

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

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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, 10 are marked with global positioning system (GPS) backpacks and 21 are marked with very high frequency (VHF) radio collars. The males are marked with VHF radio collars.

The GPS transmitters communicate location data to a satellite, which I can download remotely to check on movements and survival from the comfort of my field trailer. To obtain these data for sage-grouse marked with VHF radio collars, we have to physically re-locate the birds in the field. This can take considerable effort, depending on the movements.

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.

### **Trapping and Lek Counts:**

We were able to deploy the 4 remaining VHF radio-collars in April. It only took 2 nights of trapping to do it. Three were deployed on adult females and 1 on a yearling female. During our second night of trapping we captured a female sharp-tailed grouse near the Henefer Divide. I have wanted to see if there is a sharp-tailed lek in the area but sage-grouse lek counts coupled with poor weather have limited my time. I'm hoping to get out early a couple mornings this week to listen for sharp-tailed grouse displaying.

We have counted all the leks in the area at least 3 times. I am seeing some interesting patterns that I didn't notice last year, maybe because I wasn't looking for them. First, I have noticed

males displaying in the evenings quite often. Second, I have noticed displaying off the leks and at different times of day. It seems the birds are strutting when the opportunity presents itself. We found a group of 5 males displaying for 7 females at 3:30 in the afternoon during a snowstorm away from the Henefer Divide lek. Third, males on some of the smaller leks (Kurzy, Guildersleeve) have not been on the leks during our counts the last couple of weeks.

I am not sure if the leks have shifted to another location, if the birds are merely done strutting in those areas, or if the males have congregated on other larger leks. I learned from another property owner near Croydon that some turkey hunters stumbled on male sage-grouse strutting in the evening. I hope to get out and verify strutting in that location 1-2 mornings this week. There is also the possibility of males strutting on the Henefer-Echo WMA but I have only been out there once this spring and I did not see or hear anything.

### **Survival:**

Currently, all of the birds that were fitted with VHF radio collars are alive and accounted for (n=24). Nine of the 11 GPS transmitters are alive and accounted for. You may remember from last month's field update that I haven't been able to manually locate the 2 missing GPS transmitters despite many efforts to do so. Hopefully, as the weather warms and we get more sunlight, the transmitters will recharge and provide a better signal. In summary, we are monitoring 33 marked sage-grouse, 1 male and 32 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 April, 28 females have initiated nests. Two females are on properties that we cannot access so it is possible they could be initiating or nesting as well. Of the 28 verified initiations, 7 have failed with at least 6 of those being predated. I am unsure whether the seventh failure was due to predation or abandonment because I only have GPS locations to go on. This was a female wearing a GPS transmitter that nested on a property we don't have access to. I was able to see a pattern of nest initiation and the start of incubation based on transmitted GPS locations. I was also able to see that the female left the nest and has now moved a couple kilometers from the nest location onto another property in the last 2 days. I am curious to see if any of these hens try to re-nest so we will keep tracking them regularly.

### **Movement Notes:**

Although my marked birds have congregated in the same areas around East Canyon as last year, a female that was captured on Deseret Land and Livestock (DLL) in early April and marked with

a GPS transmitter for another study has moved southwest to the Guildersleeve Canyon and appears to be initiating a nest near the Guildersleeve lek. I will physically verify that nest this week and monitor that nesting attempt and any subsequent brood rearing that may occur on that property in the coming weeks and months. This is a good example of collaboration between graduate students on different studies. It's pretty easy for me to help out because the graduate student on DLL is Wayne Smith, who was my technician in Morgan-Summit last year and it's much easier for me to access the Guildersleeve property than for him to do so.

### **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) Because many of these properties are CWMUs, landowners have requested that we complete our summer field work by July 31 so we don't interfere with the start of hunting season in August. This was not a problem last year and I don't anticipate it being an issue this year either. I'm looking forward to another productive year of field work.
- 2) 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>