

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Gunnison sage-grouse use of created mesic CRP and rangeland habitats in Utah
Type of Project: Research
Project Discipline : Natural
Funding Agency: NRCS
Other Partners/Cooperators:
Effective Dates: May 22, 2007 – June 30, 2010
Funding Amount: \$146,999.00
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Project Abstract: Gunnison Sage-grouse occupy 8.5% of their original range. Gunnison Sage-grouse (GUSG) in Utah occur primarily on private land San Juan County. In 1997 this county was designated as a GUSG priority conservation area. Because of this designation, an additional 19,000 cropland acres were enrolled in CRP. However the population conservation area based on lek counts, is at a historic low with a 2004 population estimate of 155 to 174 birds. Lupis reported that CRP habitats were preferred over other cover types during the brood-rearing period. This preference may have been related to the increased vegetation and arthropod diversity found in CRP fields than adjacent habitats. The area currently inhabited by GUSG in San Juan County contains 3,700 acres that are classified as a wetland or mesic habitats. However, broods monitored in 2001-2004 did not use those areas, possibly because of the drought the area had been experiencing resulted in the drying up of most of the wet meadows that were within 2 miles of leks. In the past landowners in the area inadvertently created mosaics of ephemeral wet meadow habitats because they did not have automatic control valves on the wells used to fill their livestock water tanks. Consequently, the tanks frequently overflowed creating wet meadow conditions. These overflow areas were not grazed by livestock until late fall when the herds were moved to winter pastures. Landowners reported seeing sage-grouse broods in these areas. With more efficient watering devices the seasonal wet meadows have disappeared. This may be impacting population production and survival by reducing the quality and quantity of herbaceous cover. Livestock restricted to these small areas intensively grazed all plants, trampled the soil, the deposited high concentrations of manure. This process may have inadvertently enhanced the nutrient cycle by speeding up the decay of plant residues. These actions could add nutrients and loosen the soil improving soil respiration, the penetrability of water, and the ability of new plants to germinate and establish more quickly. Landowners reported these areas continually produced more forage, greened-up earlier, and stayed green longer than adjacent areas. The working group believes these activities enhanced the GUSG productivity. We will evaluate the

effects of irrigating and grazing CRP and private rangelands during the GUSG brood-rearing period (June-July) in San Juan County, Utah on: 1) vegetation diversity and forage production, 2) arthropod diversity and abundance, and 3) subsequent GUSG and brood use. This research will provide information to guide future management of CRO and private rangelands to benefit the species.

Outcomes with completion dates (reports, publications, workshops, videos, etc.):

Keywords: Gunnison Sage-grouse, Utah, CRP and rangeland habitats