and their entire life cycle occurs on land (e.g., the Northern Redback Salamander). Other species are aquatic even as adults (e.g., the mudpuppy). The skin of amphibians is highly permeable, making them particularly vulnerable to environmental contaminants (e.g., pesticides, herbicides, pollutants). In addition, aquatic stages are often eaten by fish and so successful reproduction may occur only in fish-free ponds.

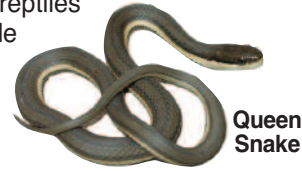
Twenty-four species of amphibians occur in the island region of Lake Erie (Erie and Ottawa Co., Ohio and Essex Co., Ontario), including 13 salamanders and 11 frogs and toads. Of these,



16 (9 salamanders, 7 frogs and toads) are known from one or more islands. Amphibians encountered most frequently include American toads, bullfrogs and green frogs. Mole salamanders (*Ambystoma*), red-spotted newts, cricket frogs, chorus frogs, and leopard frogs are seen less frequently and are now absent from some islands where they were once found.

## Reptiles: Turtles, Lizards and Snakes

In contrast to amphibians, reptiles have relatively impermeable leathery skin that is covered by scales. In addition, reptiles have an 'amniotic egg' – a characteristic that they share with birds and mammals. In egg-laying species (turtles, most lizards, some snakes), the egg is covered in a leathery shell and development occurs outside the female's body (like birds). In live-bearing species (some lizards and snakes), development occurs within the female (like most mammals).



Twenty-eight species of reptiles occur in the island region of Lake Erie, including 9 turtles, one lizard, and 18 snakes. Of these, 13 (5 turtles, 8 snakes) are known from one or more islands. Reptiles encountered most frequently include painted turtles, snapping turtles, Lake Erie watersnakes, Fox snakes, gartersnakes, and brown snakes.

## Unique Species

Because of their isolation, islands sometimes harbor 'endemic' plants and animals – forms found nowhere else in the world. One Lake Erie island endemic is the Lake Erie watersnake. Although locally common, this subspecies occurs only on the Lake Erie islands. The fox snake is a regional endemic, occurring only in a narrow band bordering Lake Erie, Lake Huron, and Lake Ontario.

## Protected Species

More than half the amphibians and reptiles found in the island region are listed as endangered, threatened, or species of special concern in the U.S., Canada, Ohio, or Ontario (denoted by E, T, or S on the accompanying checklist). Possession, purchase, sale, and trade of native amphibians and reptiles are regulated in Ohio and Ontario. Amphibians and reptiles can be difficult to care for and often fare poorly in captivity.

## Venomous Snakes

No venomous snakes are found in the island region of Lake Erie. None! Timber rattlesnakes once occurred on South Bass Island and the Catawba Peninsula. These snakes were usually killed when encountered and none have been seen in more than 40 years. Massasauga rattlesnakes never occurred on the islands and have not been verified from nearby mainland areas for more than a decade. Confusion sometimes arises because fox snakes will vibrate their tails against dry leaves when disturbed, making a sound not unlike that of a rattlesnake. In addition, watersnakes often flatten their head and body and strike vigorously when cornered, causing many people to assume they are venomous.

## Little Known Facts

- Many species of amphibians and reptiles are surprisingly long-lived with life-spans exceeding 20 years in some salamanders and snakes and 100 years in some turtles.
- Amphibians and reptiles exhibit remarkably complex behavior that includes caring for eggs and young, recognizing kin and neighbors, and returning repeatedly to specific locations to hibernate, feed, or reproduce.



## More Information

Photos and descriptions of many Lake Erie amphibians and reptiles can be found at

- <http://www.dnr.state.oh.us/wildlife/resources/wildnotes/wildnotes.htm>
- <http://www.rom.on.ca/ontario/index.php>
- <http://www.bios.niu.edu/rking/lab/projects.html>

and in *Amphibians and Reptiles of the Great Lakes Region* by J. H. Harding (University of Michigan Press, 1997)

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