

Friends 2019 Science Grant Report
Moths and Grasshoppers & Katydid of Nachusa Grasslands

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2019 grant amount: \$3000

Research Project Topic: Inventory of Moths, Grasshopper, and Katydid of selected areas within Nachusa Grasslands

Research Project Purpose: The project has 4 goals: Determine the number of Moths, Grasshoppers, and Katydid present; confirm the species in these taxa that are restricted to the natural communities present; discuss what management techniques could increase species diversity on the site; determine how many remnant-dependent species could be supported based on Nachusa's ecological features.

Research Outcomes to date: The completed research found 267 moth species distributed among 20 families. Eleven of these species are considered remnant-dependent, that is are restricted to remnants of native vegetation. Completed research also found 27 species of grasshoppers and katydids, 3 of which are remnant-dependent.

How grant funds from the Friends of Nachusa were utilized to achieve project goals and yield its outcomes: Grant funds were primarily used to conduct field work, i.e. to pay for 12, 4-hour nights of capturing moths. Grant funds were also used to capture grasshoppers and katydids and to prepare a detailed report written in standard scientific format.

How have project benefited the work and goals of Nachusa Grasslands: This project created an updated survey after one conducted in 1987-88, enabling Nachusa staff and the Friends to determine changes in diversity for the taxa studied after 30 years of land acquisition and management.

How can the project's results be applied to natural community management planning for species of concern: The data collected can be used to determine how prescribed burning and bison grazing may impact the presence and population sizes of the 14 remnant-dependent species. This is especially true for moths since they are known to be sensitive to fire.

Presentations and posters on this research given to date: A combination of presentations and posters were given at the annual meeting of the Friends of Nachusa Grasslands in 2019. A second presentation will likely be given at the 2020 meeting of the Wisconsin Entomological Society.

Submission of manuscript to scientific journals: No manuscripts have been submitted to scientific journals to date. It is probable that a manuscript will be submitted to the Illinois Academy of Science.

Follow-up research anticipated: For many entomological surveys, especially moths, 4 to 5 years of field work are needed to get a comprehensive survey of a site's moth fauna. If this is a goal of the Friends and the Nature Conservancy, at least 3 more surveys will be needed.

Optional suggestions for application and award process: Send requests for proposals to museums and colleges with strong entomology departments.