

Massasauga Recovery Team. 2006. Third International Symposium and Workshop on Conservation of the Eastern Massasauga, *Sistrurus catenatus*: Population Viability and Outreach. 2005 October 12-14, Toronto Zoo, Ontario, Canada.  
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Overview of Eastern Massasauga  
Status and USFWS Conservation  
Actions

# Overview of Eastern Massasauga Status and USFWS Conservation Actions



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# Goals for This Presentation...

- Summary of range-wide conservation status of Eastern Massasauga.
- Summary of Candidate Conservation Agreements – “CCA’s” & “CCAA’s”.
- Selected USFWS activities since the 1998 Status Review, and Candidate Status in 1999.
- What’s next?

# Eastern Massasauga Rattlesnake (“EMR”) status by State

<b>GEOGRAPHIC</b>	<b>STATUS</b>	<b>NATURESERVE</b>
United States	Candidate	G3/G4
Illinois	Endangered	S2
Indiana	Endangered	S2
Iowa	Endangered	S1
Michigan	Special Concern	S3/S4
Minnesota	Endangered	S1
Missouri	Endangered	S1
New York	Endangered	S1
Ohio	Endangered	SNR
Pennsylvania	Endangered	S1
Wisconsin	Endangered	S2

# Candidate Species:

*Species for which the USFWS has enough information to propose listing.*

## Three Stages in Listing Process

Candidate → Proposed → Listed T/E

# USFWS Threat Matrix and Listing Priority Number (“LPN”) for EMR

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9*
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

# Ways USFWS addresses candidate species conservation:

- Work closely and share data with States/local partners.
- Identify data gaps, assist with monitoring & surveys, or applied research.
- Higher profile when Federal activities could affect populations (though no regulatory weight).
- Outreach.
- **Candidate Conservation Agreements.**

# USFWS emphasis since late 1990's: Candidate Conservation Agreements (“CCA's” or “CCAA's”)

- Both: Provide framework to voluntarily work with USFWS to plan proactive conservation actions beneficial to candidate species.
- CCA's: *Non-binding and somewhat informal*, no assurances that certain land use activities would be permissible if species is listed.
- CCAA's: Non-Fed *property owners* enter and agree to conservation measures that remove threats or improve the status of species, *in return receive binding assurances* that their efforts will not result in future obligations exceeding those established in the CCAA.

# Status of CCA's/CCAA's

- Met with mixed responses from states/other partners.
- CCAAs required NEPA process to be completed (EA/FONSI were completed July 2005).
- Two CCA's in place in NE Illinois (2004, 2005).
- Several CCAA's ready for signature.

# USFWS Attention to EMR

## Some notable dates:

- 1991 USFWS funding made available for states to individually determine EMR status.
- 1993 First International EMR Symposium (Toronto).
- 1998 Second International EMR Symposium (Toronto).
- 1998 Candidate Review completed by USFWS, EMR became candidate for Federal listing in 1999.

# Examples of USFWS-funded EMR activities since 1999:

- 2001 Multi-state candidate conservation grant (funded activities between 2003-2005 in USFWS Region 3 - Midwest).
- 2003 USFWS partially funded range-wide taxonomic study (Douglas et al., ongoing).
- Various small grants funded surveys, applied research, outreach materials and work to facilitate CCA's/CCAA's.

# Outreach Publications

## Several Outreach Publications Produced:

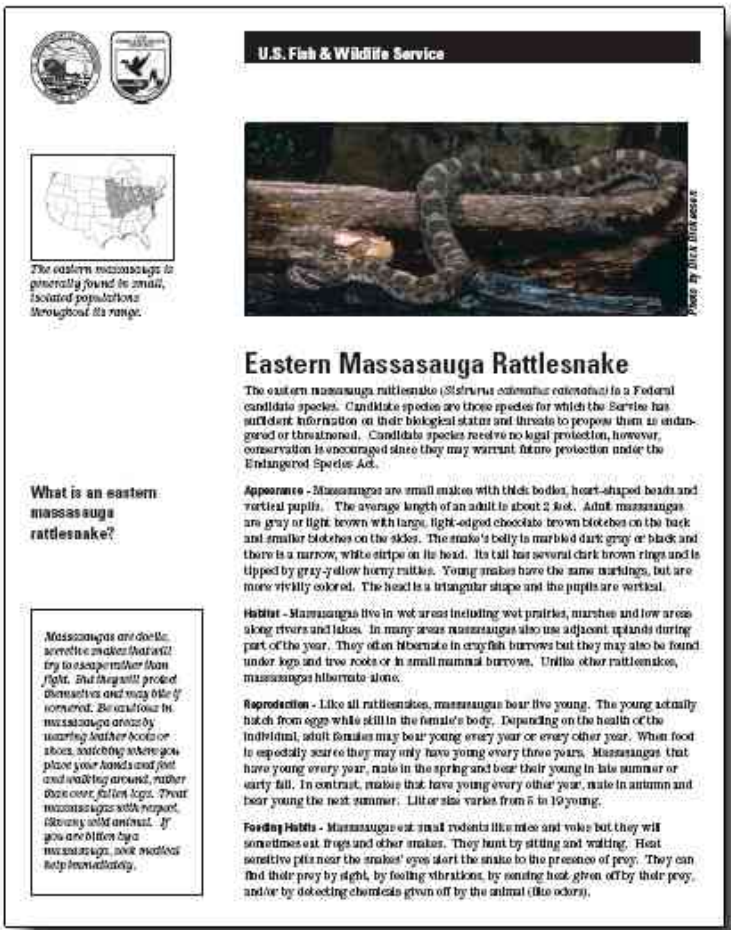
*EMR Fact Sheet (1999).*

*EMR Questions and Answers (1999).*


*Why Conserve A Poisonous Snake? (1999).*

*EMR Handbook for Land Managers (Johnson, et al., 2000).*


*Recommended Standard Survey Protocols (Casper, et al., 2001).*



**U.S. Fish & Wildlife Service**



The eastern massasauga is generally found in small, isolated populations throughout its range.



**Eastern Massasauga Rattlesnake**

The eastern massasauga (*Sistrurus catenatus catenatus*) is a Federal candidate species. Candidate species are those species for which the Service has sufficient information on their biological status and threats to propose them as endangered or threatened. Candidate species receive no legal protection, however, conservation is encouraged since they may warrant future protection under the Endangered Species Act.

**Appearance** - Massasaugas are small snakes with thick bodies, heart-shaped heads and vertical pupils. The average length of an adult is about 2 feet. Adult massasaugas are gray or light brown with large, light-edged chocolate brown blotches on the back and smaller blotches on the sides. The snake's belly is marbled dark gray or black and there is a narrow, white stripe on its head. Its tail has several dark brown rings and is tipped by gray-yellow horny rattles. Young snakes have the same markings, but are more vividly colored. The head is a triangular shape and the pupils are vertical.

**Habitat** - Massasaugas live in wet areas including wet prairies, marshes and low areas along rivers and lakes. In many areas massasaugas also use adjacent uplands during part of the year. They often hibernate in crayfish burrows but they may also be found under logs and tree roots or in small mammal burrows. Unlike other rattlesnakes, massasaugas hibernate alone.

**Reproduction** - Like all rattlesnakes, 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. When food is especially scarce they may only have young every three years. Massasaugas that have young every year, mate in the spring and bear their young in late summer or early fall. In contrast, males that have young every other year, mate in autumn and bear young the next summer. Litter size varies from 6 to 19 young.

**Feeding Habits** - 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 snake's 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 (its odors).

**What is an eastern massasauga rattlesnake?**

Massasaugas are one of the deadliest snakes that will try to overpower than fight. But they will pretend themselves and may bite if cornered. Be cautious in massasauga areas by wearing leather boots or shoes, watching where you place your hands and feet and walking around, rather than over, fallen logs. Treat massasaugas with respect, always with caution. If you are bitten by a massasauga, seek medical help immediately.

# Eastern Massasauga Rattlesnake (“EMR”) USFWS Chronology: 2005

- March: USFWS Lead Office Change Bloomington, IN to Chicago IL.
- March: Midwest Massasauga Workshop (Squaw Creek, MO).
- June: Region 3 completes EA/FONSI for CCAA’s.
- September: Regions 3 & 5 began working together on LPN Change, Complete early 2006(?)
- October: Third International EMR Symposium (Toronto).
- October: Illinois recovery team will meet.

# What activities need more exploration?

- Human dimensions/outreach.
- Great interest in manipulating populations. Understanding of behavioral and population viability issues varies greatly.
- More emphasis on monitoring/population assessment will be critical. Published data lacking for some of the “best-known” populations.
- Habitat management, esp. for invasive species.

# Where are we today...listing soon?

- EMR is “in queue” for listing.
- Listings delayed by lack of funding.
- Listing does not always translate to more intensive recovery actions/faster recovery.
- Inability to reduce threats (e.g., invasive woody species) at some sites, and to make certain defensible statements about population trends are issues.

# Potential Change in Listing Priority in 2006: Currently LPN = 9

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
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		Species	5
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		<b>Subspecies/population</b>	<b>9</b>
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

# Potential Change in Listing Priority in 2006: Could Change LPN = 3 or 6

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
<b>High</b>	<b>Imminent</b>	Monotypic genus	1
		Species	2
		<b>Subspecies/population</b>	<b>3</b>
	Non-imminent	Monotypic genus	4
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	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

# USFWS Candidate Species Policy Statement:

- Candidate species are species for which the Service has enough information to propose listing. While they *do not receive federal protection*, the Service *recommends considering their conservation now to help retain flexibility* should the species be listed and receive protection under the Endangered Species Act.

Until such a time as the EMR is listed, States will have the primary conservation authority over it.

# Illinois Recovery Team

- Discussions began 2004. ILDNR and USFWS have agreed to work as joint coordinating stakeholders.
- Loosely modeled after USFWS recovery teams, will involve multidisciplinary science/land management membership.
- Would produce/implement recovery plan.
- Region 3 is strongly encouraging this approach.

First Meeting: October 19



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