

The Friends of Nachusa Grasslands

2019 Scientific Research Project Grant Policy and Instructions

The goals of the Friends of Nachusa Grasslands (the Friends) are to build endowments for long-term protection; conduct and encourage volunteerism; and encourage science and education at Nachusa Grasslands near Franklin Grove, Illinois.

To support scientific endeavors, the Friends organization awards monetary grants to qualified candidates conducting scientific research significant to Nachusa Grasslands. Research projects should focus primarily on prairie, savanna, wetland, woodland, and stream habitat management such as prescribed fire, seed collection, weed control, general or specific flora or faunal populations, and natural areas restoration. Special consideration may be given to proposals investigating the specific questions noted on the addendum to this set of guidelines entitled "Potential Research Topics at Nachusa Grasslands", but these research questions should not be considered limiting for grant applications.

Qualifications for Scientific Research Project Grants:

- The expected outcomes of the scientific research project should be pertinent and practical to the specific work and goals of Nachusa Grasslands.
- Research must be conducted at Nachusa Grasslands – additional sites may be included, but the majority of the study should take place at Nachusa Grasslands.
- Proposals will be evaluated in regard to each project's direct applicability to challenges in management practices for restoration effectiveness and species of concern.
- Research that lends itself to being published in peer reviewed journals may be favored over that which does not.

Scientific Research Project Applicant Criteria:

- University researchers or college graduate students; or
- Members of pertinent organizations; or
- Individuals who have previously demonstrated valuable results in pertinent research.
- Applicants will be evaluated in regard to their standing and experiences as well as their project proposals.
- Members of the Friends may apply for grants, but may not simultaneously serve on the Selection Committee.
- For suggestions on appropriate research topics, applicants should consult with Elizabeth Bach, Nachusa Grasslands Ecosystem Restoration Scientist (elizabeth.bach@tnc.org); however, the Friends solely determine the awarding of grants.

Permission to Conduct Research at Nachusa Grasslands:

- Applicants must obtain permission to conduct research at Nachusa Grasslands by contacting Elizabeth Bach (elizabeth.bach@tnc.org). Before submitting an application, applicants should submit a completed "Research Permit Application and Liability Waiver" form of the Illinois Chapter of The Nature Conservancy. This form is available in the Science section of the Friends website (nachusagrasslands.org). No grant will be awarded without TNC approval.
- Researchers may also need a permit from the Illinois Nature Preserves Commission since a large portion of Nachusa Grasslands has been designated an Illinois Nature Preserve. Please refer to the INPC website for more information and the permit form

itself: <http://www.dnr.illinois.gov/INPC/Pages/Stewardship.aspx>. A map of that portion of Nachusa Grasslands designated as an Illinois Nature Preserve can be found on the Friends website (nachusagrasslands.org) in the Science section.

- Finally, research involving endangered species may require an additional permit from the Illinois Department of Natural Resources. Please refer to the following website for information and the permit form itself:
<http://www.dnr.illinois.gov/conservation/NaturalHeritage/Pages/EndangeredSpeciesPermits.aspx>

Scientific Research Project Grant Amounts:

- The minimum individual grant in 2019 is \$500. (Please see the website for grant award history.)
- The total amount budgeted for all 2019 grants combined is \$42,000.
- Grants must be used between February 1, 2019, and June 30, 2020.
- Recipients may be supported by other organizations for the same research project.

Ownership, Reporting, and Sharing of Research Findings:

- Grant recipients own their research and are encouraged to publish their findings. Digital or hard copies of published work must be provided to the Friends when they are available.
- Recipients must formally (in print) acknowledge the support provided by the Friends in all presentations, posters, publications, and reports.
- Grant recipients must use a format provided by the Friends to submit a written report of their research findings to the Friends, including an accounting of how the grant was spent. These reports may be published on the Friends website.
- The specific timing of the report may be mutually determined by the individual and the Friends but generally will be expected by June 30, 2019.
- With the collaboration of the recipients, the Friends may further publicize the research grants or outcomes.
- Recipients should share their data with other Friends grantees and Nachusa researchers as appropriate.
- Recipients will be expected to present a brief overview of their projects or a poster presentation at the annual Nachusa Science Symposium on the third Saturday of October, 2019. If they are not available, they will be expected to submit a report to be distributed at the meeting.

Scientific Research Project Subsequent Awards:

- There is no limit on the number of grants an individual may receive as long as all prior awards are noted on the application and previous grant requirements have been met.

Friends of Nachusa Grasslands Liability Waiver:

- The Friends of Nachusa Grasslands makes no warranties or representations, express or implied, and Researcher shall engage in activities at Nachusa Grasslands at their own risk.
- There are possible dangers that might be involved in the type of activities the Researcher will be participating in. The Researcher must not be aware of any problem or condition that could endanger others or themselves if Researcher participates in activities at Nachusa Grasslands.

- Researcher, for themselves and their heirs, shall waive, release, indemnify, and hold harmless the Friends of Nachusa Grasslands and its officers, board members, and general members from any and all claims, liabilities, losses, damages, and expenses incurred in connection with the activities of the Researcher and circumstances resulting from any injury to Researcher, or damage to Researcher's property at Nachusa Grasslands.

Application Process Instructions: *Please follow these instructions carefully.*

1. Download the Friends of Nachusa Grasslands 2019 Scientific Research Grant Application form from the Friends of Nachusa Grasslands web page (www.nachusagrasslands.org).
2. Save the form to your desktop with the filename "Your Last Name, Friends of Nachusa Grasslands 2019 Scientific Research Grant".
3. Complete the application, tabbing between form fields.
4. Save the file as a Word document or a PDF.
5. Attach the file and your résumé or curriculum vitae to an e-mail, and send it to nachusafriendsscience@gmail.com.
6. The subject of the email should be "2019 Scientific Research Grant" and your last name.
7. You may also direct questions to nachusafriendsscience@gmail.com.
8. Incomplete applications will not be considered. However, a member of the Selection Committee may contact you or your references for clarification of a submission. Failure to respond to a request for information will result in rejection of your application.

Dates to Remember:

- Deadline for applications: November 30, 2018, by 5:00 p.m. CST
- Announcement of grant recipients: by February 1, 2019
- Grants **must** be used between February 1, 2019, and June 30, 2020.
- Written report of research findings are due June 30, 2020.

Potential Research Topics at Nachusa Grasslands

The following is an evolving compilation of research questions pondered by stewards and staff at Nachusa Grasslands. The Friends of Nachusa Grasslands would like to support scientific research that provides insight into the answers to these questions, but will not restrict its science grant awards to research endeavors that address only these specific questions. This list is meant to encourage researchers who are thinking of doing work at Nachusa to consider these and related research topics in their planning.

Impacts and management of exotic invasive species (both plant and non-plant) For example,

1. How can *Trifolium pretense* (red clover), *Lotus corniculatus* (bird's foot trefoil), (reed canary grass), and (Queen Anne's Lace) be eradicated most effectively?

Resistance and resilience of restored tallgrass prairie to disturbance management (e.g. fire and/or grazing): For example,

1. Should bison wallows be over seeded? Is there enough of a seed bank in wallows to recover? If not, what is the appropriate seed composition and weight for overseeding? Or are wallows generally used over multiple years and never re-vegetate?
2. How is fire frequency related to insect (specifically butterfly) populations? Regal fritillary butterflies, for example, are abundant at Nachusa, and we do a lot of repeated fire. What is the role of fire with this species? Are the larva surviving our fires, even in units we recently burned, or are larva only surviving in unburned units?
3. What effect is repeated fire having on the herbaceous, shrub, and tree layers of Nachusa woodlands?
4. What is the effect of fire on tick populations? Does fire at different times of the year have any effect on Lyme disease carrying ticks?
5. How do biological, physical, and chemical soil characteristics change over time in various management regimens?
6. How does surface and groundwater chemistry change over time as a result of management regimens?
7. How can standardized measurements of basic ecosystem function over time be best instituted?

Restoring habitat for rare and declining prairie species (including plants, animals, fungi, etc.) For example,

1. We have ongoing random block studies looking at how and whether over-seeding a low diverse prairie can increase its diversity. Would someone like to adopt this ongoing study?
2. What is the role of meso-predators on our turtle populations? Can we learn from DNA analysis of predator scat what their prey are?
3. Are remnant dependent insects using the restorations near the remnants?
4. What management strategies would attract and maintain a breeding population of bobolinks?

Previously completed inventory studies on turtles have provided useful information valuable in management, e.g. timing prescribed fire in turtle habitat before turtles come out of their hibernaria. Further studies to "find out what we have" at Nachusa may provide additional management insight. Specifically needed are:

5. An expansion of our insect inventories. How does management effect them?
6. An inventory of lichens by habitat. Can we expand their habitats? Mushrooms?
7. Other flora and fauna inventories suggested by researchers.