

## **Morgan-Summit Sage-Grouse Field Update – JUNE 1, 2016**

**Submitted by: Brandon Flack**

**Graduate Research Assistant**

**Utah State University**

Habitat Use Patterns and Vital Rates of the Morgan-Summit SGMA Greater Sage-grouse Population: Conservation Implications for Managers

### **Purpose and Background:**

I am gathering seasonal movement data for greater sage-grouse in Morgan and Summit counties and determining survival rates, nest success rates, and brood success rates. I am also collecting vegetation data around nest, brood, and random sites. All of this information will give us a good baseline to understand the ecology of this population. To do this, I marked 36 greater sage-grouse (31 hens, 5 males) in 2015 and 4 additional females in 2016. Of the 31 hens marked in 2015, 10 were marked with global positioning system (GPS) backpacks and 21 were marked with very high frequency (VHF) radio collars. The 4 hens captured in 2016 were marked with VHF radio collars. All males were marked with VHF radio collars.

When the radio-marked birds are relocated, we will measure and record the habitat vegetation characteristics where we find them and a random location near the relocation site. We will then compare the measurements to determine if the birds are selecting certain vegetation characteristics, and if these characteristics may contribute to their overall survival, nest and brood success.

### **Survival:**

Currently, 22 marked birds that were fitted with VHF radio collars are alive and accounted for. Two hens were killed on their nests in May. Nine of the 11 GPS transmitters are alive and accounted for however, I still haven't been able to manually locate the 2 missing GPS transmitters despite many efforts to do so. In summary, we are monitoring 31 marked sage-grouse, 1 male and 30 females.

### **Nesting Update:**

My technician and I monitor nested females 4-5 times per week. We also continue to relocate birds that have not initiated nests. As of the end of May, 30 females have initiated nests. Six of those hens have re-nested after their first nests failed, and one of them is currently sitting on her third nest of the year!! That's a total of 7 re-nest attempts so far bringing the total nests this year to 37. Last year, I did not observe any re-nest attempts. On May 26<sup>th</sup> I counted 14 males strutting

on the Henefer Divide. So, it's not a surprise to see hens attempt to re-nest this late in the year. Two females are on properties that we cannot access so it is possible they could have initiated nests as well but we won't know unless they move off those properties so we can find out if they have broods.

Of the 37 verified initiations, 17 nests have failed with 15 of those being predated, and one where the hen was killed but the eggs were left behind. As stated in the May field update, I am unsure whether one nest failure was due to predation or abandonment because that nest was on property I don't have access to and I only have GPS locations to go on (the hen is wearing a GPS backpack).

Because of the late re-nest attempts, my field season may extend into August if those nests and broods are successful. Fortunately, the late re-nests are occurring near the Henefer Divide on properties that are not CWMUs. I have an agreement with the property owners who operate CWMUs to be done with field work by the end of July to not interfere with hunting season. So, we will see what happens.

### **Movement Notes:**

All of my marked birds either stayed around East Canyon all winter or migrated back to mate and nest this year. They are nesting very close to where they nested and spent time last year. In my May update I mentioned that a female who was captured on Desert Land and Livestock (DLL) in early April and marked with a GPS transmitter for another study moved southwest to Guildersleeve Canyon and appeared to be initiating a nest near the Guildersleeve lek. I went out to physically verify that nest and found the hen had been killed by a Great-horned owl. The owl was able to carry the sage-grouse hen up into her nest to feed her owlet. That's an amazing feat since the sage-grouse hen weighs as much as the owl. After having her fill, the owl discarded the carcass but the transmitter got hung up in the branches of the tree. I was able to recover the transmitter with a little effort and ingenuity and now Wayne (grad student working on DLL) can put it on another bird that will hopefully survive a little longer.

### **Vegetation Surveys:**

We are buried in vegetation surveys right now. It rained at least a little almost every day in May. That, and the crazy amount of nests hatching all at the same time, and the need to continue to locate birds has made it difficult to keep pace with the nest vegetation surveys. We are making progress, however, and I have help coming for the next 2 weeks in the form of a "floating technician" that our lab has hired. It'll be nice to get on top of nest vegetation surveys because we're starting to get behind on brood vegetation surveys now as well. It's important to do these surveys in a timely manner so we can make valid comparisons and inferences about how the vegetation might be influencing nest and brood survival rates.

### **Landowners:**

The landowners have been great to work with. I appreciate each of the landowners and their willingness to let me do this study on their properties. It has been personally rewarding for me to build relationships with each one of them and to gain their trust. This was a part of the study that really intrigued me and I am happy things are working out. I also really appreciate the help I have received from many individuals at the Utah DWR. The relationships you have already established with landowners, county officials, and livestock producers have been instrumental in gaining access to properties and working in a productive atmosphere.

### **\*\*Other Notes:\*\***

- 1) If you missed any previous monthly field updates they can be found online at the Morgan-Summit page of the Utah Community-Based Conservation Program website. Look under “Reports and Publications”, scroll down to “2015 Notes from the Field” and click on the date of the update you’d like to read.

<http://utahcbcp.org/htm/groups/morgan>