



Featured Species Habitat Management Guidance for Eastern Fox Snake

Latin Name: *Elaphe gloydi*

Scope: Southern Lower Peninsula

Rationale - *why we value the species and the problem for the species:*

The eastern fox snake is state listed as a threatened species and a Species of Greatest Conservation Need (SGCN; Michigan DNR 2015). This snake is protected by Michigan state law and is limited in Michigan to five known populations (Lee 2000). Declines in the number of eastern fox snake are thought to be directly related to declines in emergent wetlands and grasslands, its preferred habitat.

Habitat Need - *the cause & effect relationship between habitat and species and its primary limiting habitat need:*

Typical habitat for the eastern fox snake is emergent wetlands, in the southern Lower Peninsula (SLP). Loss of emergent wetlands has been the primary reason for the decline of these snakes. In addition, the unintended consequences of standard management practices such as changing water levels during hibernation, mowing and burning when snakes are active, and removal of downed wood, which serves as nesting cover or refugia are all thought to contribute to declines of this snake.

Habitat Objectives - *the treatment or management to address the primary limiting habitat need:*

Protection of snakes and emergent wetlands where the remaining populations occur is critical (Evers 1992 and Lee 2000). At occupied sites, when possible:

- 1) Manipulate water levels outside of the hibernation period (from the third week in April through October).
- 2) Mow and conduct prescribed burns from November through the first week in April, when the snakes are in hibernation (Lee 2000). If burns must occur when snakes are active, techniques that give snakes time to move away from fire should be employed (spot burns, back burns, or slow burns under higher humidity conditions).
- 3) Where adequate nest sites and refugia for young snakes do not exist, leave downed dead trees and wood on the ground.

Priority Geographic Areas – *the specific geographic areas where we should focus management for the species:*

The 8 Counties (Monroe, Wayne, Macomb, St. Clair, Bay, Tuscola, Huron, and Saginaw) where the fox snake is known to exist. Particularly St. Clair Flats State Wildlife Area and known or potential habitat along Lake Huron, Lake St. Clair, Lake Erie, Saginaw River, and Shiawassee River.

Priority Landscapes – *the landscape, setting, or cover-type where we should focus management within the areas above:*

Emergent wetlands and managed waterfowl areas, as well as the grasslands and woodlot edges adjacent to these wetlands.

Population Goal - *the goal for the species, its habitat, or a stakeholder's actions:*

Maintenance of the species in Michigan or an increase in their numbers.

Evaluation Method - *the monitoring method to measure progress towards the goal above:*

Propose surveys using the methods Michigan Natural Features Inventory has used in the past.

Incidental Species – *other species which may benefit from management for this species:*

American bittern; mallard; and ring-necked pheasant.

References - *citation for documents referenced in this guidance:*

- Evers, D.C., ed. 1992. Endangered and Threatened Wildlife of Michigan, Univ. of Mich., Ann Arbor, MI 412 pp.
- Lee, Y. 2000. Special animal abstract for *Pantherophis gloydii* (eastern fox snake). Michigan Natural Resources Inventory, Lansing, MI. 3 pp.)
- Michigan Department of Natural Resources (DNR). 2015. DNR online list of Frequently Asked Questions on the 2009 Revision of the State Endangered Species List. <http://www.michigan.gov/dnr/0,1607,7-153-10370_12141-213610--,00.html >. Accessed 09 Sept. 2015.