

**Friends of Nachusa Grasslands
2020 Scientific Research Project Grant Report
Due June 30, 2021**

Name: Jennifer Koop

Address: Northern Illinois University, Department of Biological Sciences

Phone: 815-753-4215

Current E-mail: jkoop@niu.edu

2020 grant amount: \$2940

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

Research Project Topic: Effects of bison management and age of prairie restoration on tick populations at Nachusa Grasslands

Research Project Purpose: To examine predictors of tick diversity in tall grass prairie habitat

Research Project Outcomes to date: We used dragging and flagging techniques in attempt to collect ticks. In July, we accompanied members of Holly Jones' lab in their small mammal trapping in order to pull ticks from trapped animals. In September and October, we used dragging and flagging as well as CO₂ baited traps to collect ticks. We were only able to find one immature black-legged tick (*Ixodes scapularis*), which was found on a deer mouse trapped with the Jones lab.

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: The funds paid for equipment to do the dragging and trapping as well as the opportunity to hire two field techs.

Describe how your project has benefited the work and goals of Nachusa Grasslands: One of the research questions listed as a priority for Nachusa was to better understand the tick communities present and what biotic and abiotic parameters might predict those communities. Interestingly, while we expected to find more ticks, the lack of high abundances is in itself informative. Tall grass prairie, even with intermittent oak savanna, does not appear to be optimal habitat for ticks.

Describe how your findings can be applied to challenges in management practices for restoration effectiveness and species of concern: Our research indicates that ticks populations are not present in alarming abundances and do not likely pose a threat to other species of concern.

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

2021 Nachusa Science Symposium

Have you submitted manuscripts to scientific journals? If so, which ones? If not, do you anticipate doing so? (Please send digital copies of published articles to the Friends so that we can learn from your work.)

Not at this time.

What follow-up research work related to this project do you anticipate (if any)?

Parasites are an important part of ecosystems. At Nachusa, relatively little work has been done to describe and characterize the parasite community as a whole. While ticks were not in high prevalence, other types of parasites are still worth further investigation. As restoration aims to revive full communities of organisms it is important to not forget the important role that parasites play in helping ecosystems thrive.

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

I really appreciated the simplicity of the application and the process as a whole. I hope that I am able to work at Nachusa in the future again.