2020 Winter Advisory Board Meeting
Wildlife and Range Research Update
Ben Geaumont

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

Graduate Students – Co-Advised

Jonathan Spiess, PhD – Range Sciences, Evaluate livestock selection, vegetation, soils, and fire behavior within patch-burn grazing research (Devan McGranahan).

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

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

Hailey Keen, M.S. – Range Sciences, Honeybees and shelterbelts (Torre Hovick)

Kimberly Zralka, M.S. – Range Sciences, Restoration of flowering plants in existing grasslands. (Torre Hovick).

Additional Graduate Student Committees

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

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

Savannah Adams, M.S. – Range Sciences, Pollinator use of annual forage plots and pinto beans.

Rachel Ouren, M.S. – Natural Resources Management, plant invasion on the Little Missouri National Grasslands

Current Research Projects

1. **The utility of unmanned aerial systems for monitoring sharp-tailed grouse leks** (Rischette, Hovick, and Nowatzki) Funded by the Forest Service.
    a. Evaluate the feasibility of using UAS to locate and monitor leks of sharp-tailed grouse.
        i. Under review in Wildlife Biology.
2. **Restoring disturbance to old Conservation Reserve Program Fields to Promote Ecosystem Services**. (C. Schauer, T. Hovick, R. Limb, and D. McGranahan) Funded by AFRI
    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. Three burns completed in October 2019 and anticipate completing the remaining three in spring 2020.

2a. Evaluate the ability of over seeding native forbs following prescribed fire to enhance habitat for pollinators. (Funded by Game and Fish).

a. Seed (5), 1-acre plots within each prescribed fire area in mid-March.

3. **Monitoring native pollinator communities throughout North Dakota: Status and Management considerations for bees and butterflies.** (CO-PIS: R. Limb, T. Hovick, and J. Harmon) Funded by ND Department of Agriculture.
    a. Conducting statewide pollinator surveys. Access land use, floristic resources and pollinator associations.

4. **Evaluate a livestock-crop integrated system using annual forages, winter wheat and sheep. Determine livestock gains, crop production, insect use, and changes to soils.**
    a. completed data collection summer 2019. Currently entering data.

5. **Can growing pollinator plots in proximity to pinto beans lead to increased yields?** (Co-PIS: T. Hovick, M. Ostlie, J. Rickertsen, J. Harmon, and R. Limb; Work done in Hettinger and Carrington: Funded by ND Department of Agriculture).
    a. Establish 1-acre annual forage plots (consist of 18 flowering plants).
    b. Establish 2-acre bean plots.
    c. Evaluate pollinator use of pollinator and bean plots.

Peer Reviewed Publications

Kral-O'Brien, K.C., Sedivec, K.K., **B.A. Geaumont**, and A.L. Gearhart. 2019. Native mixed-grass rangelands and crested wheatgrass pasture lands resilient to spring wildfire. *Rangeland Ecology and Management* 73:119-127.

Duquette, C., J. Orr, T.J. Hovick, **B.A. Geaumont**, and T.M. Harms. 2019. Secretive marsh bird densities and habitat associations in the prairie pothole region. *Wetlands*

Geaumont, B.A. and D.L. Graham. 2020. Factors affecting sharp-tailed grouse brood habitat selection and survival. *Wildlife Biology*, in press.

New Projects

Sustainable Agriculture Research and Education – An Assessment of the importance of shelterbelts as early season nectar and pollen resources for domesticated honeybees. – Funded ($200,000).

Using drones to assess floristic resources for honeybees over space and time. Funded by ND Ag. Experiment Station. ($45,000)

Alternative Land Management on Lands Managed for Wildlife – work with private landowner and Game and Fish. – started fall 2019. Funded by Game and Fish Department (8,000).

Managing disturbance for multi-functional rangelands: livestock, plant, and pollinator resource management strategies the differentially use fire and grazing – will be done at CGREC, Funded by AFRI, ($500,000).