Rocky Mountains Cooperative Ecosystem Studies Unit
Project Summary

Project Title: Rangeland Health Condition Assessments for Livestock Allotments at Dinosaur National Monument

Task Agreement #: P18AC00670
Discipline: Natural
Type of Project: Technical Assistance/Research
Funding Agency: National Park Service
Other Partners/Cooperators: Colorado State University
Student Participation: Yes
Effective Dates: 6/1/2018 – 12/31/2019
Funding Amount: $92,442.50

Investigators and Agency Representative:
NPS Contact: Phyllis Pineda Bovin Natural Resources Condition Assessment Coord., Intermountain Region National Park Service Natural Resources/Resource Stewardship and Science 12795 West Alameda Parkway Denver, CO 80228 Phone: 303-969-2585 Fax: 303-969-2717 phyllis_bovin@nps.gov

Investigator: Paul Meiman Associate Professor Rangeland Ecology and Management 1472 Campus Delivery Fort Collins, Colorado 80523-1472 Phone: 970-491-0906 Fax: 970-491-6754 Email: paul.meiman@colostate.edu

Project Abstract: Jordan Spaak, NPS Ecologist, Emily Spencer, DINO Natural Resource Specialist, and Dr. Paul Meiman, Colorado State University (CSU) Associate Professor of Rangeland Ecosystem Sciences and Extension Specialist have developed this statement of work. Dr. Meiman and his team of faculty and graduate and undergraduate students, along with DINO and NPS Biological Resources Division (BRD) staff, will visit collaboratively identified sites in 10 active grazing allotments in DINO over two field seasons (2018/2019) to conduct rangeland health assessments at each site using the IIRH protocol. Because these assessments involve comparisons of indicators at a given site to reference conditions or expectations, the NPS and University team will also identify appropriate reference areas (within DINO, if possible). Determination of soil characteristics from multiple shallow soil pits, and observations of vegetation composition will be used to inform the selection of Reference areas and identification of ecological sites. This project will engage the services of university students and faculty who will assist with implementing the project protocols, performing the surveys, collecting the field data, and processing the field-collected data.

IIRH is an interagency standardized assessment tool to assess rangeland health. The protocol is primarily qualitative, however some quantitative measurements are taken for several indicators. IIRH provides an evaluation of soil/site stability, hydrologic function, and biotic integrity at the ecological site level. It can provide an early warning of potential problems for areas at risk of degradation or where resource problems currently exist. The IIRH methodology also allows for communication to occur across jurisdictions and many grazing permittees are already familiar with this assessment. Assessments are conducted by an interdisciplinary team of experienced, trained, and knowledge staff that are familiar with the resource (i.e. at least one park staff member) and are conducted every 5-10 years.

The findings and reporting will provide detailed data and information regarding rangeland health on ten domestic livestock grazing allotments in the park, which will then be used to inform and develop the park's grazing management plans for implementation of management approaches expected to result in progress toward desired conditions. Due to the complexity and importance of identifying and determining a reference rangeland health condition assessment, DINO will use university-based rangeland, soils, and hydrology experts to assist with making the reference condition determination. University staff can also help the NPS begin to define and identify desired conditions.

Keywords: Rangeland Health, Rangeland Management, grazing, livestock allotments, Dinosaur National Monument, National Park service