

Morgan-Summit Sage Grouse Update – JUNE 1, 2015

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

Purpose, Background, and Methods

Since greater sage-grouse (*Centrocercus urophasianus*; sage-grouse) was designated as a candidate species for protection under the Endangered Species Act of 1973, the pace of research conducted to define conservation threats has escalated. Prior to this decision, the ecology of most of Utah's sage-grouse populations have been described providing the state of Utah a rich database to develop a strategic conservation plan. This work has demonstrated the importance of private lands to the species conservation. However, information regarding the sage-grouse populations that inhabit some of the largest tracts of private lands in northern Utah - Morgan and Summit Counties – has been lacking. This study will provide more information about sage-grouse habitat-use patterns, vital rates, and seasonal migration corridors used by a populations that depend on private lands that constitute working landscapes largely managed for grazing by domestic livestock. 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 have marked 35 greater sage-grouse (31 females, 4 males). Of the 31 females 10 are marked with global positioning system (GPS) radio-transmitter backpacks which are capable of acquiring 9 locations daily. Thus we can monitor the movements of GPS radio-marked birds from my lap top at our field site. The remaining 21 are marked with very high frequency (VHF) necklace radio collars. To obtain a location for birds marked with VHF radio-collars, we have to physically re-locate the birds in the field. Thus, because of travel logistics we can only obtain 2-3 locations weekling. The four males are marked with VHF radio collars. Vegetation surveys consist of the line-intercept method to quantify shrub cover, Daubenmire frame technique to classify forbs and grasses, and Robel pole measures to quantify visual obstructions at each site.

Breeding and Survival:

At this point in the season breeding is over. Some of our radio-marked males are still around the leks but we have not observed any strutting activity. Two of the males have moved a few kilometers south from their capture leks. We have only had a single mortality so far. We radio-collared this male on April 1 and he died a week later. It took a while to recover the radio collar because we initially thought it was located on the Yaryka property, which we don't have permission to access. It turns out the collar was located just over the property line on the Taylor Hollow Cooperative Wildlife Management Unit so we were able to locate and recover it. Because, too much time had passed since we first recorded the mortality and when we recovered the carcass, we were not able to determine cause of death. All that was left was the male's head

and spine and some feathers. Because this mortality occurred within a week after capture and before we could get any location and movement data we are not including it in any

Nesting:

As of May 31, we had 28 hens initiate nests. We determined that 8 were predated or abandoned, 18 nests have hatched successfully, and 1 is still incubating. If you're counting, that's only 27 nests. One of the benefits of the GPS backpack is that we can remotely determine if a hen is nesting. (There is a Ground Track feature on the GPS backpacks that allows us to manually locate nested hens, which is helpful for accurate monitoring). In one case, we were able to use the GPS location data to determine that female #2525 nested on the Yaryka property. We won't know for sure if the nest hatches successfully because we cannot access this sites, but we can make an assumption based on movement data and it appears that the nest probably hatched successfully because the GPS locations are very close together after the hatch date. Unless she moves off that property we will not be able to verify if she is brooding or see how many chicks she has with her. We have had one VHF radio-marked females moved to the Yaryka property shortly after being radio-collared. We won't know if she nested, hatched, or is brooding because we have to manually locate the VHF birds and we do not have permission to access the Yaryka property.

Brooding:

At this point, 15 females are brooding (16 if you count the Yaryka GPS hen). We are locating each one 2-3 times per week and doing brood vegetation surveys at one of those locations. Females with broods are staying relatively close to their nest sites (within 500 meters). There are plenty of forbs and insects throughout the study area due to the higher elevation and the amount of rain we have received in May. The soil has been saturated and in some cases puddles and muddy soil remain for several days after rain. We'll see what the weather brings for June and July. The rain has made it difficult to keep up on nest and brood vegetation surveys but I'm pleased to report that we are up to date on nest vegetation surveys and are working hard to keep pace with the weekly brood vegetation surveys.

Landowners:

The landowners have been great to work with. We appreciate each of the landowners and their willingness to let me do this study on their properties. They are all interested in what we are finding. It has been rewarding 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 for the most part. I also really appreciate the help I have received from many of you. 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. I spoke with Dennis Richins a couple weeks ago. He owns the property on the east side of Hwy 65 at the Henefer Divide. He expressed interest in doing some habitat changes/improvements to his property. He has a conservation easement on all of his land so I advised him to contact the NRCS and USU Extension to discuss his options. If any of you have additional advice for Dennis I can put you in touch with him.

****Other Notes:****

The property at the top of the Henefer Divide on Hwy. 65 has just gone up for sale. It is the property that has the cabin on it (the only one in the area), is 300+ acres and the owners are asking \$1.8M. It is on the northwest side of the highway and is critical for sage-grouse in the area because the largest lek in Morgan County is located on this property. We captured and marked 10 sage-grouse on this relatively small property. Seven hens initiated nests here and 4 are raising broods here. I spoke to one of the current owners before the property went up for sale. They were in the process of fixing up the cabin. He said they acquired the property due to a defaulted loan. He was not aware that the lek was located on his property or that nesting and brooding was occurring there. I'm not sure if the realtor has been made aware of the sage-grouse situation or if that is something they should disclose to any prospective buyers. I'm sure many of you know more about this sort of thing than I do. If a conservation easement is being considered, the entire property should be protected. It is a relatively small piece and there is a lot of sage-grouse activity occurring on it during mating, nesting, and brooding seasons.

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