

2018 Winter Advisory Board Meeting
Wildlife and Range Research Update
Ben Geaumont and Dan Graham

Strategic Plan Aim - Conduct applied research that investigates the compatibility of agriculture and wildlife

Graduate Students – Advised

Jonathan Spiess, PhD – Range Sciences, Evaluate livestock selection and fire behavior within patch-burn grazing research.

Jasmine Cutter, M.S. – Range Sciences, Evaluate pollinators in our patch-burn grazing research.

Alex Rischette, M.S. – Range Sciences, Evaluate wildlife response to patch-burn grazing on Post-CRP.

* Derek Klostermeir, M.S. - Natural Resource Management, evaluation of ecological site descriptions at sharp-tailed grouse nest sites on the Grand River National Grasslands.

Additional Graduate Student Committees

Joe Orr, M.S. – Range Sciences, Impact of cattail encroachment on secretive marsh birds in North Dakota. Graduated December 2017.

Adrienne Antonsen, M.S. – Entomology, Statewide pollinator survey.

Chyna Pei, PhD – Range Sciences, Statewide pollinator survey.

Cameron Duquette, PhD – Range Sciences, Grassland bird response to patch-burn grazing in mixed-grass prairie.

Current Research Projects

1. Restoring disturbance to old Conservation Reserve Program Fields to Promote Ecosystem Services. (C. Schauer, T. Hovick, R. Limb, and D. McGranahan)

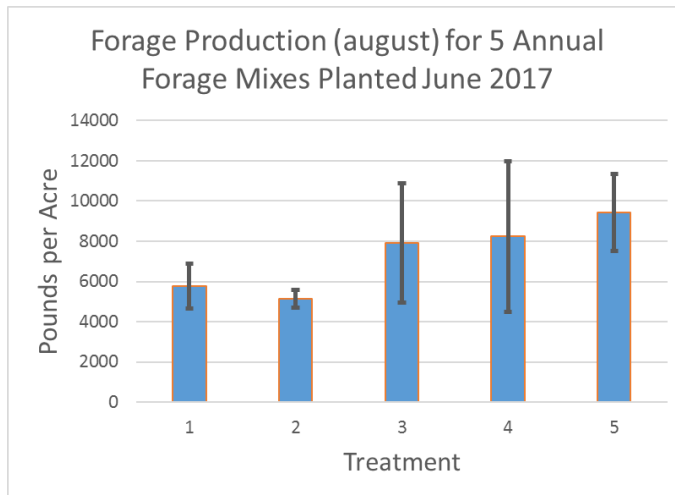
- a. Evaluate the effects of patch-burn grazing in Conservation Reserve Program grasslands on livestock, vegetation, pollinators and wildlife in western North Dakota.
 - i. Livestock, birds, vegetation, bees and butterflies
- b. Six, 160 acre pastures
 - i. 3 with sheep
 - ii. 3 with cow/calf pairs
- c. Six burns completed in October 2018

1a. Evaluate the ability of over seeding native forbs following prescribed fire to enhance habitat for pollinators.

- a. Seeded (5), 1 acre plots within each prescribed fire area in mid-March 2017 and will do the same March 2018

2. Annual forage mixes for southwest North Dakota: influence of planting date on forage production and pollinator communities.

- a. Interested in how incorporating annual forages into food plots for wildlife and forage for livestock may benefit pollinators and other insects. Also interested in how the surrounding landscape may influence wildlife and insect use of these plots.
 - i. Planting Time Trial – designed to evaluate competition and production among different species within 5 seed mixtures (treatments) planted on three different dates (15 April, 15 May, 15 June). Also designed to provide surrogate pollinator cover.
 1. Data collection on forage production, bees, butterfly's and other insects is ongoing.



3. **Woody encroachment in the Northern Great Plains; effect on grassland birds, predator communities and livestock.**
 - a. Collaboration with NDSU and ARS. (Analyses underway).
4. **Monitoring native pollinator communities throughout North Dakota: Status and Management considerations for bees and butterflies.** (CO-PIS: R. Limb, T. Hovick, and J. Harmon)
 - a. Conducting statewide pollinator surveys. Assess land use, floristic resources and pollinator associations. Funded by ND Department of Agriculture.

Strategic Plan Aim 5 - Integration of Livestock, Wildlife, Agronomy, and Weeds research programs into a farm-scale interdisciplinary research project.

Evaluate a livestock-crop integrated system using annual forages, winter wheat and sheep.

Determine livestock gains, crop production, wildlife and insect use, and changes to soils.

- a. Grazed standing wheat in spring 2017
- b. Planted annual forages, warm season plants responded to late-July rain, provided grazing.
- c. Collected insects – very poor year.

Publications

Geaumont, B.A., K.K., Sedivec, and C.S. Schauer. 2017. Ring-necked pheasant use of Post-Conservation Reserve Program Lands. *Rangeland Ecology and Management* 70 569-575.

- McGranahan, D.A., **B.A. Geaumont**, and J.W. Spiess. 20XX. Livestock GPS collars based on an open-source datalogger, survives field conditions and informs best practices for logging intensity. (In Review).
- Orr, J.T., T.J. Hovick, **B.A. Geaumont**, and T.M. Harms. 20XX. Density of secretive marshbirds in North Dakota. (In Review).
- Geaumont, B.A.**, K.K. Sedivec, J.W. Stackhouse, and D. Graham. 20XX. From Indicator to Potential Focal Species: The Role of Grouse in Grassland Management. (Additional Statistics).
- Mack, W.M., **B.A. Geaumont**, A.R. Lipinski, T.J. Hovick, R. Limb, and K.K. Sedivec. 20XX. Plant and bird community dynamics in mixed-grass prairie grazed by native and domestic herbivores. (Co-author review).
- Mack, W.M., **B.A. Geaumont**, A.R. Lipinski, T.J. Hovick, and K.K. Sedivec. 20XX. Grassland bird nest site selection and survival on working landscapes grazed by cattle and occupied by black-tailed prairie dogs (co-Author review).
- Geaumont, B.A.** and J. Norland. 20XX. Influence of seed mixtures on native plant establishment in the badlands region of North Dakota (Final Co-author review).