

**The Friends of Nachusa Grasslands
2019 Scientific Research Project Grant Report
Due April 30, 2020**

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2019 grant amount: \$1067.71

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

Research Project Topic:

Explore the impacts and longer-term recovery of vegetation after removing *Lonicera maackii* using triclopyr basal bark treatments across different treatment timings.

Research Project Purpose:

This project expands on previous thesis work to a) determine if impacts of basal bark applications remain after one year, b) explore if some off-target species are more or less impacted than others, and c) to ensure that prior estimates of *Lonicera maackii* mortality were correct.

Research Project Outcomes to date:

The long-term mortality of *Lonicera maackii* was above 98% for basal bark treatments applied at the end of November, end of January, middle of March, and the beginning of May. About 25% of *L. maackii* held onto some of their leaves until leafdrop the fall after the initial treatment.

Initial data suggest that the May treatment showed slightly more off-target damage, but not an increase in the size of the “ring of death”. The data have not yet been analyzed if this trend continues beyond the first full year of recovery.

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 grant funds provided the resources to purchase more permanent markers for each quadrat so longer term data can be acquired as well as provided funding for travel to and from Nachusa as well as a small wage for an assistant.

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

This project explores scalable invasive species control of *Lonicera maackii* to better manage increasingly large tracts of conservation land as well as minimize damage in high quality areas.

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

With limited resources available to managers, the ease of treatment application, timing, and efficacy of invasive removal practices are critical along with the recovery of the target ecosystem. This project better describes when best to apply basal bark treatments to maximize invasive species control (anytime across the studied dormant season (Nov-May)) and minimize off-target damages (January - March), although how long that damage remains is still not clear as those data have not yet been analyzed.

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

- Baker, K. D. “A Study on Controlling Amur Honeysuckle (*Lonicera maackii*).” Blog post: Friends of Nachusa Grasslands’ Website: <https://www.nachusagrasslands.org/nachusa-blog/a-study-on-controlling-amur-honeysuckle-lonicera-maackii>. Feb 3, 2018.
- Baker, K. D., Barber, N. A. “*L. maackii* Seasonal Basal Bark Efficacy and Off-Target Impacts.” Poster: Friends of Nachusa Grasslands’ Science Symposium. Research at The Nature Conservancy’s Nachusa Grasslands. Franklin Grove, IL, Oct 20, 2018.
- Baker, K. D., Barber, N. A. “Controlling *Lonicera maackii*: Basal Bark & Prescribed Fire Efficacy and Impacts.” Oral presentation: Illinois Association of Conference Districts, Oglesby, IL, Feb 21, 2019.
- Baker, K. D., Barber, N. A. “Controlling *Lonicera maackii*: Basal Bark & Prescribed Fire Efficacy and Impacts.” Thesis Defense: Northern Illinois University, DeKalb, IL, Mar 08, 2019.
- Baker, K. D., Barber, N. A. “Controlling *Lonicera maackii*: Basal Bark & Prescribed Fire Efficacy and Impacts.” Oral presentation: Severson Dells Nature Center, Rockford, IL, Apr 10, 2019.
- Baker, K. D., Barber, N. A. “Controlling *Lonicera maackii*: Basal Bark & Prescribed Fire Efficacy and Impacts.” Oral presentation: Friends of Nachusa Grasslands’ Science Symposium. Research at The Nature Conservancy’s Nachusa Grasslands. Dixon, IL, Oct 19, 2019.

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

No manuscripts have been submitted, but I hope to do so.

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

I continued sampling these quadrats in the spring of 2020 and may sample again in the spring of 2021 if the data suggest it would be beneficial and if time permits.

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