

Project 21-02 Comments



To: NV Department of Wildlife, Bureau of Land Management

From: U.S. Geological Survey, WERC Research Team

Subject: March – July 2017 Progress Update– Sage-Grouse
Research (Virginia Mountains)

JULY 2017 SUMMARY BULLETS

- Recorded 11 VHF locations
- Tracked 2 broods
- Completed 8 habitat surveys
- Conducted 7 raptor, raven, horse, and livestock surveys

This document is an update specifically related to monitoring and research objectives for the Virginia Mountains sage-grouse research project during the 2017 season as of 31 July. This document does not represent a completed data analysis and findings. Instead, the purpose of this update is to provide you with a summary of our efforts, as well as observations regarding movements, reproduction, habitat, and predators from the field perspective. This information is preliminary and is subject to revision. It is being provided to meet the need for timely best science. The information is provided on the condition that neither the U.S. Geological Survey nor the U.S. Government may be held liable for any damages resulting from the authorized or unauthorized use of the information.

Overview

On 15 March 2017, U.S. Geological Survey field crews initiated the ninth season of monitoring greater sage-grouse populations in the Virginia Mountains. The field crew will collect data used to investigate habitat selection and areas of utilization, estimate vital rates, and relate those vital rates to environmental factors, including the presence of predators. The crew has finished tracking broods and has concluded the field season. A tabular summary of 2017 field data is provided in Table 1.



Red-tailed hawks are common in the Virginia Mountains. Photo by Emmy Tyrrell.

Lek Monitoring

The U.S. Geological Survey crew monitored 2 leks in the Virginia Mountains study area and conducted a total of 12 counts. High counts for males were as follows:

- Sheep Springs: 49
- Spanish Flat: 50

Capture and Marking

Nine female sage-grouse were captured and outfitted with VHF units.

Telemetry Monitoring

We obtained 187 telemetry locations for 36 grouse from March to July (Figure 1).

Reproduction

We located 13 nests (Figure 1): 9 failed and 4 hatched. Video cameras were installed at 4 nests to determine nest predators and observe their behavior. We tracked 3 broods, of which 1 failed and 2 were successful.

Habitat

We completed 48 habitat surveys. Habitat surveys are conducted at nest sites, brood locations, and nest locations.

Raptor, Raven, Horse, and Livestock Surveys

We conducted 222 raptor, raven, horse, and livestock surveys and detected 105 ravens, 117 raptors, and 147 feral horses. Raptor/raven surveys are completed after each lek survey, telemetry location, nest visit, brood location, and random point.

Mortalities

We confirmed and recovered 19 mortalities this season.



Photo of 40-day-old chick during night brood check. Photo by Emmy Tyrrell.

Notes of Interest

Above normal snowfall throughout much of the Great Basin may have resulted in delayed or reduced lekking and nesting, which made trapping more difficult.

One of the nest depredations in April was due to a coyote and was recorded by the field crew. Another failed nest was caused by the depredation of the female within 1 m of the nest.

We have observed instances of interesting behavior in some grouse. During brood checks, some females with broods have acted injured, seemingly to lure technicians away from their chick.

Unfortunately, we have not been able to capture the behavior on camera due to its short duration. Additionally, we may have a new brood where a female who did not previously have chicks adopted a single young bird. We will be confirming her status early next month.

A snowstorm hit the Virginia Mountains in mid-June and dropped about 12 inches of snow. We will be monitoring the broods to assess potential effects.

On 11 July 2017, the Long Valley Fire broke out about two miles north of Doyle, California near the Nevada border. It quickly spread south and east into the Virginia Mountains burning a total of 83,733 acres (Figure 1). Access to the field site was cut off until the fire was fully contained on 21 July 2017. In 2016, the Virginia Mountains also experienced 5 large fires forming the Virginia Mountain Fire complex (Figure 1).



Long Valley Fire in the Virginia Mountains at night. Photo by Emmy Tyrrell.

Table 1. Monthly summary and totals for the Virginia Mountains sage-grouse monitoring project.

	March	April	May	June	July	TOTAL
Leks Counted	2	2	2	0	0	2
Leks Active	2	2	2	0	0	2
Total Lek Surveys Conducted	7	3	2	0	0	12
Total Max Male Count	97	72	30	0	0	99
VHF Transmitters Deployed	5	4	0	0	0	9
GPS Transmitters Deployed	0	0	0	0	0	0
Live Birds on Air	21	22	18	16	16	NA
Mortalities	0	11	4	4	0	19
Telemetry Locations	8	48	67	53	11	187
GPS Locations	0	0	0	0	0	0
Nests Found	0	4	8	0	0	12
Nest Cameras Installed	0	2	2	0	0	4
Nests Failed	0	3	6	0	0	9
Nests Hatched	0	0	1	2	0	3
Nests Active	0	1	2	0	0	NA
Broods Tracked	0	0	0	3	2	3
Broods Failed	0	0	0	1	0	1
Broods Successful (50 days)	0	0	0	0	2	2
Broods Active	0	0	1	3	0	NA
Habitat Surveys	0	9	10	21	8	48
Raptor-Raven-Horse-Livestock Surveys	8	66	78	63	7	222
Ravens Detected	7	26	31	41	0	105
Raptors Detected	2	31	31	47	6	117
Feral Horses Detected	27	59	46	10	5	147

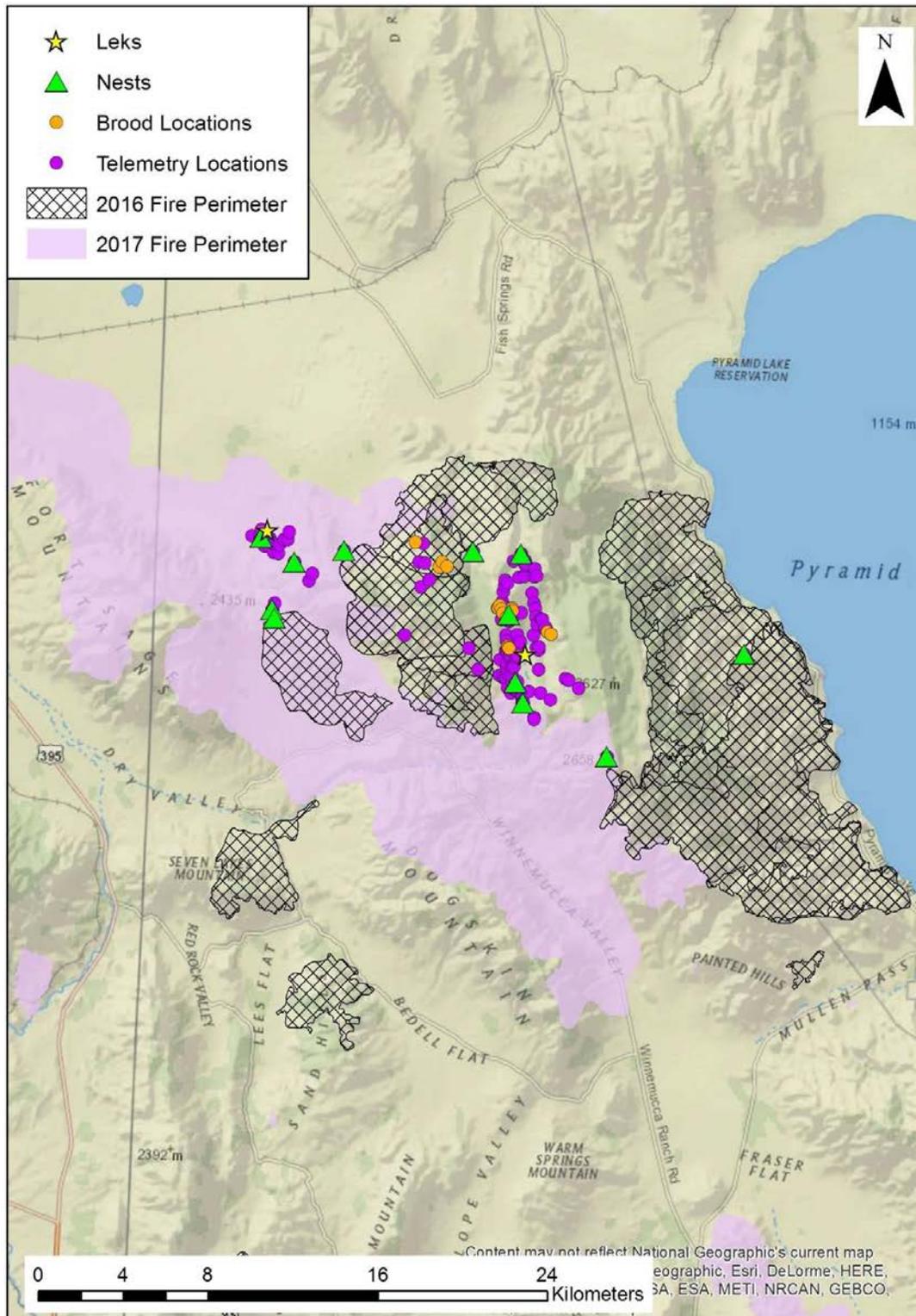


Figure 1. Nests and telemetry locations during March–July, 2017 in the Virginia Mountains study area.

Project 22-01 Comments

Annual Predator Management Project Reporting Form

Please fill out this form to the best of your ability. If you have questions please contact Predator Management Staff Specialist Pat Jackson at Pjackson@ndow.org or 775-688-1676. If necessary please use additional pages in your responses.

1. Fiscal Year Reporting: *FY2017*
2. Date Report Submitted: *08/24/2017*
3. Name of Contractor (include name of submitter if different):
4. Address of Contractor:
5. Phone Number of Contractor:
6. Email of Contractor:
7. Contract Number:
8. Dates of Contract:
9. Dates Worked: *spring 2017*
10. Assessment of Habitat Conditions of Project Area (if applicable):

*Counts not
found*

Area all looked great. With the great winter water was everywhere and vegetation was very healthy.

11. Briefly describe work conducted:

Wallup areas that the biologist said help the sheep that needed protection from lions. Free cast hounds trained for mountain lions up these canyons. Only old lion signs was found.

This past spring was the first time working in oil for lion removal so once I find more crossings and use patterns it will become more productive.

12. List number and species of predators removed.

0

13. Provide an overall assessment of project. In your opinion should the project continue?

It depends on if the state feels that the sheep population can handle natural predation from now at this time.

Project 37 comments

Annual Predator Management Project Reporting Form

Please fill out this form to the best of your ability. If you have questions please contact Predator Management Staff Specialist Pat Jackson at Pjackson@ndow.org or 775-688-1676. If necessary please use additional pages in your responses.

1. Fiscal Year Reporting: 2016
2. Date Report Submitted: 9/5/17
3. Name of Contractor (include name of submitter if different):
4. Address of Contractor:
5. Phone Number of Contractor:
6. Email of Contractor: trophytags@gmail.com
7. Contract Number:
8. Dates of Contract: 12/31/2016- 12/31/2017
9. Dates Worked: 1/01/2017- 3/9/2017
10. Assessment of Habitat Conditions of Project Area (if applicable):

Steep terrain, cliffy areas, roadless areas, surrounded by private land, mule deer and sheep wintering area.

11. Briefly describe work conducted:

Trailed mountain lions using hound dogs for lethal removal. Covered project area using snow machines and tracked atvs for travel. Gained permission from several land owners to access project area.

12. List number and species of predators removed.

Removed 3 mountain lions.

13. Provide an overall assessment of project. In your opinion should the project continue?

Great area to conduct project. There were several lions residing in or near sheep area. (a higher density than most areas) Access is difficult but can be done. We had permission to access 8 ranches and Temoke Indian Reservation. There were several lions left in area when project was shut down at the beginning of March. There were actual lion sightings within a few hundred yards of the sheep wintering area after project had been shut down. These lions should be removed to promote a healthy sheep population.

Annual Predator Management Project Reporting From

Please fill out this form to the best of your ability. If you have questions please contact Predator Management Staff Specialist Pat Jackson at Pjackson@ndow.org or 775-688-1676. If necessary please use additional pages in your responses.

1. Fiscal Year Reporting: 2017
2. Date Report Submitted: 7/15/2017
3. Name of Contractor (include name of submitter if different):
4. Address of Contractor:
5. Phone Number of Contractor:
6. Email of Contractor:
7. Contract Number: 17574
8. Dates of Contract: 7/15/2016 – 6/30/2020
9. Dates Worked: 12/1/2016 – 5/1/2017
10. Assessment of Habitat Conditions of Project Area (if applicable):
11. Briefly describe work conducted:

Canyons West Guide Service LLC performed the tasks outlined in the project proposal including saturation hunting of mountain lions with the use of hounds in the Snowstorm Mountain range control area. After spending a large number of days in the control area in the last year we have been able to establish known travel areas, crossing points, and areas of high probability of encountering mountain lions in the area. As with any mountain range there is a learning curve or period involved in understanding lion movements and prey species in the area.

12. List number and species of predators removed.

Nine (9) mountain lions were removed.

13. Provide an overall assessment of project. In your opinion should the project continue?

The Snowstorm Mountain Range lion removal project has been very successful in our assessment. Having removed nine (9) lions from these rugged areas will help accomplish the much needed relief from predation the California Bighorn Sheep are experiencing in the area. By removing these large predators we believe the sheep will have increased lamb survival.

While working in the Snowstorm Range we observed very little in the way of sport hunting from the public. The terrain is likely more difficult than most sport hunters prefer thus producing little harvest from the general public.

Our observations is there were still several lions existing in the Owyhee Rim area along with the SF Little Humboldt. This is very difficult terrain and extremely difficult to hunt the Owyhee Rim on foot with dogs and limited snow conditions. Restricting the harvest method to the use of hounds is limiting in very difficult terrain that exists on the Owyhee Rim. We would like to utilize snares or live traps in the future if the department sees fit in the future. Otherwise we will continue to capitalize on snow conditions that bring the cats off in the winter months.

It is best to capitalize on the wintering areas and snow conditions when available. The length of the project has allowed us to do that and significantly reduce predation in the area. We believe the project should continue in order to provide the best result.

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Please fill out this form to the best of your ability. If you have questions please contact Predator Management Staff Specialist Pat Jackson at Pjackson@ndow.org or 775-688-1676. If necessary please use additional pages in your responses.

1. Fiscal Year Reporting:

1 July 2016 – 30 June 2017

2. Date Report Submitted:

17 July 2017

3. Name of Contractor (include name of submitter if different):

4. Address of Contractor:

5. Phone Number of Contractor:

6. Email of Contractor:

7. Contract Number:

3269

8. Dates of Contract:

20 Jan – 30 Jun 2017

9. Dates Worked:

Jacobs; 1/24-28, 1/31-2/2, 2/6-15, 3/1-7, 3/13-18, 3/20, 3/23-24, 3/26, 3/31-4/1, 6/13, 6/15

Anderson; 3/6-8, 3/13, 3/15-17, 3/31, 4/27-30, 5/17-18, 5/23, 5/26, 5/28, 5/29, 5/30, 6/1-4, 6/18

Jansen; 5/16-6/29

Eckel; 6/19-29

10. Assessment of Habitat Conditions of Project Area (if applicable):

Jackson Mountains are seemingly void of wild ungulates throughout. On the southern end there was obvious evidence of feral horses damaging vegetation at springs.

However, there was little sign of mule deer or bighorn throughout the northern 2/3 of the range. Cattle were being grazed throughout at times, however in areas without cattle, there was almost no sign of wild ungulates. Rabbits and hares by the hundreds.

Delamar Mountains are being severely impacted by feral horses in the central 1/3 of the range. In particular, Willow Creek, Narrow Canyon, Upper Kane Springs Canyon,

and Cedar Wash have been damaged severely. The northern 1/3 of the range has localized damage by feral horses, most notably in the vicinity of Springs. You know that there is a spring nearby by the change in horse damage. There was little deer sign throughout and very little elk sign throughout. Even in the vicinity of a NDOW drinker, there was little to no deer tracks, despite the prevailing summer dry conditions. In this area, there was no cattle being grazed and no horse sign was observed. The Range seems overpopulated with feral horses and dramatically underpopulated by elk and deer.

11. Briefly describe work conducted:

Work involved searching for and locating physical sign of mountain lions. Physical capture of mountain lions was the primary nature of work conducted.

12. List number and species of predators removed.

**Jackson Mountains; 5 mountain lions removed, 4 females, 1 male
Delamar Range; 2 mountain lions removed, 2 males**

13. Provide an overall assessment of project. In your opinion should the project continue?

Both Project Areas are seriously lacking in wild ungulates. In the Jackson Mountains, we removed 3 adult female lions and 2 subadults, and there is 1 adult male known to remain. 3 adult females in such a small range is a high density of lions that most certainly will have a negative affect on the reproductive ability of the wild ungulates. The removal of those lions will have positive affects for that deer and bighorn populations. We have only begun to keep the lid on the lion population in that range and we will continue to keep their numbers at or near zero, however it will take multiple years to observe and realize a population increase of the deer and bighorn. Those lambs and fawns born this year will not reproduce for 1-2 years. 3 years from now, the population will begin increasing at an exponential rate and thus, this project should continue until adequate time has occurred to observe the response by the wild ungulates.

In the Delamar Range, we removed 2 adult male lions and there is 6 other adult lions known to remain (albeit temporarily). This Project Area has a serious issue with feral horses, at this time. We recognize that mountain lions are preying upon the feral horse population, but they are also preying upon mule deer and undoubtedly the bighorn sheep. We will begin collaring subadult and adult lions in the Northeastern 2/3 of the Delamar Range and track those animals to determine prey use. Any lion known to prey

upon bighorn sheep, will be lethally removed. Because the mule deer numbers are very low, I would suggest that we might consider limiting the number of deer preyed upon by individual mountain lions. In effect, we would be selectively permitting lions that prey upon horses to remain, while removing lions that prey upon the under-populated deer and bighorn. This Project is just beginning and it will take patience over multiple years to observe and realize the benefits of selective lion control in this mountain range.

Project 41 Comments

Annual Predator Management Project Reporting Form

1. *Fiscal Year Reporting:*

2017

2. *Date Report Submitted:*

14 September 2017

3. *Name of Contractor (include name of submitter if different):*

4. *Address of Contractor:*

5. *Phone Number of Contractor:*

6. *Email of Contractor:*

7. *Contract Number:*

18296

8. *Dates of Contract:*

12/13/2016 – 6/30/2017

9. *Dates Worked:*

1/3/17 – 1/24/17, 3/1/17 – 3/23/17

10. *Assessment of Habitat Conditions of Project Area (if applicable):*

Not Applicable.

11. *Briefly describe work conducted:*

I trapped Common Ravens (*Corvus corax*) during January and March of 2017. In January, I trapped near Austin, north of Winnemucca and in Paradise Valley. In March, I trapped in Paradise Valley, Independence Valley and near Austin. Due to a family emergency, I was unable to trap beyond the 23rd of March.

Trapping conditions were difficult in January due to record-setting snow and rainfall. I couldn't set the net launcher in snow deeper than 3", nor could I use leg-hold traps when there was snow on the ground or when the soil was wet. Trapping during rain or snowfall was also not possible. Deep snow limited my ability to trap in the Austin area, which forced me to lower elevations in Paradise Valley.

In March, unseasonably warm weather allowed ravens to disperse away from roads where they normally subsist on road-killed jackrabbits and other small mammals. This made luring birds to baited sites more difficult than expected.

12. List number and species of predators removed.

I captured three ravens in Paradise Valley in January, and an additional two birds there in March. On 19 March, I trapped the sixth bird at a feed lot approximately 35 miles SSW of Battle Mountain. Each bird was fitted with a satellite transmitter, which provided data on the birds' movements.

13. Provide an overall assessment of project. In your opinion should the project continue?

Common Ravens are an important predator of Greater Sage Grouse. For wildlife managers to address the problems that common ravens pose for sage grouse, it is necessary to understand raven movement patterns, food sources and population dynamics. Satellite telemetry is the most efficient way to gather the data needed to achieve these goals. I therefore believe that continuing this project is vital to effectively manage ravens in the Great Basin.

Project 42 Comments

Annual Predator Management Project Reporting Form

Please fill out this form to the best of your ability. If you have questions please contact Predator Management Staff Specialist Pat Jackson at Pjackson@ndow.org or 775-688-1676. If necessary please use additional pages in your responses.

1. Fiscal Year Reporting: FY 17-18
2. Date Report Submitted: September 15, 2017
3. Name of Contractor (include name of submitter if different):
4. Phone Number of Contractor:
5. Email of Contractor: benson.
6. Contract Number:
7. Dates of Contract: 29 December 2016 – 30 June 2018
8. Dates Worked: Haven't begun
9. Assessment of Habitat Conditions of Project Area (if applicable):

N/A

10. Briefly describe work conducted:

We are currently waiting on some data from a collaborator of NDOW before beginning the work.

11. List number and species of predators removed.

N/A

12. Provide an overall assessment of project. In your opinion should the project continue?

Yes, as soon as we have all available data we will begin the work. Our first task is to determine whether it is possible to construct a model for mountain lion population dynamics with available data that will be useful for NDOW managers. We look forward to having all data, making this assessment and ideally moving on to the second task of actually constructing the model.