

**The Friends of Nachusa Grasslands
2016 Scientific Research Project Grant Report
Due June 30, 2017**

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2016 grant amount: \$3500

Please answer the following questions with 1- to 2- sentence summaries:

Research Project Topic: Through this project, we seek to better characterize abundance, movements, and habitat use by Blanding's Turtles at Nachusa Grasslands.

Research Project Purpose: The Blanding's Turtle is a state endangered species whose conservation and management is made challenging by a long lifespan (sexual maturity is not reached until 15-17 years of age) and use of large expanses of wetland and upland habitat. Data generated by this project will further Nachusa Grasslands' goal of restoring and managing a working ecosystem that includes characteristic fauna like the Blanding's Turtle.

Research Project Outcomes to date:

- Since 2014, 9 adult Blanding's Turtles have been documented at Nachusa Grasslands, a single female (captured in 2014, 2015, and 2016) from the Biven's Pond area and 5 females and 3 males at Tellabs Savanna (five captured in both 2015 and 2016 and three for the first time in 2016).
- Radio telemetry of six adults demonstrated their use wetland and upland habitats associated with the Franklin Creek corridor on both TNC and adjacent property, including locations not previously known.
- Palpation in late May and early June indicated that all five females contained eggs. In early June, two females were tracked to their nesting locations and nests were protected from raccoons and other mesopredators using hardware cloth. Hatchlings emerged on 30 August (n = 3) and 6 September (n = 8).
- Aside from hatchlings that emerged from protected nests, no juvenile Blanding's Turtles have been encountered at Nachusa Grasslands, suggesting that recruitment may be low, a concern for Blanding's Turtles elsewhere where low recruitment may threaten population persistence.

Describe how the grant funds you have received from the Friends of Nachusa Grasslands have been used in regard to the above topic, purpose, and/or outcomes:

Funds received from the Friends of Nachusa Grasslands were used for the purchase of six radio-transmitters (\$993.00), epoxy adhesive (\$26.00), per diems associated with trapping efforts (Dave Mauger, \$2,000.00) and mileage reimbursement for travel between

NIU and Nachusa Grasslands to conduct radio telemetry (40 trips, 64 mi round trip distance, \$481).

Describe how your project has benefited the work and goals of Nachusa Grasslands:

- Identification of wetland and upland habitat used by Blanding's Turtles
- Identification and characterization of nest sites
- Determination of the timing of key life-history events (active season, nesting, hatching)

Describe how your findings can be applied to challenges in management practices for restoration effectiveness and species of concern:

This project has identified areas where encroachment by woody vegetation may reduce habitat quality for Blanding's Turtles, areas where care should be exercised in the application of management practices to avoid negative impacts on Blanding's Turtles, and areas adjacent to Nachusa Grasslands that may be utilized by Blanding's Turtles.

Please list presentations/posters you have given on your research:

The Blanding's Turtles of Nachusa Grasslands. Nachusa Grasslands 2016 Science Symposium, Franklin Grove, IL, October 2016.

Have you submitted manuscripts to scientific journals? If so, which ones? If not, do you anticipate doing so? (Please keep us informed on publications.)

No, but with additional data, future publications are possible. As required by the Illinois Department of Natural Resources, Blanding's Turtle observations made in the course of this study are reported to the IDNR Natural Heritage Database.

Optional: Offer suggestions for improving the application and award process for future Friends of Nachusa Grasslands Scientific Research Grants: