



Bald Eagle and Sage Grouse Inventory Update 2001-2003

Grand Teton National Park
Greater Yellowstone Network



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Abstract

Science and Resource Management (S&RM) at Grand Teton National Park (GRTE) received funding from the Inventory and Monitoring (I&M) program to conduct 2 sets of bald eagle and sage grouse surveys. The objective of these surveys was to identify new bald eagle nest sites and active sage grouse lekking areas within the park. In the spring of 2001, high priority eagle nesting habitat was surveyed by helicopter. Eight historical eagle nests and one new nest were located. Also during that spring, suitable sage grouse breeding sites were searched from a fixed-winged airplane, however no new sites were found. Although using fixed winged aircraft is an economical and effective means for surveying sage grouse, they can not fly as low as helicopters and hovering over areas of suitable habitat is not possible. In the spring of 2003, funding for the second eagle flight was used to cover the cost of contracting a helicopter for grouse surveys. One new breeding site was located with 6 males actively strutting. Both new eagle nest and sage grouse breeding sites identified during this project will be monitored in the future as part of S&RM's monitoring program.

Background

Bald eagles are a threatened species under the Endangered Species Act of 1973. GRTE has been actively monitoring bald eagles within its boundaries since the early 1970's. Monitoring efforts in the past have included nest searches via ground surveys and documenting the reproductive status of eagles at historical nests. However, attrition of nest structures, difficulty in accessing and viewing some nests, and staffing constraints, has limited the park's ability to locate and monitor nest sites. For several years, information such as nesting status, number of nestlings, and fledgling success on at least 30% of known territories has not been collected because nest structures could not be located, and so monitoring has not been effective. Without this information, it is difficult for park managers to protect nest territories from disturbance.

Sage grouse have experienced declines throughout the West, and are under petition to be listed under the Endangered Species Act. In Grand Teton, monitoring efforts using lek (breeding sites) counts have shown 75% declines in attendance of known leks in an area without impacts commonly associated with declines in other regions. One concern with these counts is the possibility that other leks may exist undetected, and so surveys may not accurately reflect population trends. No surveys for new leks have been performed since the 1950's and recent monitoring efforts have centered on leks discovered during that time. Surveys that search for unknown leks are important when trying to evaluate the status of grouse in the park.

Goal

The goal of the project was to identify nesting and breeding sites for 2 sensitive bird species, bald eagle and sage grouse respectively, to allow for protection and monitoring of these sites. By knowing the location of eagle nests and grouse leks, the park can minimize human disturbance during important times of their reproductive season.

Objectives

1. Locate and document new bald eagle nests in the Park This information will be used to provide protection to nests during the reproduction period as well as in evaluating eagle population trends within the Park
2. Locate and document sage grouse leks to allow accurate assessment of the number of grouse breeding in the Park that can be compared over time

Methods and Results

Bald eagles: In April of 2001, known historical eagle territories and other suitable eagle nesting habitat along the Snake River and shores of Jackson Lake were surveyed using a helicopter. Timing of the survey corresponded with the incubation period. Two observers were onboard the helicopter and flights lasted approximately 2 hours.

Eight historical eagle nests were located from the air and one new territory was identified. A location was taken of each nest using a Global Positioning System and UTM's recorded so that monitoring on the ground could take place throughout the breeding season and in future years.

Sage grouse: In the spring of 2001, 2 aerial surveys were conducted using a fixed-winged airplane to search suitable breeding areas in the park for active sage grouse leks. Methodology followed those recommended in the Sage Grouse Methodology Committee Report. One flight was conducted in mid-April when known leks became active and the other flight was conducted in early May. Surveys began ½ hour before sunrise and lasted approximately 2 hours. Using two experienced observers, transects were flown at about 1 km intervals between 100 and 200 ft above potential breeding habitat. Transects were flown to take advantage of lighting and topographical features. Areas that were considered suitable habitat for leking grouse were the Potholes, Wolff Ridge, Elk Ranch, and Bar BC.

Although using fixed winged aircraft is an economical and effective means for surveying sage grouse, they can not fly as low as helicopters and hovering over areas of suitable habitat is not possible. In order to increase the potential of seeing grouse from the air, a helicopter was used to conduct the surveys in the spring of 2003 instead of fixed-winged aircraft.

No new leks were found in 2001 during either survey. In 2003, a new lek was identified during the helicopter survey, with 6 male grouse strutting at the site. This location was recorded using a GPS unit, downloaded, and mapped. The new lek was observed from the ground throughout the rest of the breeding season and will be monitored annually as part of the existing I&M program in GRTE.