

Report on Nachusa Grasslands Butterfly Study for The Friends of Nachusa Grasslands

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Research Project Topic: A study of the butterflies of Nachusa Grasslands prairie, wetland, and savanna communities.

Research Project Purpose: The main purposes of this project is to determine the number of resident butterfly species that require remnants of native vegetation, and determine their approximate population sizes and distribution across Nachusa Grasslands. Based on this information and that from other surveys,, determine the impacts of preserve management, remnant size, recent weather patterns, larval host plants, past land use history, and other factors on Nachusa's butterfly fauna.

Research Project Outcomes: A total of 40 different species of butterflies were discovered during the fieldwork, 11 of which were remnant-dependent. The most common species was the state threatened and SGNC Regal Fritillary with a maximum count of 473; all other r-d species were represented by less that 30 individuals, most of which were very rare (< 10).

How Friends of Nachusa Grasslands grant funds were used: Grant funds from the Friends were used to collect field data and prepare a 40-page final report in standard scientific format.

How has the project benefited the work and goals of Nachusa Grasslands?: This project has provided recent data on the composition and distribution of a group of animals targeted for preservation as part of Nachusa's goal of protecting and managing all components of a prairie ecosystem.

Describe how the project's results can be applied to challenges in management practices' effectiveness and in efforts to preserve species of concern: Based on the butterfly data and vegetation observations, it is possible that repeated high intensity litter-consuming fires have decreased species diversity and numbers in the small wetlands. Recommendations are to burn all remnants when weather conditions are suboptimal to avoid removing all litter and to burn no more than 50% of a remnant in a given year.

List presentations/posters given on this research: To date only the presentation given was that delivered at the Friends meeting in October. Others are possible, and if so, the Friends and TNC will be acknowledged for their support.

Manuscripts given to scientific journals: No manuscripts have been submitted to scientific journals at this time. It is possible that a manuscript on this research will be submitted as part of a composite paper on remnant-dependent butterflies and conservation, either in the Natural Areas Journal or the Journal of the Illinois Academy of Science.

Suggestion: Continue to or increase support for research on invertebrate taxa not yet addressed, such as soil microarthropods, moths, and beetles.