

The Friends of Nachusa Grasslands 2017 Scientific Research Project Grant Report

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2017 grant amount: \$1,000

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

Research Project Topic: I am researching the dung beetle community in a chronosequence of restored sites at Nachusa and measuring their function of dung decomposition in the landscape.

Research Project Purpose: We're interested in learning more about how management techniques like prescribed fire and reintroduction of bison grazing affect the arthropod community and their ecosystem functions.

Research Project Outcomes to date: I have found some differences in the dung beetle community based on both the age of a restored site and the management techniques employed at a site. Management techniques do not appear to affect dung decomposition, however. These results have been presented at the Friends Science Symposium, the Entomological Society, and the Midwestern Ecology and Evolution Conference.

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 have been used to purchase our main field supplies (plastic cups, wire and antifreeze for trapping) and to provide mileage reimbursement for traveling to and from field sites.

Describe how your project has benefited the work and goals of Nachusa Grasslands: The results of my project will provide recommendations to the land managers at Nachusa to better inform how, when, and with what frequency they employ the management techniques of prescribed fire and bison reintroduction on the restored landscape.

Describe how your findings can be applied to challenges in management practices for restoration effectiveness and species of concern: These results help to inform how management practices affect an often-overlooked group of organisms: arthropods. Though tiny, arthropods serve a wide variety of vital functions in the prairie, and these functions need to be better understood.

Please list presentations/posters you have given on your research: Oral presentations of this research have been given at the Friends of Nachusa Science Symposium, the annual Entomological Society of America conference, and the Midwestern Ecology and Evolution Conference. Another oral presentation of this research is scheduled for this summer's Ecological Society of America conference.

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

I plan to submit at least one manuscript based off this research, but the submission is not anticipated to occur until at least Spring of 2019, as I will be conducting a second summer season of this research before completion of the project.

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