

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Deer Elk Ecology Cooperative Study

Discipline: Natural
Type of Project: Technical Assistance
Funding Agency: Bureau of Land Management
Other Partners/Cooperators: University of Wyoming
Effective Dates: 9/17/2017 - 9/16/2022
Funding Amount: \$42,000

Investigators and Agency Representative:

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Project Abstract: The principal purpose of this cooperative agreement is to encourage restoration and protection of crucial wildlife habitat on the public lands, specifically through stimulating activities aimed at studying and documenting seasonal movement patterns and interactions between mule deer and elk populations and the relation of these patterns and interactions to general deterioration of habitat quality. Objectives of this project include:

- Evaluating factors affecting reproduction of adult female mule deer, including pregnancy, litter size, and survival and recruitment of young and determine if those factors are confounded by the presence of elk;
- Evaluating relationships between habitat selection on seasonal ranges with survival, reproduction, and dynamics of fat gain and loss for individual female mule deer to characterize habitat quality on seasonal ranges, and evaluate the relative influence of habitat use and presence of elk;
- Monitoring movement and distribution of mule deer and elk relative to seasonal migration and delineate important migration routes, where seasonal movement patterns of both elk and mule deer in the region are thought to be driven by winter weather patterns;
- Evaluating seasonal diet composition and diet quality for deer and elk to identify key forage species in the in the South Rock Springs, Wyoming high-desert ecosystem and determining the degree of dietary niche overlap, and potential for competition between the two species;
- Evaluating seasonal resource use of elk and mule deer to understand the potential competitive interactions between the two species given their sympatric range;
- Identifying factors limiting recruitment of adult male mule deer into the harvestable segment of the population.

Keywords: University of Wyoming, Bureau of Land Management, deer, elk, ecology