Biologists from multiple agencies join forces in the eastern massasauga rattlesnake recovery effort.

(Sharon Dewar, photo of Michigan field work.)

It Takes a Team

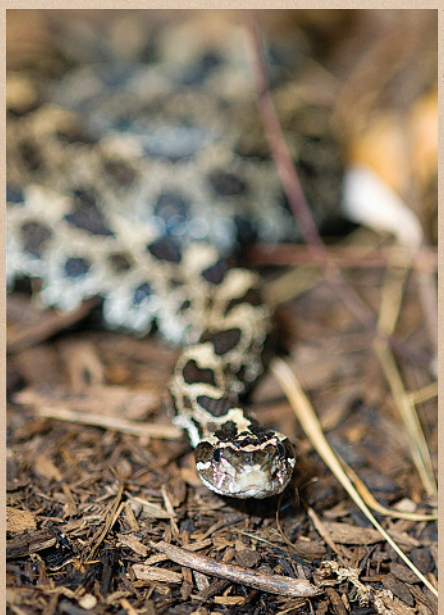
Story by James Seidler
Photos Courtesy Lincoln Park Zoo

This spring the Eastern Massasauga Rattlesnake Recovery Team will re-visit the field in a bid to locate the last remaining snakes in northeastern Illinois.

The recovery team moved deliberately through the woods, fields and marshes of the Cook and Lake County forest preserves, eyes to the ground, scanning the underbrush for hours at a stretch. In the mud and cold, their vision blurred with effort. They kept moving, looking for a species that might not even be there.

Even in the best of times it isn't easy to find eastern massasauga rattlesnakes (*Sistrurus catenatus*) in northeastern Illinois. These small, cryptically colored snakes blend in well among the vegetation of their homes. Shy by nature, they remain motionless in the face of intruders, using camouflage as their best defense.

Unfortunately, these are far from the best of times for the species. Due to habitat loss and poaching, its numbers have declined drastically in Illinois. According to Department of Natural Resources Endangered Species Project Manager Joe Kath, "Considerable scientific data indicate eastern massasauga rattlesnakes will vanish forever if the remaining snakes aren't found. This is an emergency situation, and we must act now."



(Greg Neise.)

To conserve the massasauga in Illinois, the DNR and U.S. Fish and Wildlife Service established an Eastern Massasauga Rattlesnake Recovery Team in 2006. In spring 2008, the Cook County and Lake County forest preserves joined the team to develop a two-pronged approach to conserving the species in northeastern Illinois. In hopes of establishing a stable long-term population, the last remaining snakes in

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(Sharon Dewar, photo of Michigan field work.)

the region would be collected and then placed in appropriate facilities to boost their numbers.

To advance these goals, the recovery team began a long-term collaboration with Chicago's Lincoln Park Zoo, which is a leader in small-population management and has a history of working with the species. The zoo hosts the Eastern Massasauga Rattlesnake Species Survival Plan, a shared management effort that has North American zoos advancing the population's long-term health by collaborating on breeding and transfer plans. Joanne Earnhardt, director of the zoo's Alexander Center for Applied Population Biology, serves as SSP coordinator. Research Biologist Lisa Faust is a field advisor, while Curator Diane Mulkerin serves as studbook keeper, maintaining breeding records and lineages necessary for population planning.

Their work to conserve the eastern massasauga rattlesnake isn't confined to Illinois. The species is endangered throughout much of its range, which extends from the Midwest into New York and Ontario. However, local conservation efforts are heightened by the fact that genetic studies have identified three distinct regional groups. Chicago-area snakes share a heritage with massasaugas in Wisconsin, Iowa and southern Illinois, each of which are confined to small pockets of territory.

To preserve this natural heritage, keepers and curators from Lincoln Park Zoo and Brookfield Zoo and volunteers from DNR, the USFWS and the Lake and

A collaborative effort on the part of multiple agencies, the recovery program aims to place the endangered rattlesnakes in appropriate facilities to boost their numbers for eventual reintroduction.

Cook County forest preserve districts led the first muddy foray into the wetlands of northeastern Illinois last spring, peering carefully at rocks and bushes for the elusive snakes. This effort turned up two massasaugas—one male, one female. Both were taken to Lincoln Park Zoo, where the female promptly gave birth to four snakes. (As it turns out, she was pregnant when she arrived.)

A year after this initial effort, the recovery team is getting ready to re-visit the field—in greater numbers, at greater length and covering a greater expanse of massasauga habitat. "We're going to focus heavily on areas where massasaugas have been historically," said Mulkerin. "There are lots of sites, and we're dedicating more time and people to each of them."

The recovery team will hit the field in early spring, just as the massasaugas start to emerge from their winter hibernation.

Further information on the massasauga and ongoing research projects may be found at www.fws.gov/midwest/endangered/reptiles/eama-fct-sht.html or www.docstoc.com/docs/691752/The-Eastern-Massasauga-Rattlesnake-A-Handbook-for-Land-Managers.

"As long as there's a possibility, we want to keep looking," said Earnhardt.

Even if this year's search proves fruitless, the recovery team has last season's snakes to build upon. Genetic testing is currently under way to determine whether the male at the zoo is the father of the four new arrivals. At the same time, the adult snakes are emerging from a simulated cooling period—mirroring the wild experience—in the hopes of encouraging reproduction.

These snakes, along with any other new arrivals, represent the beginning of a long-term plan to increase massasauga numbers, restore local habitat and eventually reintroduce the species to northeastern Illinois. It's a tall order, but Earnhardt is cautiously optimistic that it can be achieved.

"Other endangered species have been in quite dire straits when managers brought in animals from the wild for a zoo breeding program, and their actions contributed to the species' recovery," said the scientist. "If we can figure out the husbandry and get the habitat ready, there's no reason why we can't support a future reintroduction."

James Seidler is the editor of Lincoln Park Zoo magazine.