

## **Sheeprock Sage-grouse Management Area Translocation Field Update- 5/8/2017**

### **Population Dynamics and Seasonal Movements of Translocated and Resident Greater Sage-Grouse of the Sheeprock Sage-grouse Management Area (SGMA)**

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#### **Purpose and Background:**

For the past 9 years, the greater sage-grouse population (*Centrocercus urophasianus*; sage-grouse) in the Sheeprock SGMA has been declining. This research will evaluate the use of translocations as a tool for the conservation of declining sage-grouse populations with the intent of providing managers with relevant information to aid in successful implementation of management techniques. Because of the management projects that are being and have been completed in the SGMA, we will also be able to assess sage-grouse use of the projects to provide manager with information to guide the development of future projects. This year, in an effort to increase nest initiation rates for translocated females and provide information leading to the development of translocation best management practices (Chelak and Messmer 2016), we included an artificial insemination experiment. This spring in cooperation with 2 other translocation projects—one in North Dakota and another in California—half of our translocated females sage-grouse were artificially inseminated to determine if this practice increases the probability of translocated initiating nests and localizing at the study site. This year we also will be collecting data regarding radio-marked sage-grouse response to OHV recreation and predation management.

#### **Study Area**

In recent years, 10 of the 11 Utah SGMAs have shown an upward trends in the numbers of males counted on leks. The exception is the Sheeprock SGMA. The Sheeprock SGMA, located in central Utah, of 611,129 acres in Tooele and Juab Counties. Key threats to sage-grouse identified by the West Desert Adaptive Resources Management Local Working Group (WDARM) included wildfire, invasive species (annual grasses and forbs), potential loss of riparian or mesic areas, predation, habitat fragmentation, dispersed recreation, and conifer encroachment. Livestock grazing was not identified as a threat at the time the WDARM conservation plan was published in 2007.

#### **Technicians and Training**

For the 2017 field season, four technicians were hired: Cassidy Becker (Georgia), Codi Backen (Nebraska), Zack David (Texas), and Peter Hasik (Arkansas). We provide this information for you should you encounter one of the technicians and wonder what may be doing. The technicians received bird handling, telemetry, vegetation monitoring, ATV and vehicle safety training. Beginning in late February 2017, training on the artificial insemination procedures began in Park Valley, Utah. Subsequent trainings also were completed in Nevada and again in Park Valley. To facilitate in the success of the artificial insemination performed in Wyoming for the North

Dakota translocation, Codi Backen and I travelled to Wyoming twice in April to assist in the effort.

### **Equipment**

For the 2017 field season, 15 new GPS transmitters and 20 new VHF collars were purchased. Several mortality recovered GPS transmitters will be sent back to the manufacturer to be refurbished due to their multiple season field durations and prevent field malfunctions once re-deployed. Three new VHF Yagi antennas, 1 UHF antenna, 2 UHF receivers and 2 VHF receivers were also purchased to add to existing equipment or replace older non-functional equipment. Equipment for the artificial insemination procedure an analysis were purchased this year including: 2 field microscopes, 6 pipettes, 2 hemocytometers, 2 microcappillary packages, 4 bottles of avian semen extender, Eppendorf tubes, and several other various lab supplies. Four wooden remote release boxes were built as well for this season's translocations to decrease the stress of release for the sage-grouse. These were used to replace the individual cardboard boxes. Two additional ATVs were purchased with funds provided by the Quinney Professorship for Wildlife Conflict Management (Dr. Messmer) for the 2017 field season.

### **Translocations, Trapping and Lek Counts**

The 2017 translocations completed April 6-7 (Parker Mountain– 6 males: 6 VHF, 25 females: 11 GPS and 14 VHF) and April 14-15 (Park Valley- 4 males: 3 GPS and 1 VHF, and 5 females: 1 GPS and 4 VHF). In total 40 sage-grouse (30 females and 10 males) were moved into the Sheepprock SGMA using the specially-constructed wooden release boxes. The artificial insemination experiment was set up to give the 30 females one of three treatments: AI (artificial insemination from males of the location from which they were translocated), SHAM (receiving a control of the avian semen extender buffer), or control (no treatment). There were 10 females that received the AI treatment, 10 received the SHAM, and 10 received the control. Of the 40 birds translocate last year, we have relocated 7 (2 GPS and 5 VHF). We are planning a flight in the next two weeks to search for missing birds.

Trapping sage-grouse females in the resident population has been relatively difficult. To date we have radio-marked 3 males and 2 females in 2017, which brings us to 3 male and 5 female residents currently being tracked from 2016 and 2017. Total marked residents from 2016 to 2017: 5 males and 7 females. Mortalities and not found from 2016: 2 males and 3 females.

Final lek count data are not available. However, the Benmore, McIntyre, and Government Creek leks have moved this year. The movement of the leks may be related to the translocated birds and/or on-going habitat work that has improved nesting habitat.

### **Survival**

Radio-marked sage-grouse are being checked on every two to three days. Since the translocation we have detected four mortalities: one 2017 translocated male, one 2016 resident female, one 2016 translocated female, and one 2017 translocated female.

### **Nesting**

As of this report date, four females are initiating nests: 2 2017 translocated females (1 AI and 1 control) and 2 2016 resident females. One 2016 translocated female appears to be initiating around the same location where she nested last year.

### **Radio-marked Grouse Movements**

To date, most of the translocated grouse have stayed within the SGMA, and some have begun to localize. However, one GPS-marked translocated female has travelled into Utah County in the mountains close to Spanish Fork. She is still currently alive.

### **Landowners**

We thank the landowners who allowed us access to their properties to capture birds. We also are indebted to the dozens of volunteers who have helped with the translocation effort. We particularly thank Jason Robinson and Avery Cook, DWR for coordinating the effort through the public review process and the logistics required to complete the translocation. We also thank the Utah Public Lands Policy Coordination Office, the BLM, the West Box Elder CRM, the Parker Mountain and West Desert Adaptive Resources Management Local Working Groups, the Jack H. Berryman Institute, the Quinney Professorship for Wildlife Conflict Management, the DWR, and the US Geological Service for funding, encouragement, and project support.

**Additional Funding:** Melissa applied for and received two scholarships to support her research. She received \$1,000 from the Utah Chapter of the Wildlife Society and \$5,000 from the USU Ecology Center.