

Shiawassee Refuge Studies Eastern Fox Snake

September 26, 2008

Shiawassee National Wildlife Refuge is partnering with the Friends of Shiawassee NWR Central Michigan University (CMU), and Potter Park Zoo to study one of the most threatened and least understood reptiles in the Midwest, the eastern fox snake. The global range of this imperiled species is confined to the coastal plain of parts of Lake Huron, Lake Erie, and Lake Ontario. Further, this once common species has declined drastically from loss of coastal wetlands, habitat fragmentation, and persecution due to mistaken identification as a venomous species. Consequently, Michigan and Ontario rank this snake as a threatened species and it is a species of special concern in Ohio.



An eastern fox snake occupies a tree swallow nesting box. Michael Nadeau; 7/2008

Shiawassee Refuge provides extensive areas of wetlands, grasslands, and riparian habitats occupied by the eastern fox snake. Additionally, Shiawassee Refuge is one of only three National Wildlife Refuges in which this species is known to occur. Thus, the refuge has an important opportunity to maintain, enhance, and restore eastern fox snake habitat. However, very little is known

about the refuge's eastern fox snake population, including abundance, age and sex ratios, genetic diversity, habitat preferences, nesting sites, hibernacula, daily and seasonal movements, and mortality factors. Further, no formal program to monitor population trends exists for this species at the refuge. Meanwhile, all observers state that refuge fox snakes have declined significantly in abundance.

The refuge has formed a partnership with CMU to study the refuge's eastern fox snake population. A Master's degree candidate began conducting a radio-telemetry based study in spring 2008 which will continue in 2009. This study will help fill in the many gaps in the general life history information for this species. Moreover, it will provide information about eastern fox snake population demographics, movement patterns, and habitat use specific to the refuge. This assessment is a critical first step to develop a conservation strategy for this imperiled species at the refuge.



*An eastern fox snake being anesthetized before radio implantation surgery at Potter Park Zoo.
Edward P. De Vries; 5/2008*

Currently, twelve snakes are roaming the refuge with radio transmitters surgically implanted by the Potter Park Zoo. This study is already revealing important information. For example, road mortality could be an important threat to refuge snakes. The refuge is crossed by few public roads. However, these roads intersect with rivers which the snakes use as travel corridors. Consequently,

these intersections appear to be a fatal funnel for fox snakes. One transmitter bearing snake was run over by a vehicle on M-13, near the Cass River. Another snake was found dead on Center Road next to the Tittabawassee River. Better news is that the refuge may have more eastern fox snakes than previously thought. The graduate researcher has captured more than 40 snakes so far. Of these, only two were captured more than once. Also interesting, the majority of refuge fox snakes are large, some over five feet long.



Refuge Manager Steve Kahl holds a five foot eastern fox snake. Paul Hess; 9/2008

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