

Friends of Nachusa Grasslands Scientific Research Grant Status Report – Erin Rowland

We have had a very successful year of getting on track following the delays caused by the pandemic last year. We conducted a drone flight and are preparing for analysis of data to compare the multispectral imagery of burned and unburned sites. We are planning to conduct drone flights as soon as possible after spring burns this year. We completed a full field season of small mammal trapping with great success. Finally, we completed analysis of data collected last year and have submitted a data paper that is currently in review.

This year, I completed analysis of the data collected under this grant and as a part of my summer externship. This dataset, a digitized set of maps of the prescribed fire history of the preserve, has been analyzed and submitted for publication as a data paper in *Ecological Solutions and Evidence*. Analysis also revealed room for further work in analyzing the fire history of the preserve with this dataset.

We completed three eight-day rounds of small mammal trapping in April, July and October, adding to our long-term dataset. Highlights include two captures of the meadow jumping mouse at two different sites on the preserve. This species is uncommon and we have only captured 17 individuals in the eight-year history of the project. I have begun some analysis of this mammal data to investigate how specific species respond to prescribed fire using the data generated from the fire history maps. This is an exciting opportunity to examine the impacts of prescribed fire using numbers instead of categories.

Finally, we have plans to complete the proposed drone imagery work this spring and summer. We will complete drone flights and analyze the results in order to understand the heterogeneity of prescribed fire on the preserve. I also plan to work with existing drone imagery of the preserve to conduct supervised classification work for a comprehensive land cover map of the preserve.

Overall, we are very pleased with the progress on this project and are on track to achieve the objectives laid out in the grant proposal in the next two years.