

RM -CESU -Project Completion Report, FY 05

Project Title: Sage Grouse and Habitat Survey, and Bighorn Sheep Lambing Survey.

Park: Bighorn Canyon NRA

Funding Source: Rocky Mountains CESU Research Funding (\$7750) and BICA funds

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University Partner, Utah State University, Tehabi Program

Student Participants: Kody Menghini

Project Description:

In the past 30-40 years, Sage-grouse (*Centrocercus urophasianus*) have declined by more than 30% over their range, and extirpation has occurred in 5 states. Wyoming and Montana have significant populations of grouse, but some indicators, such as the number of males per lek have steadily declined since monitoring began in the 1940's (Wyoming). Bighorn Canyon is on the Wyoming-Montana border. The park has habitat ranging from pine uplands to desert grasslands, and includes significant amounts of sagebrush. Sage grouse have historically occurred in the park, and grouse are currently known to occur in areas north and south of the park. However, nothing was known about current distribution of grouse in the park. Because sage grouse are species of concern in the west, and have been considered as candidates for listing as threatened or endangered species, it would benefit park management to know if and where they occur, and if sufficient habitat exists to support a population of birds. This project surveyed for grouse, but more importantly, used existing vegetation maps to evaluate sage brush habitat for potential grouse use.

A student from the Tehabi Program at Utah State University, Kody Menghini, was recruited to work at Bighorn Canyon. Kody had previous experience with grouse and with bighorn sheep. In addition to grouse habitat evaluation, Kody tracked radio collared bighorn sheep ewes to determine lambing areas and lambing success. This added another year of data to a long term sheep study begun by USGS.

Project Results:

To assess the potential sage-grouse habitat at Bighorn Canyon NRA, the Wyoming and Montana state wildlife agencies sage-grouse management plans were referenced. The two plans were blended to assess the quality and types of grouse habitat found in the park. The main types of grouse habitat are wintering, breeding, nesting, brood rearing, and fall habitat.

Existing vegetation maps were used to draw polygons around sagebrush habitat. Each polygon was then visited and evaluated. Location, sage cover and type, shrub cover and type, along with grass, forbs, and conifers were recorded for each polygon. Percentage of cover was estimated after walking around the majority of the area.

Bighorn Canyon has marginal grouse habitat overall. South of the green gate area there are only small patches of sage. They are most likely to small and fragmented to be suitable for grouse, not to mention the poor conditions the sage communities are in. North of the green gate area the habitat quality and quantity increase. There is some suitable habitat in this area. One limiting factor may be the lack of tall sage for wintering, but on bordering private land there seems to be more tall sage. There is a large expanse of sage communities on the private land and there may be grouse there that sometimes use the park land too. Another limiting factor may be the lack of riparian areas. In polygon 3 there were two large piles of old grouse scat found. In polygon 28 there were small amounts of old scat found.

2005 Bighorn sheep lambing success was quite high. All collared ewes produced lambs, and most still had lambs at the end of the observation period. Location maps were produced showing areas most heavily used by ewes with young lambs. These data will be used in habitat improvement projects.

Bighorn Canyon was very pleased with the work done by Kody during the summer, on both the grouse and bighorn sheep projects.

Follow-up of this Project

Data from the grouse habitat survey need to be made into a GIS layer, with polygon attributes attached. Because this is a modification of existing park maps, this should not be difficult and can be accomplished by park staff.

Publications, other reports expected/ with dates: N/A