



## *Questions and Answers*

# Proposed Listing of Eastern Massasauga Rattlesnake as a Threatened Species

### **1. What action is the U.S. Fish and Wildlife Service taking?**

The U.S. Fish and Wildlife Service announced a proposal to list the eastern massasauga rattlesnake (*Sistrurus catenatus*) as a threatened species under the Endangered Species Act. We also determined that critical habitat for the eastern massasauga is not prudent. This proposal opens a 60-day public comment to allow agencies, groups and interested people to comment and provide us with new information. The public comment period is open through November 30, 2015.

### **2. What is the eastern massasauga rattlesnake and where is it found?**

Eastern massasaugas are small snakes with thick bodies; adults average about 2 feet in length and have heart-shaped heads and vertical pupils. They live in wet areas like wet prairies, marshes and low areas along rivers and lakes, but they also use adjacent uplands during part of the year. They use areas with a mix of low plant canopy cover and sunny areas so that they can bask in the sun for thermoregulation, but shady areas are nearby for protection from predators and a source of abundant prey. During winter they hibernate, often in crayfish burrows, but also under logs and tree roots or in small mammal burrows. Unlike other rattlesnakes, eastern massasaugas hibernate alone.

Like all rattlesnakes, eastern massasaugas bear live young. The young actually hatch from eggs while still in the female's body. Depending on the health of the individual, adult females may bear young every year or every other year.

Eastern massasaugas eat small rodents like mice and voles but they will sometimes eat frogs and other snakes. They hunt by sitting and waiting. Heat sensitive pits near the snakes' eyes alert the snake to the presence of prey. They can find their prey by sight, by feeling vibrations, by sensing heat given off by their prey, and/or by detecting chemicals given off by the animal (like odors).

Eastern massasaugas live in an area that extends from central New York and southern Ontario to southern Iowa. Historically, the snake's range covered this same area, but within this large area, the number of populations and the number of snakes within populations have steadily shrunk. The eastern massasauga is generally found in small, isolated populations throughout its range. Today, the eastern massasauga is listed as endangered, threatened, or a species of concern in every state and province where they are found.

### **3. Why is the Service proposing to list the eastern massasauga as threatened?**

Throughout its range, less than half of the eastern massasauga's historical populations have been confirmed to still exist. We know of 581 historical populations, of which 193 have been lost and the status of 121 is uncertain – with the likelihood that many of those populations have also been lost. We have information indicating that 267 of the historical populations still exist today.

Most of those populations are in Michigan and Ontario, Canada. However, a smaller number of populations are also in New York, Pennsylvania, Ohio, Indiana, Illinois, Wisconsin and Iowa.

We developed a Species Status Assessment Report to assess the eastern massasauga's current and projected future ability to survive. The report was peer reviewed by 21 individuals with expertise in the eastern massasauga, its habitat and ecology, and threats affecting it.

The analysis included in the Assessment Report predicts a continuing decline in the number of eastern massasauga populations, especially in the southwestern portion of its range, where 96 percent of historical populations are predicted to be lost within the next 50 years. Across the entire snake's range, we know that 33 percent of historical populations have been lost as of 2014 and the status of another 21 percent is uncertain. Our analysis projects an 84 percent reduction in number of populations over the next 50 years.

In addition to the loss of populations, the extent of the species' range is predicted to be reduced by 65 percent over the next 50 years.

#### **4. What is causing the loss of eastern massasauga populations?**

Populations have been lost, and we expect them to continue to be lost, because development and vegetative succession reduce habitat availability, reduce habitat quality and fragment the remaining habitat. Hydrologic changes to their wetlands reduce availability by drying out wetlands and degrade wetlands by causing drought and flooding. Direct mortality also reduces massasauga numbers. Eastern massasaugas may be killed while crossing roads as they travel between wetlands or after they emerge from hibernation; by people intentionally killing or collecting them; and by prescribed fires and mowing when it is done after snakes have emerged from hibernation.

Additionally, a recent Climate Change Vulnerability Analysis prepared for the Service by Pomara and colleagues (Pomara *et al.*, Technical Report) indicates that populations in the southwestern parts of the eastern massasauga's range are extremely vulnerable to climate change because of the increasing intensity of winter drought and increasing risks of summer floods. Populations in the eastern and central parts of the snake's range are vulnerable to climate variables but less so than the southwestern populations.

#### **5. Why does the Service want to conserve a venomous snake?**

The eastern massasauga is an important part of its community because it's both predator and prey. It eats small mammals (mice and shrews) and small snakes. It is also food for other animals in its communities, including herons, hawks, eagles and other snakes.

Conserving eastern massasaugas means conserving the habitat where they live. Game species like white-tail deer and turkey share habitat with the massasauga. Migratory birds such as sandhill cranes, sora rails, Virginia rails, bobolinks and sedge wrens live in the marshes and low areas that massasaugas frequent. Northern leopard frog, Kirtland's snake and spotted turtle – all species of concern -- co-exist with eastern massasaugas. These wetlands are also home to the burrowing crayfish; tunnels created by these crayfish provide hibernation sites for massasaugas

and many other species of insects and wildlife. Some of the same wetlands are home to the Mitchell satyr, an endangered butterfly.

Wetland conservation benefits people because wetlands store flood waters and filter sediments and other pollutants from water that people use.

Many plants and animals are directly important to humans now or may become important in the future as sources of food or medicine. By saving species from extinction we ensure that their beneficial uses will be available to us in the future. For example, rattlesnake venom has been explored for human medicinal use, including treatments for arthritis, multiple sclerosis and polio. Rattlesnake venom also has anti-coagulant properties that stay localized, unlike some other anti-coagulants that are currently used to prevent strokes and heart attacks.

#### **6. Are eastern massasauga rattlesnakes dangerous?**

People's fears related to eastern massasauga rattlesnake are largely unfounded. These snakes are typically non-confrontational and encounters with humans are rare and fatalities associated with snake bites are even rarer. Many more people are injured or die from dog bites and bee stings every year. In rare cases that snake bites do occur, it is often because people are actively trying to get close to the snake or trying to kill it.

The eastern massasauga is a natural part of our environment that has evolved over millennia. If you live near areas with eastern massasaugas, there are steps you can take to keep them away from your yard. Cut your grass short and often; remove structures that a snake might use (leaf piles, brush piles, dead logs, rocks, stack of firewood); and remove food or habitat that might attract small rodents.

Human safety always comes first - if the massasauga is protected under the Endangered Species Act, you may protect yourself or others if threatened.

#### **7. How would listing as threatened under the Endangered Species Act help conserve the eastern massasauga?**

Listing under the Endangered Species Act helps conserve species in several ways. Listing focuses conservation planning and funding, raises awareness that can lead to additional opportunities and partners, and by regulation protects listed species from intentional and unintentional harm.

The Endangered Species Act requires the Service to prepare a recovery plan for each listed species. A recovery plan identifies and prioritizes actions needed to conserve and recover a species. Non-governmental agencies, universities and other federal and state agencies often carry out conservation actions identified in recovery plans.

Federally listed threatened and endangered species are usually considered as priorities during land-use planning.

Listing protects species by prohibiting "take" under Section 9. The take prohibition includes significant habitat modification or degradation that results in the direct killing or injury to listed

animal species. States may also have their own laws restricting activity that affect federally listed species.

In addition, Section 7 of the Endangered Species Act protects listed species by requiring that other federal agencies consult with the Service to ensure that their actions are not likely to jeopardize the continued existence of a listed species. Through this consultation, the Service works with the federal agency and advises on whether the actions would affect the species or critical habitat as well as ways to avoid those impacts. Listed species often become priorities for grants and other funding because of the section 7(a)(1) requirement that all federal agencies use their authorities to carry out programs for the conservation of threatened and endangered species.

### **8. When will the final decision on listing be made?**

Making a final decision generally takes about 1 year from the publication of the proposed rule, but that timeline may be extended by an additional 6 months if we find there is substantial disagreement regarding the sufficiency and accuracy of the available data relevant to our determination regarding the proposed listing.

### **9. What can I do to help the eastern massasauga?**

*If you see a massasauga, leave it alone:* Most bites occur when people pick up and handle snakes. If you see a massasauga in your yard, leave it alone and you are unlikely to see it again. They often travel between habitats, and if they are in your yard, they are likely in route to somewhere else. If you need it moved, contact your state natural resource agency. They may be able to help you directly or recommend an animal damage control company that can help.

*Visit local parks, refuges, and sanctuaries:* While you enjoy these areas, your entrance fees and donations provide essential funds to manage and conserve habitat for plants and animals that rely on these lands. Visiting parks and refuges also provides opportunities to learn more about wildlife in your area.

*Support Sustainability:* Support efforts in your community, county and state to ensure that sustainability is a development goal. Sustainable living helps alleviate some of the pressures and threats on imperiled species, like the eastern massasauga rattlesnake, and their habitat.

*Spread the Word:* Understanding the important ecological role that snakes play is a key to conserving the eastern massasauga and other snakes. Helping people learn more about the eastern massasauga and other endangered species can lead to more effective recovery efforts.

*Join and Volunteer:* Join a conservation group; many have local chapters. Volunteer at a local nature center, zoo, or national wildlife refuge. Many state natural resource agencies benefit greatly from citizen involvement in monitoring wildlife. Check your state agency websites and get involved in citizen science efforts in your area.

## **10. How do I comment on the proposed rule?**

You may submit comments by one of the following methods:

(1) Electronically:

Go to the federal eRulemaking Portal: <http://www.regulations.gov>. In the Search box, enter FWS–R3–ES–2015–0145, which is the docket number for this rulemaking. Then, in the Search panel on the left side of the screen, under the Document Type heading, click on the Proposed Rules link to locate this document. You may submit a comment by clicking on “Comment Now!”; or

(2) Submit hard copies by U.S. mail or hand-delivery to:

Public Comments Processing  
Attn: FWS–R3–ES–2015–0145  
U.S. Fish & Wildlife Headquarters, MS: BPHC  
5275 Leesburg Pike  
Falls Church, VA 22041-3803

We will accept and consider comments and information we receive or postmarked on or before November 30, 2015. We must receive comments submitted electronically using the federal eRulemaking Portal by 11:59 p.m. Eastern Time on the closing date.

We request that you send your comments **only** by the methods described above. We will not accept verbal comments left on phone voicemail or comments sent to other postal or email addresses. The Service will post all information received on <http://www.regulations.gov>. This generally means that the Service will post any personal information you provide.

## **11. Is there specific information that the Service would like to receive?**

Any final action we take on this proposed rule must be based on the best scientific and commercial data available and must be as accurate and as effective as possible. Therefore, we are asking for comments or information from other concerned federal and state agencies, the scientific community, or any other interested party. In particular, we are asking for information on:

- (1) The eastern massasauga rattlesnake’s biology, range and population trends, including:
  - (a) Biological or ecological requirements of the species, including habitat requirements for feeding, breeding and sheltering;
  - (b) Genetics and taxonomy;
  - (c) Historical and current range, including distribution patterns;
  - (d) Historical and current population levels, and current and projected trends; and

- (e) Past and ongoing conservation measures for the species or its habitat.
- (2) Factors that may affect the continued existence of the species, which may include habitat modification or destruction, overutilization, disease, predation, the inadequacy of existing regulatory mechanisms or other natural or manmade factors.
- (3) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to this species and existing regulations that may be addressing those threats.
- (4) Whether designating critical habitat is prudent for this species and, if so, the reasons why any habitat should or should not be determined to be critical habitat for the eastern massasauga rattlesnake as provided by section 4 of the Endangered Species Act, including physical or biological features within areas occupied or specific areas outside of the geographic area occupied that are essential for the conservation of the species.

**12. Where can I learn more about the eastern massasauga and the proposal to list it as threatened?**

Information is online at [www.fws.gov/midwest/endangered](http://www.fws.gov/midwest/endangered) or you may contact the U.S. Fish and Wildlife Service's Chicago Field Office at:

Louise Clemency, Field Supervisor  
U.S. Fish and Wildlife Service  
Chicago Ecological Services Field Office  
1250 S. Grove Ave., Suite 103  
Barrington, IL 60010-5010

Telephone 847-381-2253

If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800-877-8339.