

USACE Natural Resource Management

Reptiles & Amphibians



Eastern Massasauga

FAST FACTS

REASONS FOR LISTING STATUS: The eastern massasauga historically could be found in Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, New York, Ohio, Pennsylvania, and Wisconsin. However, the species has declined 53% and has been extirpated from Missouri and Minnesota.

As result of the species' decline, the U.S. Fish and Wildlife Service listed the eastern massasauga as Threatened in 1973. The threats which caused the decline still persist today and include the loss and fragmentation of habitat and the degradation of habitat, particularly from invasive species. (USFWS)

MANAGEMENT AND PROTECTION: The USFWS drafted a recovery plan for this snake in 2019. The recovery plan highlights several key actions for conservation.

It is critical that land managers control invasive species, particularly wood invasives, to ensure that preferred habitat structure is maintained. Managing water levels is critical. There needs to be adequate hydrology to allow for crayfish populations to flourish, as their burrows are used by massasaugas for hibernation. Further research is needed on snake fungal disease. (USFWS)

HABITAT NEEDS: The eastern massasauga occupies wet areas including wet prairies, marshes, fens, sedge meadows, peatlands, and low areas along rivers and lakes. (USFWS)

- Occupied habitat shifts with the season. Generally the species use wetlands in the spring, fall, and winter. During the summer, snakes migrate to drier upland sites such as forest openings, fields, and/or prairies.
- This snake most often uses crayfish burrows for hibernation, but can also be found under logs and tree roots or in small mammal burrows.
- Typically, early successional, graminoid dominated plant communities are preferred by the species which can be maintained via prescribed burning and/or mowing. (USFWS)

Description: With an average length of approximately 2 feet, this is a fairly small snake, but it is thick bodied. The head is heart-shaped and the pupils are vertical. Coloration is generally a gray or light brown color with light-edged brown blotches on the back. Blotches are smaller on the sides than on the middle of the back. The belly is a marbled gray or black. The tail has dark brown rings and tipped by a gray-yellow rattle. (USFWS)

Photos: U.S. Fish and Wildlife Service

Natural Resource Management (NRM)

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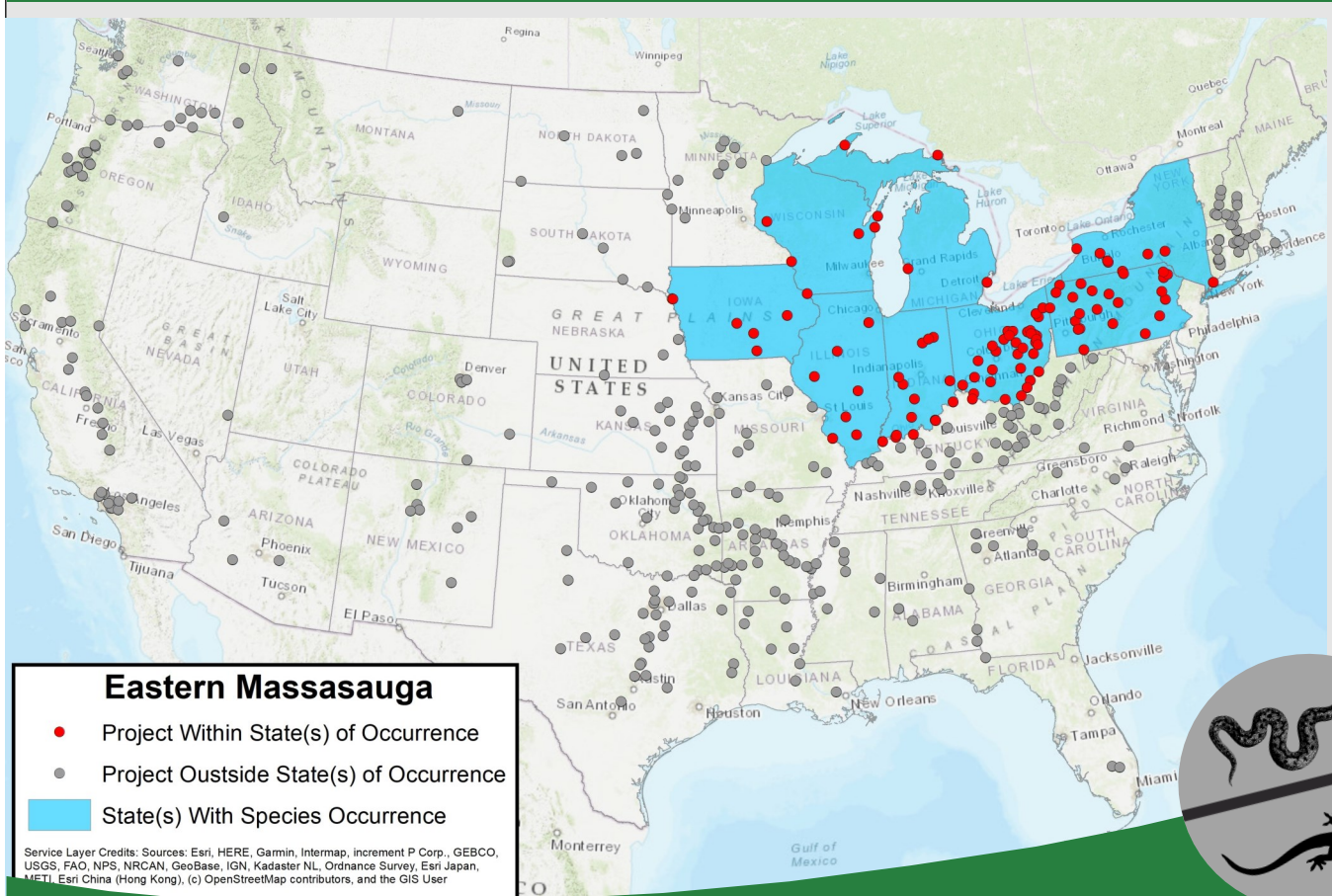
USACE ROLE: The eastern massasauga's range spans across multiple USACE divisions. In the 2019 NRM Assessment, the eastern massasauga has the potential to or known occurrences at thirteen projects across five districts. One project, Carlyle Lake, notes that the species is known to occur occasionally at the project.



Photo, right: An image of the Carlyle Lake east dam. Sightings of eastern massasaugas have been reported in this area.

WHAT IS USACE NRM DOING:

Carlyle Lake of Saint Louis District worked closely with the Illinois Department of Natural Resources and U.S. Fish and Wildlife Service, Region 3 to draft an eastern massasauga management plan for the project. The original draft, completed in 2001, was included as an appendix to the Carlyle Lake project master plan. The management plan was most recently updated in 2016. The objective of the management plan is to locate, protect, enhance, and where appropriate, expand habitat suitable for hibernation, seasonal movements, foraging and reproduction of the eastern massasauga, while allowing for continued flood damage reduction on the Kaskaskia River, domestic and industrial water supply, water quality enhancement, fish and wildlife conservation, hydropower, navigation and recreational use of the area as specified in the lake's legal authorization. Under this plan, construction activities in areas known or suspected to be hibernacula and their adjacent foraging areas are limited to May 16 through October 15. Saddle dams are mowed infrequently to minimize snake mortality. Lastly, succession control is used to control woody encroachment in massasauga habitat.



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 Source: Map provided by Ashleigh Boss, ORISE Fellowship, Institute for Water Resources

