

## **LIVESTOCK/WILDLIFE INTERACTIONS ON ASPEN RANGELANDS**

### **Investigators:**

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### **Objectives:**

- (1) To determine elk and mule deer habitat use patterns on aspen rangelands that are grazed by cattle and sheep under a deferred-rotation grazing regime
- (2) To determine if cattle and sheep grazing in aspen rangelands may benefit elk and mule deer.
- (3) To determine the impacts of early-season use of aspen rangelands by elk and mule deer impact forage availability for livestock.

### **Methodology:**

The study was conducted using 7 grazing replications consisting of 2 pastures each. Each pasture consisted of 200 acres. Four replications were grazed by cattle and 3 by domestic sheep using a deferred rotation grazing system. Livestock grazing was initiated in mid-June and the livestock removed in October. Mule deer-elk-livestock interaction data were collected from April to November in 2000 and 2001. To collect these data, 10 mule deer does and 10 cow elk were randomly captured on the study area and equipped with GPS. The GPS collars recorded animal location four times a day.

### **Results:**

Habitat use data were collected from 7 deer and 2 elk in summer 2000, and 5 deer and 5 elk in 2001. Hunter harvest of radio-collared elk and deer and collar battery failures impacted the sample size. Elk preferred pastures which had been grazed by livestock late the preceding summer. They avoided pastures currently being grazed by livestock. Deer that established seasonal home ranges on the pastures were somewhat oblivious to the presence of cattle. Deer avoided pastures currently being grazed by sheep, but preferred pastures sheep had grazed earlier in the season. Deer that had established home ranges encompassing pastures grazed by cattle shifted their use patterns to avoid the pastures occupied by the animals. Deer used denser cover when livestock were present on the study area. Deer home ranges were larger before and after livestock grazing than when livestock were present on the pastures. However once the cattle were removed from the pasture, the deer use patterns were again reflective of pre-livestock periods. Deer tended to prefer pastures that were grazed by sheep over those grazed by cattle. These results suggest that although deer and elk may be spatially intolerant to the presence of cattle, they preferred habitats that had been grazed by cattle and sheep over ungrazed rangelands.

### **Public Outreach and Presentations:**

- (1) Presentations at TWS, SRM, SCB, FB, NCBA, Ecological Society of America, and North American Wildlife and Natural Resource Conference in 2001-2002, and the Western Association of Fish and Wildlife Agencies (2001) to market the network.
- (2) Web-based news and information system on livestock/wildlife interactions (2000).
- (3) Articles in popular magazines and newspapers (2001-2002)

### **Future Activities and Needed Research**

Extreme drought, fire, and the loss of helicopter capture services severely impacted the 2003 field season. However, we were able to accomplish Objectives 1 and 2. Additional

research will be needed to accomplish Objective 3.

The role of livestock grazing in managing sagebrush steppe ecosystems has become a major policy issue because of the petitions that have been filed with the US Fish and Wildlife Service to list Sage-grouse and Pygmy Rabbits as endangered species . Research and demonstration projects are needed to document the role and relationship of livestock grazing sagebrush steppe ecosystems. This work would support the efforts of state-wide groups that are working to develop regional Sage-grouse management plans.

**Partners:**

Cedar Mountain Initiative, S.J. and Jessie Quinney Foundation, College of Natural Resources Quinney Professorship for Wildlife Conflict Management, Jack H. Berryman Institute, The Wildlife Society, National Pork Council, Ducks Unlimited, National Fish and Wildlife Foundation, Utah State University Extension.