

## **West Box Elder Sage-Grouse Report – June 2016**

Greater Sage-grouse Responses to Pinyon - Juniper Removal in the Box Elder Sage-grouse Management Area (SGMA)

### **Background and Purpose**

I am researching and gathering habitat use and movement data in regards to the past and present pinyon-juniper removal projects within the Park Valley area of the Box Elder Sage-grouse SGMA. Currently, I have 13 global positioning system (GPS) transmitters deployed and 3 more will be deployed by late spring, making a total of 16. One of the GPS transmitters requires the bird wearing it to come within range of a cell phone tower to download the location data. The transmitters have been deployed in close proximity to juniper treatment areas. The location data collected from transmitters will help us refine conifer removal strategies and placement, and also allow us to develop a metric to measure and mitigate greater sage-grouse response to landscape features and changes within the SGMA.

With the other 13 GPS transmitters, data downloads are being gathered every 4 hours on a 24 hour cycle throughout the study period. This larger data set will allow us to research and observe more closely sage-grouse utilization of treatment areas in reflection to overall population fitness at the landscape level. Also, a sample size of +/- 20 very high frequency (VHF) collars will be maintained for sample size robustness across the study area.

### **Lekking and Breeding Status**

Lekking looks to be concluded for the 2016 mating season. Some yearling and juvenile males are still hanging around leks, but radio-marked adults have dispersed from main lekking areas to summer locations.

### **Trapping**

We are still trapping to deploy the remaining 2 new GPS transmitters and redeploy 1 mortality recovered transmitter; however, trapping is becoming increasingly slow and females are very tough to locate. We will watch for random females that may have broods in the areas we are interested in studying and try to deploy the remaining GPS transmitters on these females.

Any GPS transmitters recovered during the field season will be refurbished and redeployed as quickly as possible to ensure we are maximizing their capabilities relative to their cost. If possible, the last few GPS transmitters will be deployed in the Warm Springs and Dry Basin areas in hopes of documenting bird movements within new juniper removal areas. However, we

have failed to trap a female in 4 attempts on Warm Springs, so we might conclude trapping there for the season and focus on Dry Basin.

### **Nesting and Brooding**

Currently, 19 females have (both GPS and VHF birds) initiated nests, and a few more females are expected to initiate nest soon due to their behavior. To date, 5 nests have been predated across the study area. Predation type was undetectable, but my suspicion is ravens played a part in 3. In all five cases, none of the hens were killed.

To mitigate the potential for ravens using our activities to key in one nesting sage-grouse, my technicians and I being careful not to spend extended periods observing nesting females. This caution is warranted because I have observed ravens following me on several different occasions this season while relocating females; whether they were actual profiling me or just being curious- we are playing it safe.

Unfortunately, the first hen to hatch this season (May 6<sup>th</sup>) just east of Chicken Ridge has lost her brood as of last week. Currently, 5 females have broods (2 GPS and 3 VHF females), and several more should be hatching over the next two weeks. Also, 2 VHF females have re-initiated nests, 1 in Dry Basin and 1 on Chicken Ridge! This is really cool to see due to nest re-initiations being uncommon throughout the Box Elder SGMA.

### **Mortality**

For this field season, 2 GPS and 2 VHF females have been killed, with GPS transmitters and VHF radio-collars recovered in all 4 cases. Three more VHF collars are transmitting mortality signals 2 south of Lynn Reservoir and 1 in east of Grouse Creek, but we have not recovered the radio-collars at this time because of priority being put on live birds. Of the mortalities, 1 female showed to avian predation signs. Predation causes remain unknown for the other 3.

### **Grouse Movements**

Birds are continuing to really spread-out over the landscape now that the lekking season has concluded and females are nesting and brooding. At the end of last week, 2 VHF females are brooding and 3 nesting in Dove Creek Pass and upper Clark's Basin. One VHF female is brooding on top of the Black Hills. One GPS female is nesting and 1 GPS female is brooding south of the Pipeline. East of Park Valley, 1 GPS and 1 VHF females are incubating nests. Northeast of Kelton, 1 GPS female is brooding. Lastly, 1 VHF female in Dry Basin is nesting.

All radio-marked females have now been located. One of the VHF females that was missing all season was detected on June 2<sup>nd</sup> in a remote basin on top of the Grouse Creeks. Nesting or brooding fate for her has not been determined yet.

### **Vegetation Surveys**

Nest and brood vegetation surveys are underway. To date, we are keeping up on the vegetation surveys, however, I suspect this will become increasingly difficult as more broods hatch-out over the next few weeks. Fortunately, our lab has hired a “floating technician” this summer that can bounce between study areas to help out as needed, and we might employ their help if we get buried in vegetation surveys in the upcoming weeks. Across the study area, the flush of vegetation growth is very high for the 2016 field season and it will be interesting to see how this affects overall nest and brood success.

### **West Box Elder Landowners**

I must say that I am very appreciative for the amount of continued cooperation, interest and trust that has been given to my technicians and I this field season; be reassured, it is not taken lightly. I am aware that we are guests and my technicians are reminded frequently of this privilege we have. Furthermore, I have really enjoyed getting to know all the different landowners within my study area and learning about their knowledge of the landscape, both past and present.

Without hesitation, please contact me if you want to know anything about what we are observing on your property, or if you just have general questions. If I do not have the answer, I will do my best to find it out for you.

Best,

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