

Spatial Analysis and Habitat Use of Snapping Turtles within an Urban Wetland.

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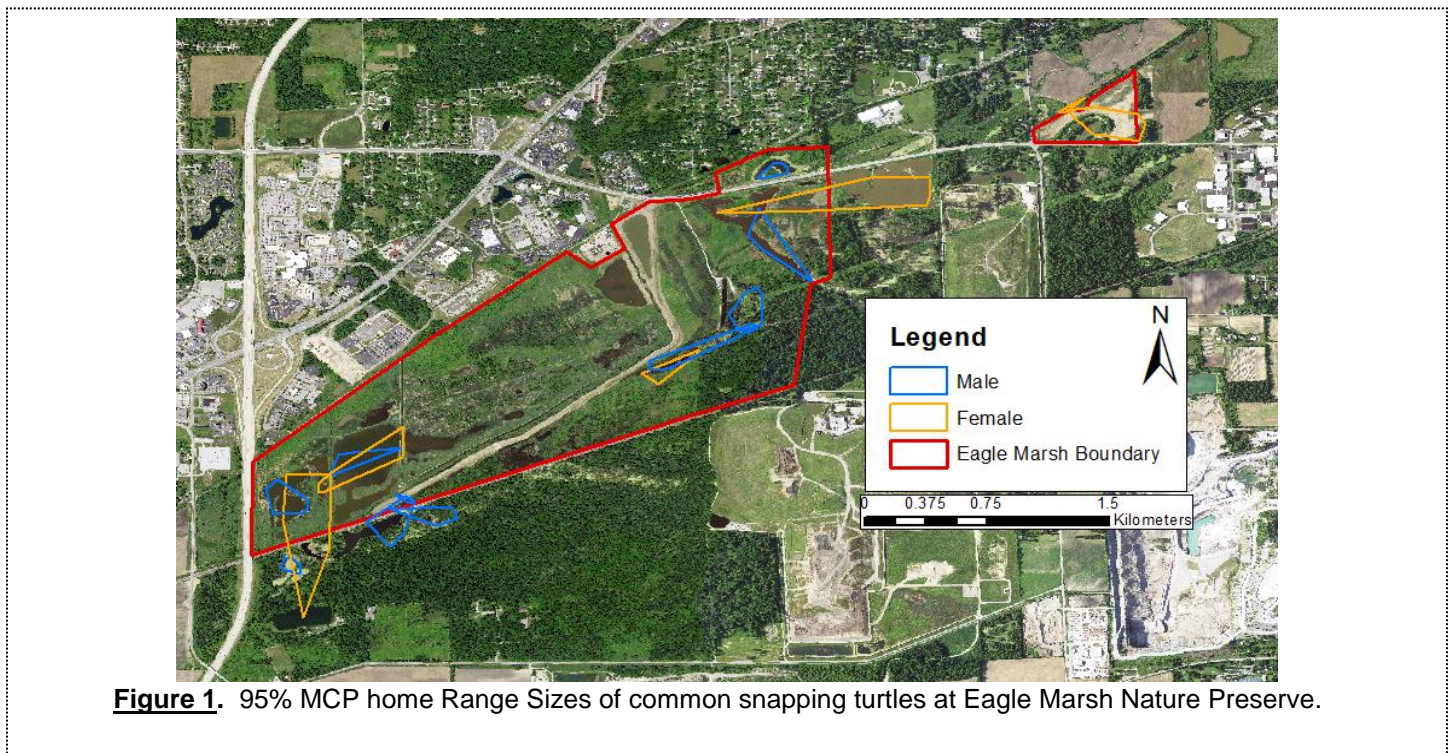


Figure 1. 95% MCP home Range Sizes of common snapping turtles at Eagle Marsh Nature Preserve.

Background: Conversion of natural habitat to urban areas has lasting effects on wildlife and biodiversity. Riparian areas in particular are threatened by urbanization. The loss of habitat quality has long lasting negative effects to the wildlife within urban wetlands, especially taxa that rely on these areas for parts of their life history, dispersal, and foraging. Urban ecology is a relatively new field of study but one that is pertinent to the understanding of how anthropogenic activity effects wildlife ecology and ecosystem function.

Introduction: Radio-telemetry is increasing in popularity as a means of studying movements of wildlife. Once the radio-transmitter is attached it will signal continuously giving the users the ability to sample at fixed intervals. This is a remote sensing technology that is useful to categorize movements, home range sizes and habitat preference of individuals within a population. Our objective was to determine areas that are associated with snapping turtle occupancy, identify corridors, interactions with roads, and determine home range sizes of common snapping turtles within an urban wetland.

Methodology: We performed a trap survey at Eagle Marsh Nature Preserve in May 2020. Once individuals were caught

we collected a series of morphological data and attached a radio transmitter to the right rear scute and immediately released the turtle. Turtles were then located once a week during the active season (May-August 2020). Upon locating, the coordinates and habitat parameters were collected. This was done for 16 individuals (10 males, 6 females).

Results: Key preliminary outcomes that came from this study:

- Observations show a tendency for areas of consistent water depth throughout the active season.
- Habitat observations suggest a selection of swamp, ponds and scrub-shrub.
- Average home range size of all individuals is 3.69ha.
- Home range of males was 2.16ha and females was 6.24ha (p-value=0.13).

FOR FURTHER READING:

- Obbard, M. E., and R. J. Brooks. 1981. A Radio-Telemetry and Mark-Recapture Study of Activity in the Common Snapping Turtle, *Chelydra serpentina*. Copeia 1981:630.
- Ryan, T. J., C. A. Conner, B. A. Douthitt, S. C. Sterrett, and C. M. Salsbury. 2008. Movement and habitat use of two aquatic turtles (*Graptemys geographica* and *Trachemys scripta*) in an urban landscape. Urban Ecosystems 11:213–225.
- Ryan, T. J., W. E. Peterman, J. D. Stephens, and S. C. Sterrett. 2013. Movement and habitat use of the snapping turtle in an urban landscape. Urban Ecosystems 17:613–623.

