

STATUS OF THE EASTERN MASSASAUGA (SISTRURUS CATENATUS CATENATUS)
AT THE MASSASAUGA PRAIRIE NATURE PRESERVE, WARREN COUNTY, IL.

Brian Jay Bielema
21491 Lake Road
Morrison, IL. 61270

June 25, 2000

To determine the status of the eastern massasauga at Massasauga Prairie Nature Preserve, 12 site visits were made during the active period April-October in 1999 and 2000 (to contract termination June, 2000). The dates and times of the surveys were based on research by the author in 1971-1973 approximately 12 years prior to the dedication as a nature preserve (Bielema, 1973). The population then appeared to be viable as all age classes were represented in sightings. Reproduction was evident with many neonates being found.

The site was searched on each visit for 2-3 hours, concentrating on seasonal habitat use areas. The spring emergence from hibernacula results in sightings around the wet lower sections especially at the margins of the valley which bisects the preserve. After emergence, they frequently bask on matted vegetation near small plum trees here, and at the edge of the plum thickets along the permanent stream and its small feeders, which flow from the land south of the preserve. In June, they move upland to forage. This takes them onto private lands mostly south of the preserve. In the latter part of September, they are back near the hibernacula in the preserve.

The results of this survey were that no massasaugas were seen. Vegetationally, there are few plum trees left. Those that remain are old and much taller than those characteristically used by the snakes. Much of the valleys are now populated by sumacs (*Rhus* sp.) in the places that had been plum thickets. In 1972 and in 1999 and perhaps other times between, the land owner to the south has bulldozed the plum thickets which serve as summer foraging habitat. After the 1972 event, massasaugas were sighted in the bladed area near surviving plum trees in small grass patches. They may have suffered an irreversible population loss from direct casualties of the machine as well as the loss of habitat.

In 1999 the plum thickets were lush and extended up the valleys. This habitat was very much as it appeared prior to the 1972 dozing. Either in late 1999 or early 2000, this area again was decimated by dozing. The plum trees were bladed into large piles and soybeans were planted where they grew.

Along the boundary fence separating the preserve from the denuded valleys, a narrow strip of grass remains. Walking through this grass, meadow jumping mice (*Zapus hudsonius*) were flushed in 4 places. This was a preferred prey item of the massasauga and were exceptionally common both in the preserve and up the valleys prior to the dozing.

On August 22, 1974, John White, working for the Illinois Nature Preserves Commission, wrote the acquisition proposal for Massasauga Prairie. He recommended that 92.1 acres be acquired, including 25 acres south of the current preserve

boundary. This would have prevented future blading of the plum thickets and may have allowed the population of massasaugas to survive. The 6.2 acre preserve protected the winter refugia but failed to provide vital summer foraging habitat.

The preserve continues to show a wide variety of native prairie plants but it is a tragedy that the species it was primarily set aside to protect is apparently no longer present.

In 1993 a 1-2 year old massasauga was obtained from a woman in Abingdon. It was killed near her home while picking mushrooms. There may be other relict populations of massasaugas still thriving in this part of Illinois. Efforts should be made to find and protect them, as this interesting prairie species is slipping away.

Acknowledgments

I wish to thank Anne Mankowski, Natural Heritage Biologist, for allowing me to do this survey. I hope that more studies can be funded to further investigate promising massasauga sites. Although the initial recommended acreage may have allowed the colony to survive, the 1972 destruction and other unknown factors could also have served to cause the loss of this relict colony. Such islands are extremely vulnerable and precarious. Not only are they fragile to man's agricultural practices but also suffer genetically from inbreeding.

Literature Cited

Bielema, B. J. 1973. The eastern massasauga (*Sistrurus catenatus catenatus*) in west-central Illinois. Unpublished Master's thesis. Western Illinois Univ. Macomb, Illinois.