

The Friends of Nachusa Grasslands 2018 Scientific Research Project Grant Report

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2018 grant amount: \$1800

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

Research Project Topic:

Ground beetle community structure and function in restored tallgrass prairie

Research Project Purpose:

Explore and analyze the functional diversity of ground beetle communities in restored tallgrass prairies at Nachusa Grasslands to determine how restoration age, fire, and bison impact ground beetle communities and how those impacts influence seed and arthropod predation by ground beetles. These findings will help make predictions of how ground beetles influence restoration outcomes.

Research Project Outcomes to date:

Research has been completed and I have successfully defended my thesis.

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:

Grant funds helped pay an undergrad lab assistant for the summer and fall for when I needed assistance setting up pitfall traps and predation experiments as well as sorting through the pitfall traps. Funds also helped buy the materials I needed to run the experiments.

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

My project provides information about how ground beetles are responding to restoration and management activities at Nachusa Grasslands. Knowing how the ground beetles are being influenced by site age, fire, and bison will help make predictions about how that selected ground beetle community will in turn affect restoration outcomes.

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

Ground beetles have important functional roles as consumers of both seeds and other arthropods. By knowing what ground beetle community is being selected for through certain management activities, you can also see what functional traits are present in that community and how that might impact other communities. For example, if certain conditions made the habitat favorable for seed eating beetles, then you might expect certain plants to be less numerous if enough of the seeds are being consumed.

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

I presented a poster at the Nachusa Science Symposium at Nachusa Grasslands in 2018.

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 haven't submitted any manuscripts, but will keep you informed in the event that I do.

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