

Preliminary Assessment of Blanding's Turtle, *Emydoidea blandingii*, overwintering sites in St Lawrence County NY

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When designing conservation efforts, it is important to assess all habitat types utilized by the species being studied and understand how they select these areas. Here, we are investigating the overwintering sites of Blanding's turtles in northern NY, where there has been a long-term study during the active season. A previous study of Blanding's turtles in Ontario found a correlation between sites around 0°C and turtle presence (Edge et al. 2007), and also found that turtles select sites with between 7 and 50 cm of available free water. Another study found Blanding's turtles in Nova Scotia overwintering communally (Newton et al. 2009). I hypothesize that, despite apparent differences in wetland type, Blanding's turtles will select overwintering locations with similar physical features.

My study area includes two sites that are part of the long-term study of this species. One site is the state-owned Upper and Lower Lakes Wildlife Management Area (ULLWMA), which consists of cattail marsh, shrubby wetland, and wooded swamp. The other location, Rutherford Bog, is an open peatland, mostly covered by sphagnum and low shrubs, with open water in pools and channels along the edges.

Methods:

Turtles were tracked three times during February of 2020. When their location was identified, a hole was drilled using an 8 inch auger and depth of water, depth of ice, and temperature was recorded. Notes were made about the distance to woody vegetation and other aspects of the location. Similar information was collected at random points at each location. A camera was also inserted below the ice in an attempt to visualize the overwintering turtles.

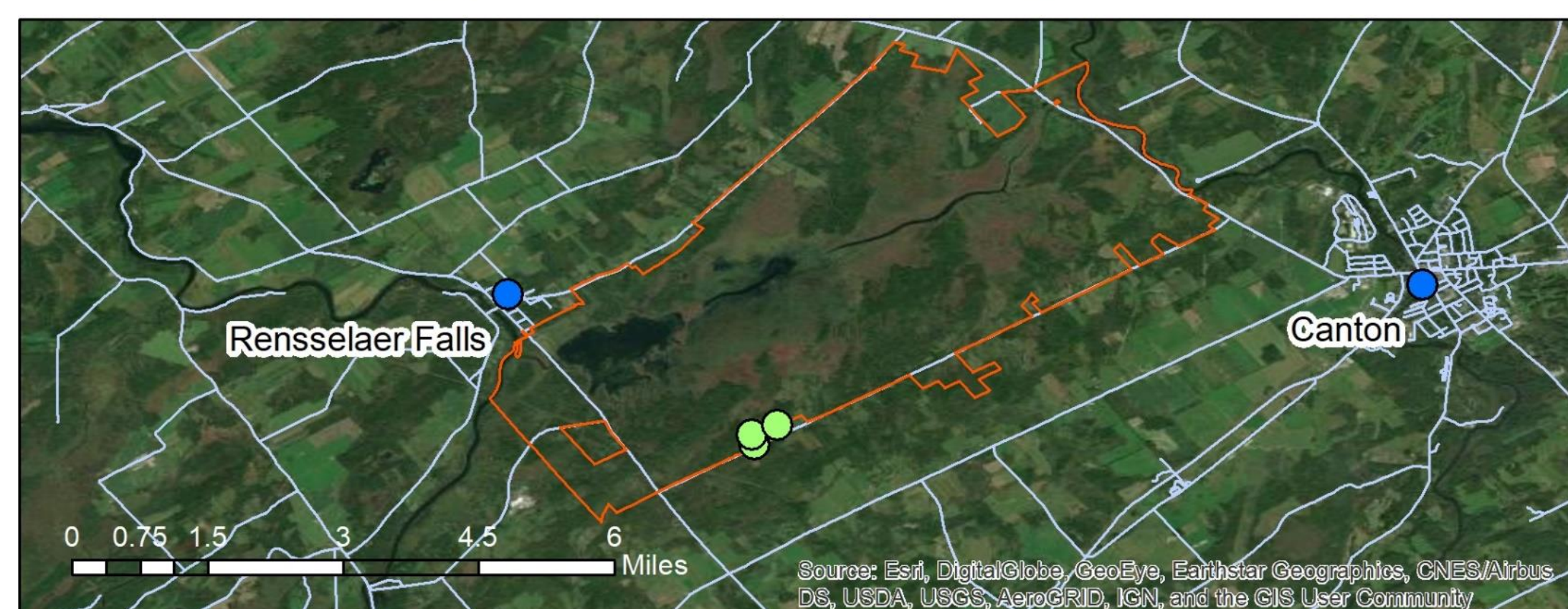


Collecting data at the ULLWMA site.



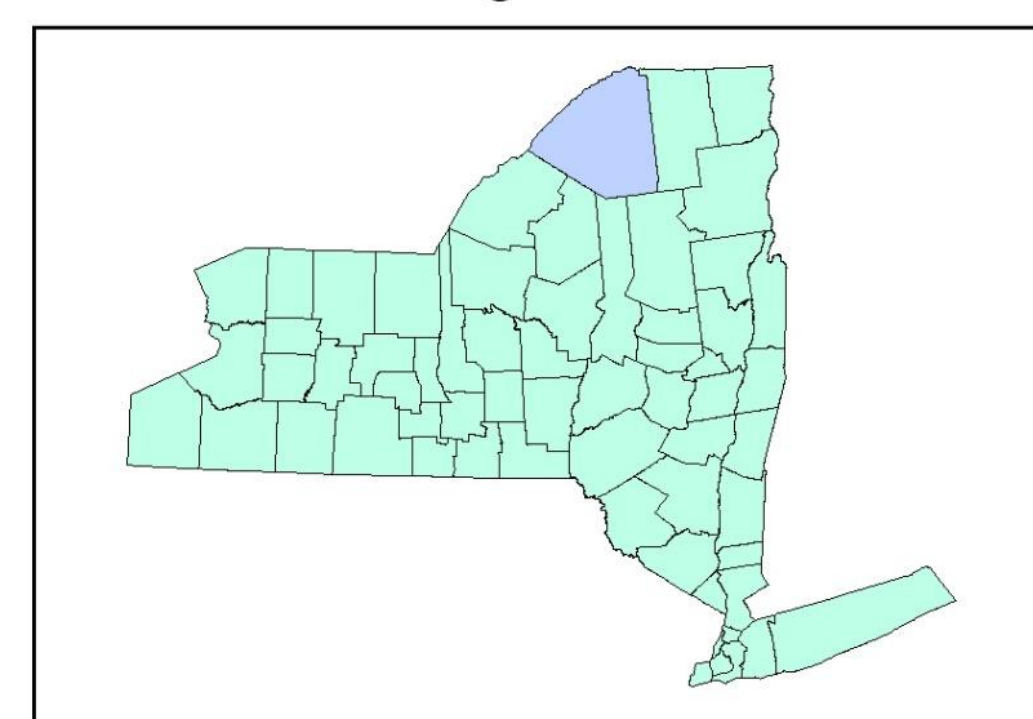
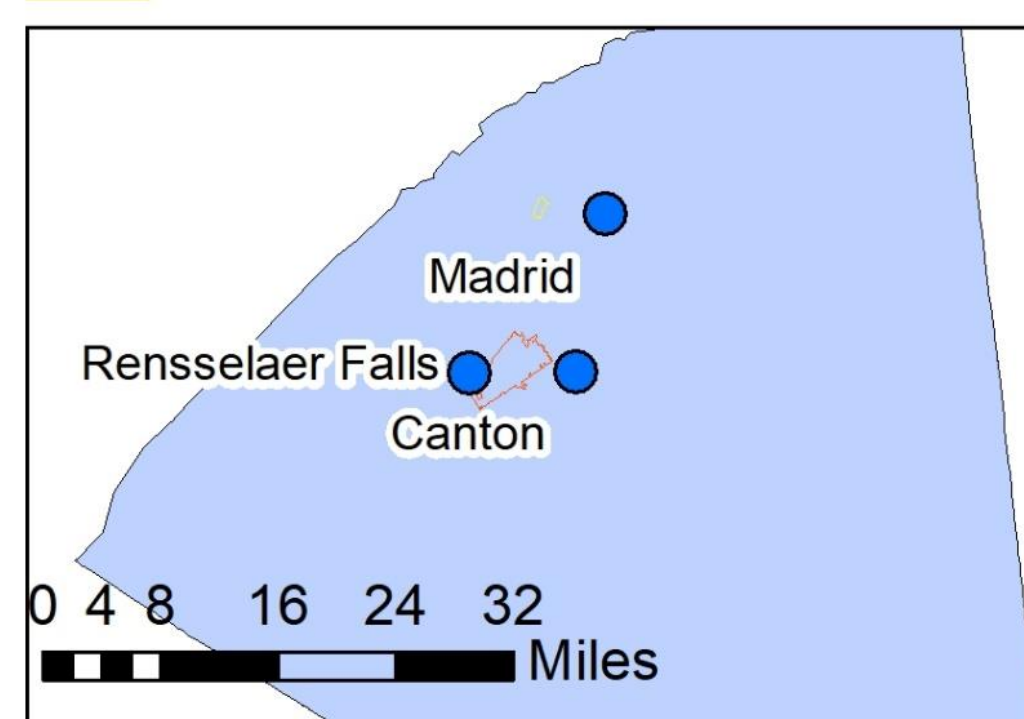
Vegetation beneath ice at Rutherford Bog site.

Blanding's Overwintering Locations



Legend
● Turtle Locations
● Towns
□ Upper and Lower Lakes
— Roads
□ Rutherford Site

Data Sources: ArcGIS Basemap
NYS GIS Claringhouse Streets
NYS GIS CLaringhouse DEC Areas
NYS GIS Clearinghouse Civil Boundaries



Findings:

Three Blanding's overwintering locations were identified at ULLWMA. All three were found in patches of woody vegetation. In all locations open water was found within one meter of the turtle and samples were taken.

Four Blanding's overwintering locations were identified in Rutherford Bog. At all locations the turtle was beneath a dense hummock of woody vegetation. Three were found within 10 m of one another at the edge of a pool in the south end of the bog while the other one was several hundred meters north. In all locations but one open water was found within 1 m of the turtle.

No turtles could be visualized using under ice cameras. Of the measurements recorded, only water depth at turtle locations was significantly different between the two sites (the marsh site was deeper). We detected no under-ice movement by turtles during this period.

Conclusion:

Due to some errors in placing and measuring random points no conclusions could be drawn on characteristics of overwintering locations relative to random sites, other than comparing the two field sites. In the future, a similar study with more random points would likely yield more relevant data.

Edge CB, Steinberg BD, Brooks RJ, Litzgus JD. 2009. Temperature and site selection by Blanding's Turtles (*Emydoidea blandingii*) during hibernation near the species' northern range limit. *Canadian Journal of Zoology* 87(9)

Newton EJ, Herman TB. 2009. Habitat, movements, and behaviour of overwintering Blanding's turtles (*Emydoidea blandingii*) in Nova Scotia. *Canadian Journal of Zoology* 87(4)

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