

EASTERN MASSASAUGA RATTLESNAKE



(*Sistrurus catenatus catenatus*) Photo courtesy of James Harding

Michigan's Only Venomous Snake

Michigan has 18 species of snakes and only one species is venomous. Not all of the Michigan snakes live in Oakland County, but if you look, you may find the Eastern Massasauga Rattlesnake. Oakland County's rich wetland complexes provide habitat for this shy and well camouflaged reptile.

The Eastern Massasauga, like all snakes, has a backbone and scales. Scales are shed as snakes grow. Snakes are legless and do not possess external ears or eyelids. They breathe air and are warmed by their surroundings. During Michigan winters, snakes must hibernate to survive.

The Eastern Massasauga's name refers to the habitat in which they live—fens, marshes, sedge meadows, shrub swamps, bogs, forested bottomlands and moist prairies. Massasauga is a word in the Chippewa language which means "great river mouth".

Conservation of these wetlands is important to the survival of the Eastern Massasauga.

Eco Indicators

People wonder, "why should I care?" about protecting a venomous snake. In fact the decline of the Massasauga is a red flag indicating something is wrong with the environment. As human populations grow and move into natural areas, wildlife loses habitat. Habitat degradation signals the loss of many important ecological services, such as flood control, water filtration, ground water recharging, biodiversity and ensuring genetic variability. These services are provided freely through wetlands. Countless other species depend on the same wetlands.

The Massasauga plays an important role in the ecosystem as both predator and prey. Also, snake venom is being studied in medical research with promising applications in preventing heart attacks, strokes and more.



Eastern Massasauga Rattlesnake Range

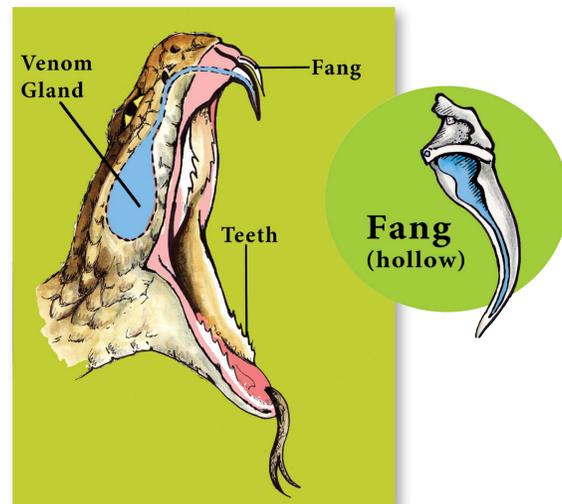


Toxic Saliva, the secret weapon!

Venom is a mixture of proteins and enzymes made in the venom glands and delivered through hollow fangs. Fangs are like moveable hypodermic needles that are normally folded, but rotate forward when the snake strikes. Venom glands are modified salivary glands. Venom kills the prey and breaks down tissue for easy digestion.

Rattlesnake venom is one of the most complex substances known. It destroys blood cells, tissues and can paralyze nerves.

Not all bites deliver venom. It is thought that up to 25% of rattlesnake bites are "dry bites" that do not deliver venom. On average only one – two bites are reported in Michigan a year.



What's for Lunch?

All snakes are predators and must swallow their food whole. Rattlesnakes eat small mammals, amphibians and insects. In turn rattlesnakes are eaten by larger animals. Since rattlesnakes eat mammals that could hurt them in a struggle, rattlesnakes use venom to subdue their prey.



Sharing Parks with Snakes

- Learn to identify the Eastern Massasauga and other similar snakes.
- Follow park rules and stay on the trail.
- Visit DestinationOakland.com to learn more about the Eastern Massasauga.
- Tell a friend what you have learned and how to react if you see a snake.
- NEVER pick up a snake!
- Report all Massasauga sightings at Oakland County Parks—forms are on line OaklandCountyParks.com



Photo courtesy of John Meyland

Friend a Massasauga Snake

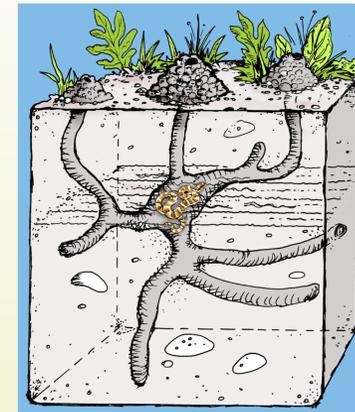
The Eastern Massasauga Rattlesnake like many other snakes has been persecuted. Now this species is rare and protected throughout its range.

In Michigan it is listed as "A Species of Special Concern". This status protects the snake from harm. It is unlawful to kill, take, trap or possess this snake. Five of Michigan's snakes are species of conservation concern.

A Year in the Life of a Massasauga

JANUARY

Below ground and submerged in water, snakes use little oxygen and their hearts beat very slowly. Hibernation is the only way the Eastern Massasauga can survive in a cold climate.



APRIL

Snakes emerge from hibernation and bask on beaver or muskrat lodges or anything available on higher ground. Appearing dusty, their scales are coated with calcium deposits from alkaline waters. They move slowly and are vulnerable to predators. They warm in the sun until their internal temperature rises, allowing them to feed.



JUNE

Many snakes move to upland for summer feeding and resting. They are active during early mornings, late evenings and at night.

AUGUST

Females give birth to five–20 young in drier habitat. Females mature at three–four years and only give birth in the northern climates every two–three years.



Massasaugas do not lay eggs. Young are enclosed in a thin membrane and emerge with yellow button tails and venom glands.



Mating Can Occur: Spring, summer, and fall.

SEPTEMBER

Snakes move towards wetlands for hibernation. Temperatures decrease and snakes are more active during the day.



OCTOBER

Massasaugas move to their hibernacula. Massasaugas hibernate in crayfish chimneys or small mammal burrows below the frost line close to groundwater level. Water that does not freeze is a critical component of this hibernaculum.

Eastern Massasauga ID

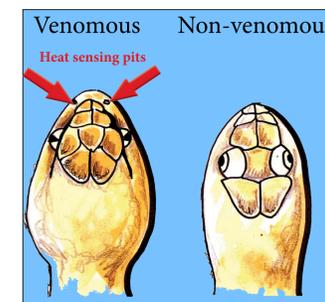
- ✓ Look for medium length snake with a thick body for its size. Adults: 18"–30".
- ✓ Colors vary from gray to brown. Larger dark blotches on its back.
- ✓ Look for the rattle—a series of hollow button like segments on the tail. A new button is added as the skin is shed.
- ✓ The rattle buzzes as a warning.
- ✓ Sometimes rattles are lost, but the tail is never tapered.
- ✓ Look at the head shape and for the heat sensing pits.



STAY THREE FEET AWAY!

Compare venomous and non-venomous snake head shapes.

- Look for the pit viper's triangular head.
- It has heat sensing pits between the nostrils and the eyes.
- Pits are lined with nerve cells that detect heat from potential prey.
- Pits help the snake locate its prey.



The Massasauga is a pit viper and belongs to the Family - Viperidae.

What Should I Do if I See a Massasauga?

Generally secretive and shy, Eastern Massasauga usually hide and go unnoticed.

Avoiding detection is their first line of defense. Massasaugas live in very small areas. They are very attached to this home site – a condition known as *site fidelity*. Moving a snake from the place where it lives can be fatal for the snake.

Bites are highly unlikely, but you should follow these guidelines.

- Stay calm!
- Keep a three-foot distance between you and the snake.
- DO NOT KILL the snake.
- Keep pets away—dogs should be on a leash.
- Be ALERT and AWARE of your surroundings.
- Leave the snake alone and allow it to escape.
- Seek immediate medical attention if you or your pet are bitten.



REPORT all Massasauga observations in MICHIGAN!