

Project Completion Report

Rocky Mountains Cooperative Ecosystem Studies Unit (RM-CESU)

Project Title: Promote Preservation of Resources through Monitoring at Grant-Kohrs Ranch NHS FY14

Project Code: P14AC00180 MSU-263

Type of Project: Technical Assistance/Education

Funding Agency: National Park Service

Partner University: Montana State University

NPS Agreement Technical Representative: Christine Ford, Integrated Resources Program Manager, Grant-Kohrs Ranch NHS, 266 Warren Lane, Deer Lodge, MT 59722, 406-846-2070 x242, 406-846-3962 fax, email: chris_ford@nps.gov

NPS Technical Expert: Jason Smith, Integrated Resources Program Manager, Grant-Kohrs Ranch NHS

Principal Investigator: Bret E. Olsen, PhD, Professor of Range Ecology, Animal and Range Sciences Department, P.O. Box 173780, Bozeman, MT 59717; 406-994-3721; Email: bolson@montana.edu

Start Date of Project: March 1, 2014 with modification to July 1, 2014

End Date of Project: December 31, 2015

Funding Amount: \$21,514 and modification with additional \$2,270

Project Summary, including descriptions of project deliverables, work accomplished and/or major results. If the information is restricted (e.g. location of endangered species or cultural resources), indicate the title and location of the final report. Also add web sites where project-related information may be found.

The RM-CESU agreement was initiated with Montana State University and Principal Investigator Dr. Bret Olsen, Professor of Range Ecology, to provide two interns to monitor natural resources at Grant-Kohrs Ranch NHS (GRKO). NPS project funds were through the Youth in Partnership (YIP) program.

Because of the CESU agreement, the monitoring program at GRKO met the YIP programs' objectives of promoting a conservation ethic in young interns and using their monitoring work to direct preservation of resources. The YIP program at GRKO achieved the Call to Action, Item 2, Step by Step, specifically by creating a deep connection between two young interns and GRKO through a series of diverse experiences.

The interns received orientation to the history and purpose of the National Park Service and GRKO to understand how their work would contribute to the organizational missions. On site

mentoring and work plan direction for the project was provided by GRKO Natural Resource Specialist. Monitoring standards and protocols were provided/taught by GRKO resource, Montana State University, University of Montana, NPS Inventory & Monitoring, and USDA Natural Resources and Conservation Service staff.

The student interns accomplished the following tasks during their May through August season:

1. Completed multiple invasive plant species surveys over 1,300 acres, using GPS and created GIS maps
2. Assisted NRCS soil scientist with sampling and identifying ecological sites in preparation for development of Ecological Site Descriptions
3. Prepared site specific information on forage species cut for hay that was used in preparation of an interpretive educational brochure;
4. Completed a high intensity, low duration cattle grazing demonstration project covering over 15.5 acres;
5. Completed monthly photopoint documentation of pasture production and utilization;
6. Completed Bobolink survey (avian species of concern) prior to hay harvest to mitigate any impacts to Bobolinks.
7. Completed Riparian Health Assessments for four small streams;
8. Assisted NPS Inventory and Monitoring staff in completing vegetation, soil, and water quality sampling;
9. Completed Columbian ground squirrel and beaver surveys;
10. Recorded irrigation water flow measurements;
11. Completed calibration of no-till drill in preparation for reseeding projects;
12. Completed soil testing for all hayfields and high intensity, low duration grazing pastures; and
13. Assisted with historic ranch work, livestock care and interpretive events.

Data or presentations (where applicable) for all tasks are available for review at the GRKO Resource Management Office. The valuable data collected through the interns' efforts is being used to communicate and facilitate resource stewardship.

Training opportunities included GRKO All Staff Safety Day, University of Montana ecologist riparian plot monitoring, Montana Avian Science Center monitoring, NPS ROMN I&M vegetation and soil monitoring, NPS ROMN I&M water quality sampling, and USDA NRCS Area Resource Soil Scientist. In addition, one intern participated in the YIP Intermountain Region program review at Grant-Kohrs Ranch in July.

Here is a quote from one of the interns: "Over the course of this summer I have had the opportunity to participate in and experience a variety of activities including irrigation, maintenance and calibration of equipment, haying, management of high intensity grazing, identification and mapping of various plants and weeds, substantial inventory and monitoring of the natural resources at Grant-Kohrs including GIS and GPS work. Work at the Grant-Kohrs ranch has successfully exposed me to various facets of Natural Resource management; education and training coming mainly through hands-on experiences in the field. My expectations for the position were surpassed by my experiences in it. I have enjoyed my time at the ranch and would encourage others considering the position to take it."

Number of students participating in this project: undergraduates, graduate students, degrees conferred. The two MSU interns selected were a recent graduate with a Sustainable Foods and Bioenergy System: Sustainable Livestock Production degree and a second year Natural Resources and Rangeland Ecology major.